

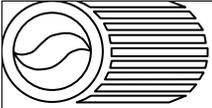
Low Carbon Fuel Standard Workshop: Update on the Environmental Analysis

January 30, 2009

California Environmental Protection Agency

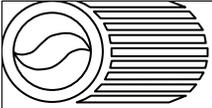


Air Resources Board



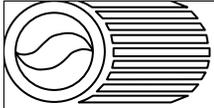
CA Air Quality Impacts –Progress Update

- Emissions from Biofuel Facilities
- Emissions from Biomass Feedstock Transport and Distribution
- Emissions from Biofuel Transport and Distribution
- Emissions from Refineries and Ports
- Emissions from Motor Vehicles



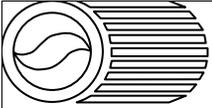
Emissions from Biofuel Facilities

- LCFS and Federal RFS May Lead to New California Facilities
- Estimated Facility Emissions
 - Based on Permits, GREET, and Required Controls
- Facility Locations
 - Using Information From WGA Projections
 - Based on Biomass Resource Base, Population, Railroad Proximity
 - Reconciled with LCFS Compliance Scenario Fuel Volumes and AB 32 Projections



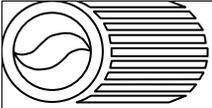
Biomass and Biofuel Transportation and Distribution

- Estimated California Emissions from Biomass Transportation and Distribution
 - Via Truck
 - Via Rail
- Estimated California Emissions from Biofuel Transportation and Distribution
 - Via Truck
 - Via Rail



Emissions from Refineries and Ports

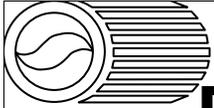
- LCFS Reduces Dependency on Petroleum
 - Worldwide Demand is Independent
- Same Crude Volume Imported into State
- Less Finished Product Imported into State
- More Finished Product Exported Out



Motor Vehicle Emissions

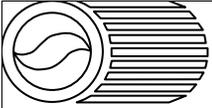
- Light Duty Vehicle Comparisons Include:
 - E85 to Gasoline Vehicle
 - Electric Vehicle to Gasoline Vehicle
 - Hydrogen Fuel Cell to Gasoline Vehicle
 - Light-duty Diesel to Gasoline Vehicle

- Heavy-duty Vehicle Comparisons Include:
 - CNG to Diesel
 - Electric Vehicle to Diesel



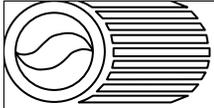
Public Health Risk and Cumulative Impacts

- Conducting Cancer and Non-cancer Risk Assessment for Individual Facilities
- Conducting Cancer and Non-cancer Cumulative Risk Assessment for Multiple Facilities
- Currently Modeling Regional and Statewide Criteria Pollutant Impacts and Public Health Risk

