Emergency Measures to Assist with Drought Relief Actions by Water Districts and Farmers

San Joaquin Valley Air Pollution Control District
Governing Board Meeting

April 17, 2014
The Drought

• Strong and persistent high pressure ridge over California in winter of 2013/14
• Essentially no rain, November-January
• 2013 was the third year of drought conditions
• 2013 was the driest year in 119 years in California (since records have been kept)
• Drought Emergency Proclamation by Governor, January 17, 2014
  – Directed state agencies to conserve water, fund major water supply projects, assist those impacted, etc.
  – Suspended CEQA for certain state drought relief efforts by state agencies
## California Rainfall, 2013

<table>
<thead>
<tr>
<th>City</th>
<th>1981-2010 Average (inches)</th>
<th>2013 Total (inches)</th>
<th>Previous Record Low (inches)</th>
<th>Previous Record Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modesto</td>
<td>13.11</td>
<td>4.70</td>
<td>5.70</td>
<td>1929</td>
</tr>
<tr>
<td>Merced</td>
<td>12.50</td>
<td>3.79</td>
<td>6.00</td>
<td>2007</td>
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<tr>
<td>Fresno</td>
<td>11.50</td>
<td>3.01</td>
<td>3.55</td>
<td>1947</td>
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<tr>
<td>Visalia</td>
<td>10.93</td>
<td>3.47</td>
<td>4.10</td>
<td>1910</td>
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<tr>
<td>Bakersfield</td>
<td>6.47</td>
<td>3.43</td>
<td>1.87</td>
<td>1959</td>
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<td>Sacramento</td>
<td>18.52</td>
<td>5.81</td>
<td>6.67</td>
<td>1976</td>
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<td>San Francisco</td>
<td>23.65</td>
<td>5.59</td>
<td>9.00</td>
<td>1917</td>
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<tr>
<td>San Jose</td>
<td>14.90</td>
<td>3.80</td>
<td>6.04</td>
<td>1929</td>
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<td>Los Angeles</td>
<td>12.82</td>
<td>3.65</td>
<td>4.08</td>
<td>1953</td>
</tr>
<tr>
<td>San Diego</td>
<td>10.34</td>
<td>5.57</td>
<td>3.41</td>
<td>1953</td>
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</table>
Reasons for Recommendations

• Without effective drought relief measures, Valley can experience significant increase in emissions in the coming months
  – Certain actions require District authorization

• Drought conditions are expected to have dire impacts on the Valley’s economy
  – $5 billion loss (estimated by California Farm Water Coalition)
Drought’s Impacts on Water Systems

• Unprecedented lack of surface water deliveries
  – January 2014 – state Department of Water Resources announced that no water would be delivered in 2014 (from State Water Project)
  – February 2014 – U.S. Bureau of Reclamation announced that no water would be delivered to agricultural users via the Central Valley Project:
    • Friant Kern Canal, on the east side of Valley
    • California Aqueduct, on the west side
• March rains were not sufficient to change the equation – no change in surface water delivery allocations
Drought’s Impacts on Air Quality

• Significant increase in fallowed land
  – 100% more fallowed land than prior droughts (500,000 acres expected)
  – Strong potential for “dust bowl” conditions

• Lack of water for dust control
  – Water is significant dust control product
    • Regulation 8 – Fugitive Dust Control
    • Conservation Management Plans
  – Alternatives may be more expensive
  – Potential for increased fugitive dust
Drought’s Impacts on Air Quality (cont’d)

• Increased chance of wildfires
  – Potential for emissions from wildfires to overwhelm Valley (2008)

• Increased well-water usage
  – Lowering water tables
  – Subsidence of Valley floor
  – Increased use of internal combustion engines means increased NOx

• Drilling New and Deeper Wells
  – New NOx emissions from drilling
  – New NOx emissions from new remote pumps powered by IC Engines
Drought’s Impacts on Air Quality (cont’d)

• New Water Transfer Scenarios
  – Canal-to-canal (Friant-Kern)
  – Reverse flow (California Aqueduct)
  – Temporary IC engines needed, will generate increased NOx

• Decreased Hydroelectric Power
  – 15% of California grid supply
  – Potential for brownouts, blackouts
  – Increased IC engine operation if electric irrigation pumps not operating
Expedited Permitting of Temporary Equipment

- Standardize applications and engineering evaluation templates
- Process applications on priority basis
- Deliver permits within 10 days
- Likely applications:
  - Farmers awaiting utility power connection to operate electric irrigation pumps (support electrification by creating expedited permitting process for temporary generators)
  - Other temporary engines not eligible for portable equipment registration
Expedited Portable Equipment Registration

- Standardized applications and evaluation forms
- Process applications on priority basis
- Deliver registrations within days (or hours)
- Likely applications:
  - Water districts with urgent surface water transfer needs (emergency drought response actions)
  - Other temporary drought response actions requiring portable equipment
Voluntary Emissions Reduction Agreements (VERAs)

- Multiple drought relief projects may cause cumulative air quality impact
- VERAs can help mitigate air quality impact
- VERAs can also help satisfy CEQA requirements and expedite CEQA process
- District has extensive experience implementing, tracking, and verifying effectiveness of VERAs
- VERAs suitable for projects by water districts involving multiple engines
- Recommend authorizing APCO to execute VERAs upon signature by Board Chair
  - Delays due to case-by-case board approval may jeopardize urgent drought response actions
Support CEQA Waivers

• CEQA administrative requirements very time-intensive: 30-45 days, at least

• Drought relief efforts will need to be implemented on an immediate basis, or:
  – Can have severe impact on air quality
  – Can have devastating impact on ag/Valley economy

• Recommend authorizing the Chair to send letter to Governor supporting waivers of CEQA requirements, if:
  – Emissions increases are mitigated with VERAs
  – Projects comply with applicable District regulations
Conservation Management Practices (CMPs)

- District rules require farmers to employ CMPS to reduce particulate matter emissions
- Many CMPs rely on water application for dust suppression
- Work with ag community to promote use of less water intensive CMPs (speed limits, restricted access, other dust suppressants)
- Work with ag community and NRCS to develop additional less-water intensive CMPs
- Develop streamlined procedures for authorizing alternative CMPs
Support Farmers and Water Districts

- Help farmers and water districts maneuver complex air regulations expeditiously and cost effectively
  - Face-to-face meetings
  - Compliance Assistance Bulletins
  - Help complete application forms and prepare other necessary documentation
  - Workshops, group meetings, and training in coordination with Farm Bureaus and other ag organizations
Potential Amendments to Portable Equipment Registration Rule

- District Rule 2280, Portable Equipment Registration
  - Streamlined alternative to permitting
  - Addresses unique nature of portable equipment

- Current rule fails to address emergencies or need for timely response to drought conditions

- Recommend authorizing APCO to investigate any necessary changes to Rule 2280 and expedite administrative rule adoption processes

- Work with stakeholders to investigate potential amendments, identify level of urgency
Public Report

• Staff proposes routine periodic reports to the Board and the public:
  – The number and types of emergency projects taking advantage of the streamlined provisions
  – Quantification of any related air quality impact, and of related VERA mitigation
  – First report in August, with quarterly follow-ups (or as needed)