

# **Multimedia Assessment for New Fuels: Stakeholders' Meeting**



**September 13, 2005  
Sacramento, CA**



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Tom McKone, University of California, Berkeley**



# Meeting Information

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- **Teleconference Information**
  - **LEADER: Ms. Lesley Crowell**
  - **USA Toll Free Number: 888-677-1820**
  - **PASSCODE: 48791**
- **Webcast Information**
  - [http://www.arb.ca.gov/app/calendar/cal\\_wbcst.php](http://www.arb.ca.gov/app/calendar/cal_wbcst.php)
  - **During the meeting, questions for the panel can be sent to [Onair@arb.ca.gov](mailto:Onair@arb.ca.gov)**
- **Draft document outline located at**
  - <http://www.arb.ca.gov/fuels/multi/091305additives.pdf>



# Overview



- **CA's new fuels environmental multimedia assessment**
  - Purpose
  - Regulatory Review Process
  - History
    - Ethanol
    - Lubrizol Application
  
- **Multimedia Assessment Application Guidance**
  - Goals
  - Strategy
    - Aspects, Advantages
    - Tiered Approach, Elements
  - Product
    - A “Living” Document



# CA's Fuels Environmental Multimedia Assessment: Purpose

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**As required by California Health and Safety Code 43830.8:**

**A multimedia evaluation shall identify and evaluate any significant adverse impact on public health and the environment, including air, water, or soil, that may result from the production, use, or disposal of a motor vehicle fuel that may be used to meet the Air Resources Board's motor vehicle fuel specifications.**



# Regulatory Review Process



- **Multimedia evaluation shall be submitted by new fuel proponent to address the impacts associated with:**
  - Emissions of air pollutants
  - Contamination of surface water, groundwater, and soil
  - Cross media transfers (air to soil, air to water, soil to water, etc)
  - Disposal or use of byproducts and waste material
- **Multimedia evaluation shall be submitted for an external peer review**
- **Multimedia evaluation shall be submitted to the Environmental Policy Council for review and action**



## Regulatory Review Process (cont'd)



- **The Environmental Policy Council shall determine:**
  - **Whether or not a significant adverse impact on public health or the environment may result from the Board's action:**
  - **If the council finds no significant impact:**
    - **Proposed regulation or application stands as approved by the Board**
  - **If the Council determines a significant adverse impact:**
    - **The Council shall recommend alternative measures to reduce or mitigate those impacts**



## Regulatory Review Process (cont'd)



- **An interagency multimedia working group was established to facilitate coordination among involved agencies:**
  - **California Environmental Protection Agency,**
  - **Air Resources Board,**
  - **State Water Resource Control Board,**
  - **Office of Environmental Health Hazard Assessment,**  
**and**
  - **Department of Toxic Substances Control**



# CA's Fuels Environmental Multimedia Assessment: History

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- **Ethanol**
- **Lubrizol application, 2003-4**
  - **Comprehensive application**
  - **Two peer review groups**
  - **Experimental re-design**
  - **Some unique aspects**
  - **Environmental Policy Council approved multimedia evaluation with conditions**
- **Regulatory post-approval consideration**
  - **Lessons learned**
  - **Goals in revising process**



# Multimedia Assessment

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## Application Guidance



# Multimedia Assessment Application Guidance: Goals

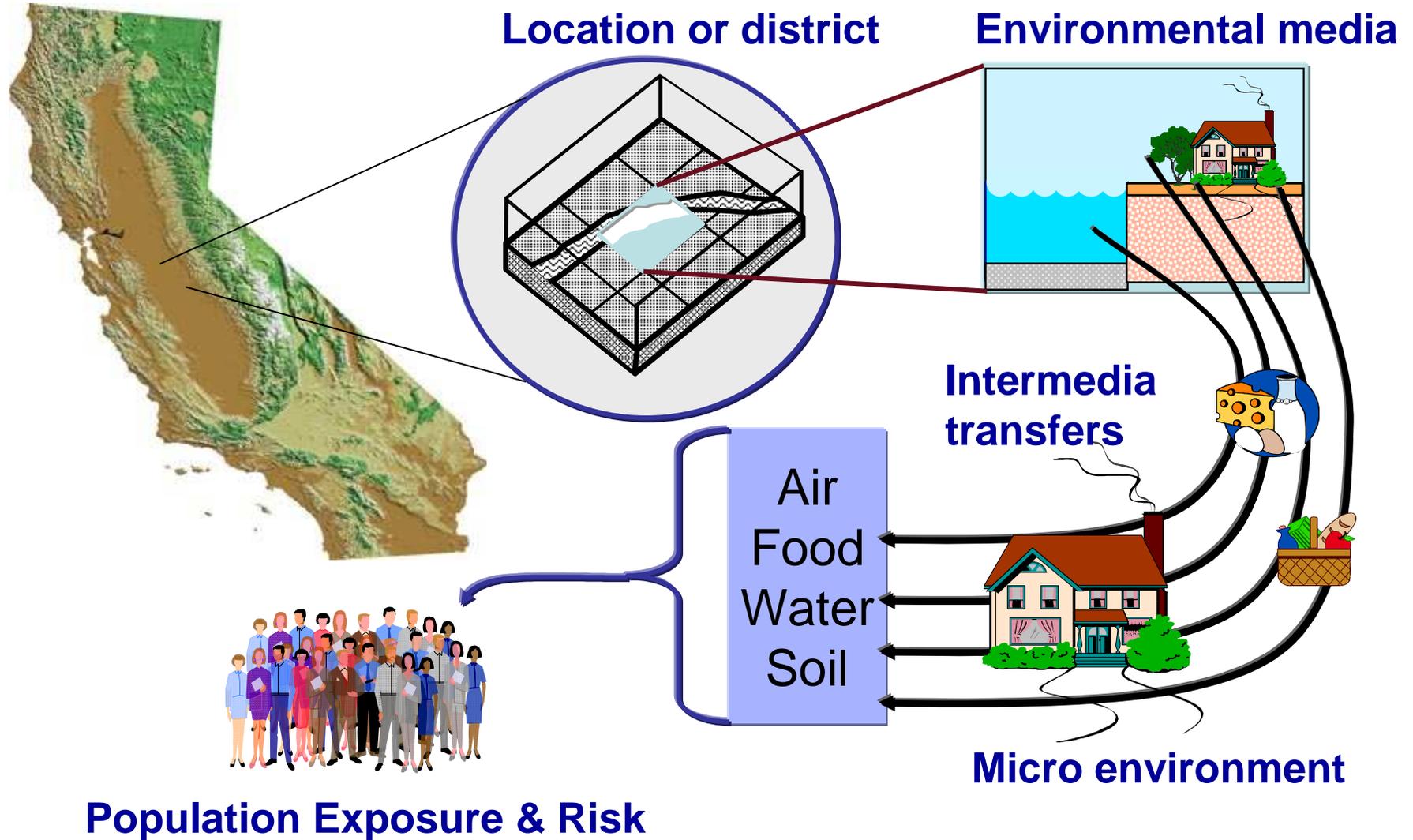
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- **Streamline process**
- **Reduce uncertain costs**
- **Facilitate a consistent multimedia approach**
- **Honor unique aspects of new fuels**
- **Clarify**
  - **Risk assessment questions**
  - **Protocols for addressing them**