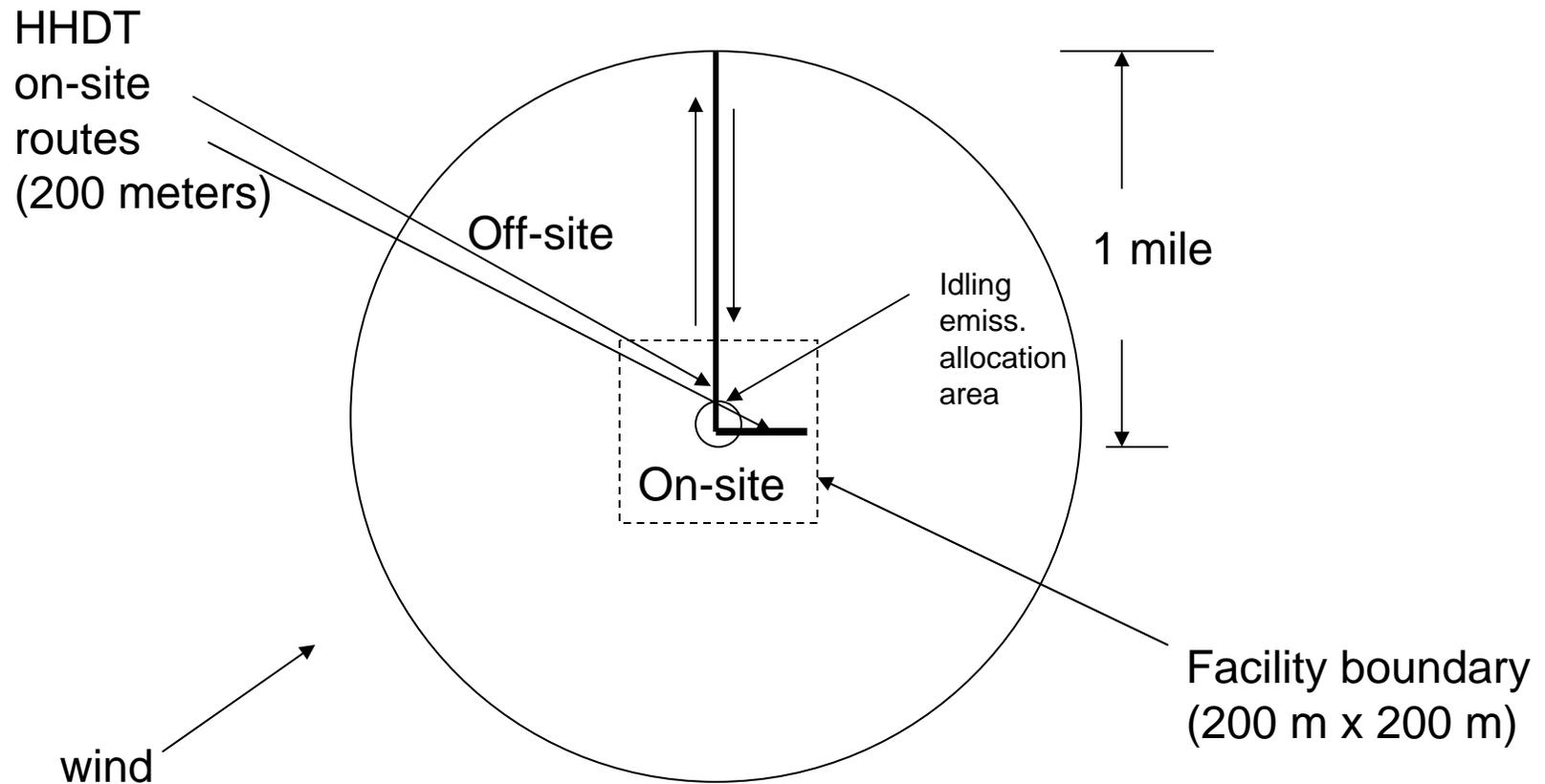


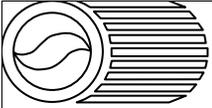
Biofacility Risk Modeling

- Biomass Feedstock In
- Biofuel Transportation Out
- Emissions Within the Facility

