CARE Program
Task Force Meeting
Update on Local Land Use Guidance

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September 17, 2008
Overview

- Background
- Proposed Local Land Use Flow Diagram
- Description of Key Elements
- Threshold Development
- Questions
Background

• Existing Land Use Documents
  – CARB, South Coast, Sacramento Metro, San Francisco Department of Public Health

• Purpose of the Land Use Document
  – Assist cities and counties in local land use decision making
  – Assess the health impact to new residential developments from existing toxic sources
  – Evaluate the health impact from new commercial development to existing residents
  – Determine when mitigation is required and identify possible measures
  – Assess the effectiveness of the measure

• Target Audience
  – Local city and county planners, community, developers, consultants, local decision makers
Scope of Presentation

• Project-level Guidance
  – Guidance for new residential developments

• To be Addressed
  – Planning/zoning level guidance
  – Guidance for new commercial/industrial sources
Proposed Flow Diagram

New Residential Land Use Project

Screening Criteria

Risk Assessment → Optional

Phased Air Modeling

Develop Project or Area-Specific Threshold

Risk or Air Concentration Exceeds Thresholds?

Yes → Mitigation Strategy

Effectiveness of Mitigation

Requires Additional Mitigation

No → No Further Action Required

Yes → No

Effective
Example Screening Criteria

**SINGLE SOURCE SCREEN**
- 500 feet from freeway
- 1,000 feet from distribution center
- 300 feet from dry cleaner
- 300 feet from gas station

**MULTIPLE SOURCE SCREEN**
- No more than (3) Type A sources within 300 feet
- No more than (2) Type B sources within 500 feet
- No more than (1) Type C sources within 1,000 feet
Proposed Flow Diagram

1. New Land Use Project
2. Screening Criteria
   - Phased Air Modeling
   - Develop Project or Area-Specific Threshold
3. Risk or Air Concentration Exceeds Thresholds?
   - Yes
     - Mitigation Strategy
     - Effectiveness of Mitigation
     - Requires Additional Mitigation
   - No
     - No Further Action Required

- Optional Risk Assessment

CARE Task Force Meeting
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Slide 7
Phased Air Modeling

Step 1: Tabulated Risk or Air Concentrations Exceed Threshold?

Yes

Step 2: Screening Air Dispersion Exceed Threshold?

Yes

Step 3: Refined Site-Specific Air Modeling Exceed Threshold?

Yes

Mitigation Measure

No

No Action Required

No
• **Step 1**
  County-specific lookup risk or PM concentration tables (example) based on the peak number of vehicles/hr and distance to road

<table>
<thead>
<tr>
<th>Peak Hour Traffic (vehicle/hr)</th>
<th>Receptor Distance from Edge of Nearest Travel Lane (feet)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td>Incremental Cancer Risk North of East-West Roadway: downwind (North)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5,000</td>
<td>630 x 10^{-6}</td>
<td>558 x 10^{-6}</td>
<td>462 x 10^{-6}</td>
<td>339 x 10^{-6}</td>
</tr>
<tr>
<td>10,000</td>
<td>837 x 10^{-6}</td>
<td>741 x 10^{-6}</td>
<td>615 x 10^{-6}</td>
<td>453 x 10^{-6}</td>
</tr>
<tr>
<td>15,000</td>
<td>1,047 x 10^{-6}</td>
<td>927 x 10^{-6}</td>
<td>768 x 10^{-6}</td>
<td>567 x 10^{-6}</td>
</tr>
<tr>
<td>20,000</td>
<td>1,257 x 10^{-6}</td>
<td>1,113 x 10^{-6}</td>
<td>924 x 10^{-6}</td>
<td>681 x 10^{-6}</td>
</tr>
</tbody>
</table>
Phased Air Modeling

- **Step 2**
  Screening air dispersion runs with default parameters

- **Step 3**
  Refined air modeling using site-specific meteorology and site conditions
New Land Use Project

Screening Criteria

Develop Project or Area-Specific Threshold

Risk or Air Concentration Exceeds Thresholds?

Yes → Mitigation Strategy

No → No Further Action Required

Risk Assessment

Optional

Phased Air Modeling

Yes

Requires Additional Mitigation

Effectiveness of Mitigation

Effective

No
• Recommend Single Threshold for the Bay Area
  – Use safety factors to adjust threshold based on proximity to industrial and road sources

<table>
<thead>
<tr>
<th>EXAMPLE Sources within 500 feet radius of the project</th>
<th>Safety Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum dry cleaners, gas stations, auto body shop, printing shop</td>
<td>A</td>
</tr>
<tr>
<td>Landfill, waste water treatment plant (POTW), medical waste incinerator, recycling/garbage transfer station, livestock or dairy operation, construction site, roadways (&lt;100,000 to 50,000 cars/day)</td>
<td>B</td>
</tr>
<tr>
<td>Gasoline refinery, shipbuilding and repair, hazardous waste incinerator, freight distribution center, truck stop and weighing station, freeway or main arterial roadways (&gt;100,000 cars/day), railyard, Ports</td>
<td>C</td>
</tr>
</tbody>
</table>
New Land Use Project

Screening Criteria

Risk Assessment Optional

Phased Air Modeling

Risk or Air Concentration Exceeds Thresholds?

No Further Action Required

No

Yes

Mitigation Strategy

Effectiveness of Mitigation

Requires Additional Mitigation

Effective

No

Yes
Questions

• Should the District set a Bay Area-wide threshold or present a methodology for cities and counties to establish their own threshold?
• What factors should be considered in developing the thresholds?
• Should threshold be based on particulate matter concentrations or cancer risk or something else?
• General opinion on the concepts?