# Multimedia Framework





# Multimedia Assessment Application Guidance: Strategy

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- **Strategy Drawn from Needs:**
  - to accommodate unique features (chemical, potential impacts)
  - customized additional testing for nonexistent information
  - to reduce uncertainty in cost estimation for applicant
  - to reduce chance of “barking up the wrong tree”
  - for ongoing peer review as decisions are made
  - to accommodate relative risk assessment between proposed fuel / additive and appropriate standard reference fuel



# Multimedia Assessment Application Guidance: Tiered Approach

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- **Therefore, a Tiered Approach:**
  - **Three sequential tiers during application process**
  - **Increasing in resolution, specificity, cost, risk assessment**
  - **Feedback at each tier**
  - **A staged or tiered risk-based approach allows information required for the decision making process to be provided in a focused and timely manner, while acknowledging:**
    - **the complexity of the issues, and**
    - **the likelihood that there will be significant uncertainties at the completion of the multimedia assessment**



# Tiered Approach



## Tier 1 Preliminary Review

- Define framework and approach
- Identify information needs and gaps
- Peer review



## Tier 2 Multimedia Risk Assessment Design Review

- Experimental design developed and submitted
- Design peer reviewed, feedback provided for Tier 3

- Final report is used as the basis for recommendations submitted to the Environmental Policy Council
- Final report is peer reviewed



## Tier 3 Final Multimedia Risk Review



## Tiered Approach: Advantages



- **Key issues and uncertainties associated with a new fuel are identified early so efforts to address these concerns are focused**
- **Peer review is ongoing so the overall process has few surprises at the end for either the State or the new fuel proponent**
- **A new fuel proponent can better gauge “when to hold’em and when to fold’em” during the overall process**



# First Tier: Preliminary Review Elements

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## Proponent Provides:

- **Summary of Regulatory Approvals**
- **Background Fuel Information**
  - Fuel Modifications/Characteristics
  - Chemical Composition
- **Summary of Manufacture, Transportation, and Storage of Fuel and Components**
- **Historical Use of Fuel Components or Additives**



# **First Tier: Preliminary Review Elements (cont'd)**

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## **Proponent Provides:**

- **Physical and Chemical and Environmental Toxicity**
- **Summary of Likely Release Scenarios**

## **Proponent and Multimedia Working Group Identify:**

- **Information Necessary for Risk Assessment Design (Tier 2)**
- **Key Elements to be Used as Basis for the Risk Assessment**

## **Peer Review Before Moving to Second Tier**



# **Second Tier: Risk Assessment Design Review Elements**

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## **Proponent provides:**

- **Proposed Experimental Design for Risk Assessment**
  - **Scope and Data**
  - **Comparisons to agreed upon base fuel**
  - **How Will Knowledge Gaps be Addressed**
  - **Methodology to be Used During Analysis**
  - **Fate and Transport Conceptual Models**
  - **Description of Planned Experiments**

## **Multimedia Working Group and Peer Review Before Moving to Third Tier**



# **Third Tier: Final Multimedia Risk Assessment Elements**



## **Proponent Provides:**

- **Summary of First Two Tier Activities and Results**
- **Results of Multimedia Risk Assessment**
- **Comprehensive Report Including Results from Models and Experiments Regarding:**
  - **Impact from Likely Release Scenarios**
  - **Exposure Pathways**
  - **Fate and Transport Mechanisms**
  - **Bioaccumulation**
  - **Exposure to Human, Resource, and Ecological Receptors**
  - **Risk Determination Uncertainty**
  - **Waste Management Issues**

**Multimedia Working Group's Recommendations Receive Final Peer Review Before Submittal to Environmental Policy Council**



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