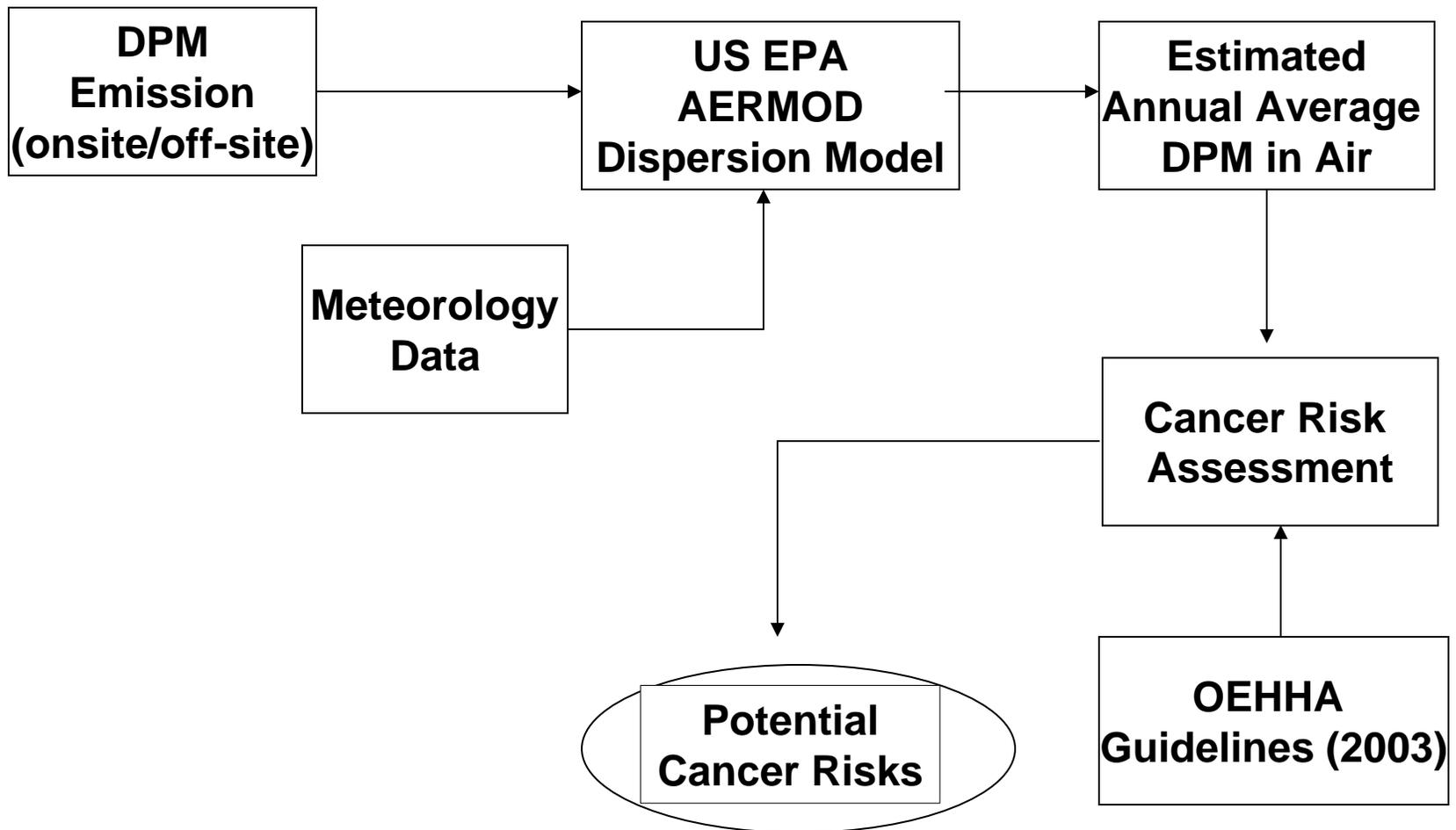


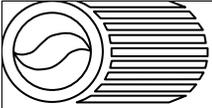
LCFS Biofuel Facility Health Impact Modeling Layout and Assumptions





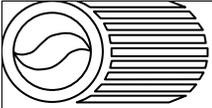
DPM Cancer Risk Estimates





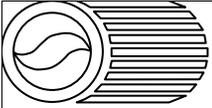
Other Environmental Impacts

- Currently Evaluating Other Impacts to Water, Land, Forest, Energy, Waste Disposal, etc.
- Working With Appropriate Agencies on Non-air Issues
- Identifying Mitigation Measures



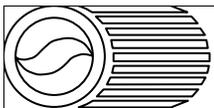
Work to Do

- Finish Risk Assessment Modeling
- Finish Emissions Estimates
- Quantify Impacts of RFS and LCFS
- Estimate Other Environmental Issues
- Convene Workgroup Meeting in Mid-February



Comments Requested

- We are soliciting comments from stakeholders regarding our work plan for the LCFS environmental analysis.
- Please submit comments to Michelle Werner and Carolyn Lozo via email:
 - mwerner@arb.ca.gov
 - clozo@arb.ca.gov
- ***Please submit comments by February 13, 2009***



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