Health Risk Assessment (HRA) Guideline Revisions

Board of Directors Meeting
November 17, 2014

Daphne Chong, M.S.
Toxicologist
Outline

- Background
- History of Health Risk Assessment Guideline Revisions
- Impacts of Major Revisions
- Potential Implications
- Estimated Schedule
- Next Steps
Air District’s Toxics Control Program

- Toxics New Source Review – permit new or modified sources
- Air Toxics Hot Spots (AB2588) – toxic emissions from all existing facilities
- California Environmental Quality Act (CEQA)

Cal/EPA’s Office of Environmental Health Hazard Assessment (OEHHA) develops Health Risk Assessment (HRA) guidelines

- As mandated under the Children’s Environmental Health Protection Act, current revisions include explicit consideration of children’s health protection

80% reduction in pollutants and health risk in the Bay Area
80% Reduction of Toxics & Health Risk in Bay Area

Lifetime Cancer Risk from Air Pollutants

- 1,330 in a million (1990)
- 625 in a million (2001)
- 300 in a million (2012)
2008: Noncancer Reference Exposure Levels (RELs) Derivation - protection of children’s health

2009: Cancer Potency Factors Derivation - includes increased sensitivity of early life exposure to carcinogens

2012: Exposure Assessment Parameters
• Breathing Rates
• Resident and worker exposure durations
• Multi-pathway exposures (e.g., ingestion, dermal, mother’s milk)

• Estimated adoption early next year
Impacts of Major Revisions

- Increase Risk Estimate:
  - Breathing rates
  - Multi-pathway exposure factors
  - Age Sensitivity Factors (ASFs) – already in use by BAAQMD

- Decrease Risk Estimate:
  - Exposure durations

- Overall cancer risk may increase by 2 to 5 times for the same emissions
Increase Workload for Air District & Facilities

- 150 new permit applications per year may require HRAs
- Facilities may be required to adjust operations to comply
- 750 existing facilities may require further prioritization analyses
- 300 existing facilities may require AB2588 HRAs
Estimated Schedule

- OEHHA HRA Guidance Manual
  - Public comment period ended August 2014
  - OEHHA is responding to public comments
  - Scientific Review Panel (SRP) – Nov. 12, 2014
  - Adoption of Revised HRA Guidance Manual - following SRP’s approval ~ 1Q 2015

- HRA Tools – Hot Spots Analysis and Reporting Program
  - CARB updating software package
  - CARB will provide training within 6 months of finalization of the manual
Next Steps

- Assess impacts to Air District’s health risk-based rules, policies and programs
- Prepare rule/policy amendments
  - Initiate rule and policy review – 2015
- Work with stakeholders on outreach and risk communication
2014-15 Winter Spare the Air Campaign

AGENDA: 13

Eric Stevenson, Technical Services Director
Lisa Fasano, Communications Officer
Wayne Kino, Enforcement Director

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Board of Directors Meeting
PM$_{2.5}$ Reduction Benefits

Source – 2010 Clean Air Plan

Source – Sources of Bay Area Fine Particles: 2010 Update and Trends
# Winter PM$_{2.5}$ Seasons

<table>
<thead>
<tr>
<th>Year</th>
<th>Days &gt; 35 µg/m$^3$</th>
<th>Winter Spare the Air Alerts</th>
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</thead>
<tbody>
<tr>
<td>2011/2012</td>
<td>11</td>
<td>15</td>
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<tr>
<td>2012/2013</td>
<td>1</td>
<td>10</td>
</tr>
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<td>15</td>
<td>30</td>
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</table>
Meteorology & Progress

Number of days > 35 µg/m³

Number of days of rainfall

Days of rainfall

Days of particulate pollution over standard

Outreach

• Stronger messaging
  – Media relations
  – Social media
  – Grassroots outreach
  – Door to Door outreach
  – Advertising
Television
Outreach Placement

WSTA 2014-15

REGIONWIDE
(Includes multi-cultural)

- BROADCAST TV
- CABLE TV
- PRINT
- ONLINE

- RADIO
- PANDORA
- SPOTIFY

TARGETED

- TREASURE ISLAND BANNER
- DOOR-TO-DOOR
- BICYCLE
- BILLBOARDS
- TRANSIT SHELTERS
- ZONED COMCAST
- ZONED RADIO

BUS ROUTES

- GOLDEN GATE TRANSIT
- MARTIN/SONOMA COUNTIES
- SANTA CLARA COUNTY
- LAYTA
- TRI VALLEY
- AC TRANSIT
- EAST BAY
Social Media

- Use social media to educate residents on the health effects of wood burning
- Leverage anti-wood smoke influencers to spread campaign awareness
- Showcase partners and health experts
Alert Notification

It’s your air, protect it

– Call 1-877-4NO-BURN
– Check the burn status at baaqmd.gov or sparetheair.org
– Sign up for email or text AirAlerts at sparetheair.org
– iPhone/Android app
– Sign up for phone alerts at sparetheair.org or by calling 800-430-1515
# Wood Smoke Enforcement

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<tr>
<td><strong>WSTA Alerts</strong></td>
<td>11</td>
<td>7</td>
<td>4</td>
<td>15</td>
<td>10</td>
<td>30</td>
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<tr>
<td><strong>PM\textsubscript{2.5} Excesses</strong></td>
<td>13</td>
<td>9</td>
<td>1</td>
<td>11</td>
<td>1</td>
<td>15</td>
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<tr>
<td><strong>Complaints</strong></td>
<td>1,500</td>
<td>2,355</td>
<td>1,373</td>
<td>3,777</td>
<td>2,316</td>
<td>5,091</td>
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<tr>
<td><strong>Info Packets</strong></td>
<td>1,550</td>
<td>10,270</td>
<td>592</td>
<td>11,476</td>
<td>3,720</td>
<td>1,768</td>
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<tr>
<td><strong>Violations</strong></td>
<td>255</td>
<td>319</td>
<td>61</td>
<td>359</td>
<td>178</td>
<td>267</td>
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<tr>
<td><strong>Exemptions</strong></td>
<td>0</td>
<td>44</td>
<td>49</td>
<td>76</td>
<td>91</td>
<td>150 + 27 Seasonal</td>
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Enforcement Highlights

• Violations: 267
  ▪ 253 - 1st NOV Wood Smoke Awareness Course or $100 penalty
  ▪ 14 - 2nd or 3rd NOV $500 (increased with additional NOVs)
  ▪ 177 Total Exemptions – 150 permanent, 27 non-functional heater

• Complaints: 5091
  ▪ 60% on Spare the Air Days
  ▪ 209 addresses with 5 or more complaints
  ▪ 15 addresses with 20 or more complaints
  ▪ 1 address with 43 complaints
  ▪ 83 complaints by 1 person
Enforcement Practices

- Complaint information is used to determine patrols and to concentrate enforcement on houses with multiple complaints.
- Patrols deployment varied throughout the season.
- Violations are documented and issued when discovered.
Rule Development: Regulation 6, Rule 3

• Explore amendments to Rule:
  – Exemptions
  – Opacity

• Rule Development Schedule:
  – Currently exploring possible rule amendments
  – Public Workshops will be scheduled in all 9 counties targeted for 1st and 2nd quarters 2015
  – Rule amendments to the Board of Directors for adoption targeted for 3rd quarter 2015
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- Spare the Air Alert Called for: 11/9
- Days > 35 µg/m$^3$ 24-hr NAAQS: None