South Bay Odor Update and Air District Odor Attribution Study

Stationary Source Special Committee Meeting

September 16, 2019

Tracy Lee, Compliance & Enforcement Manager

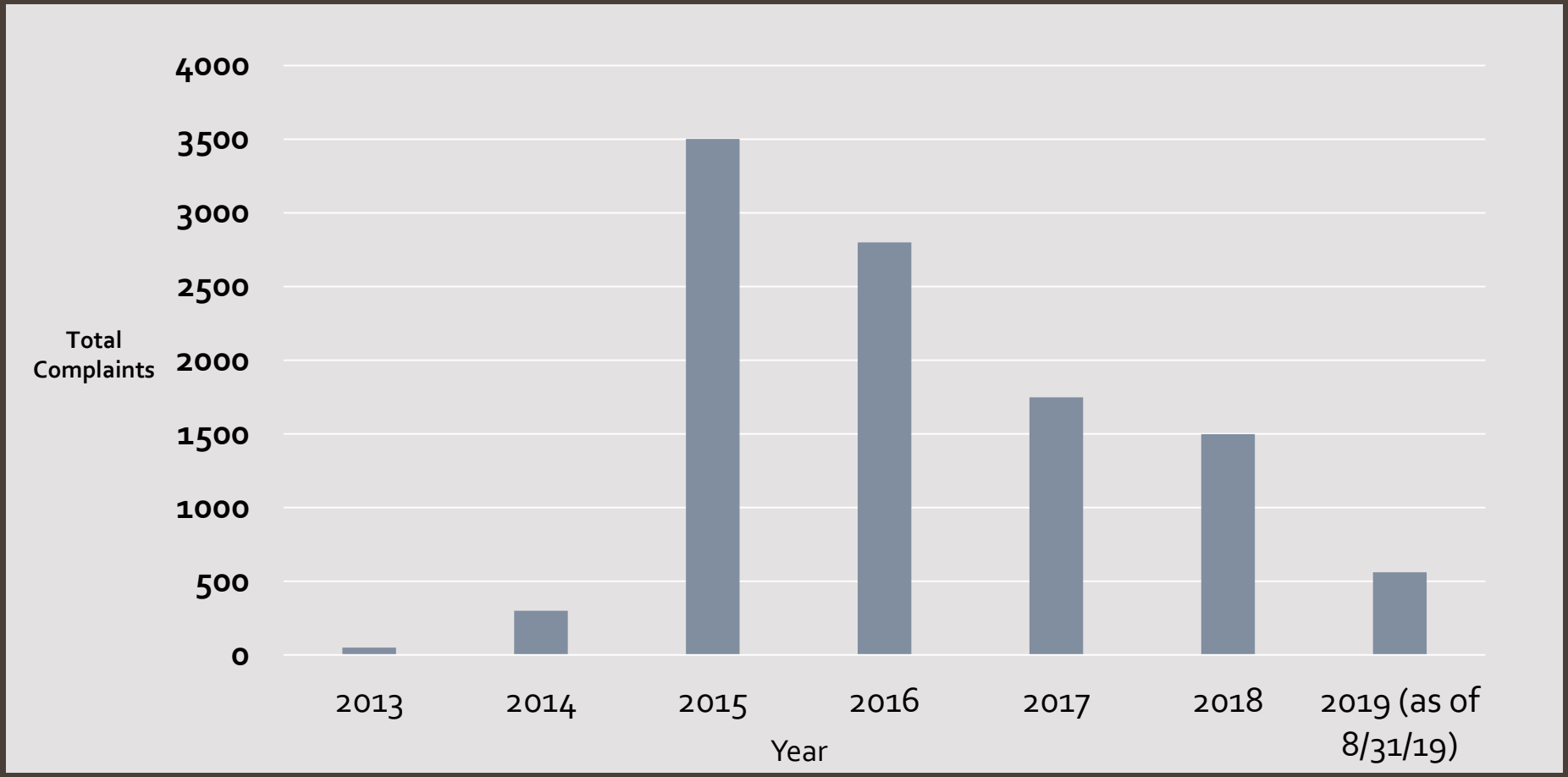
Jerry Bovee, Air Quality Engineering Manager

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

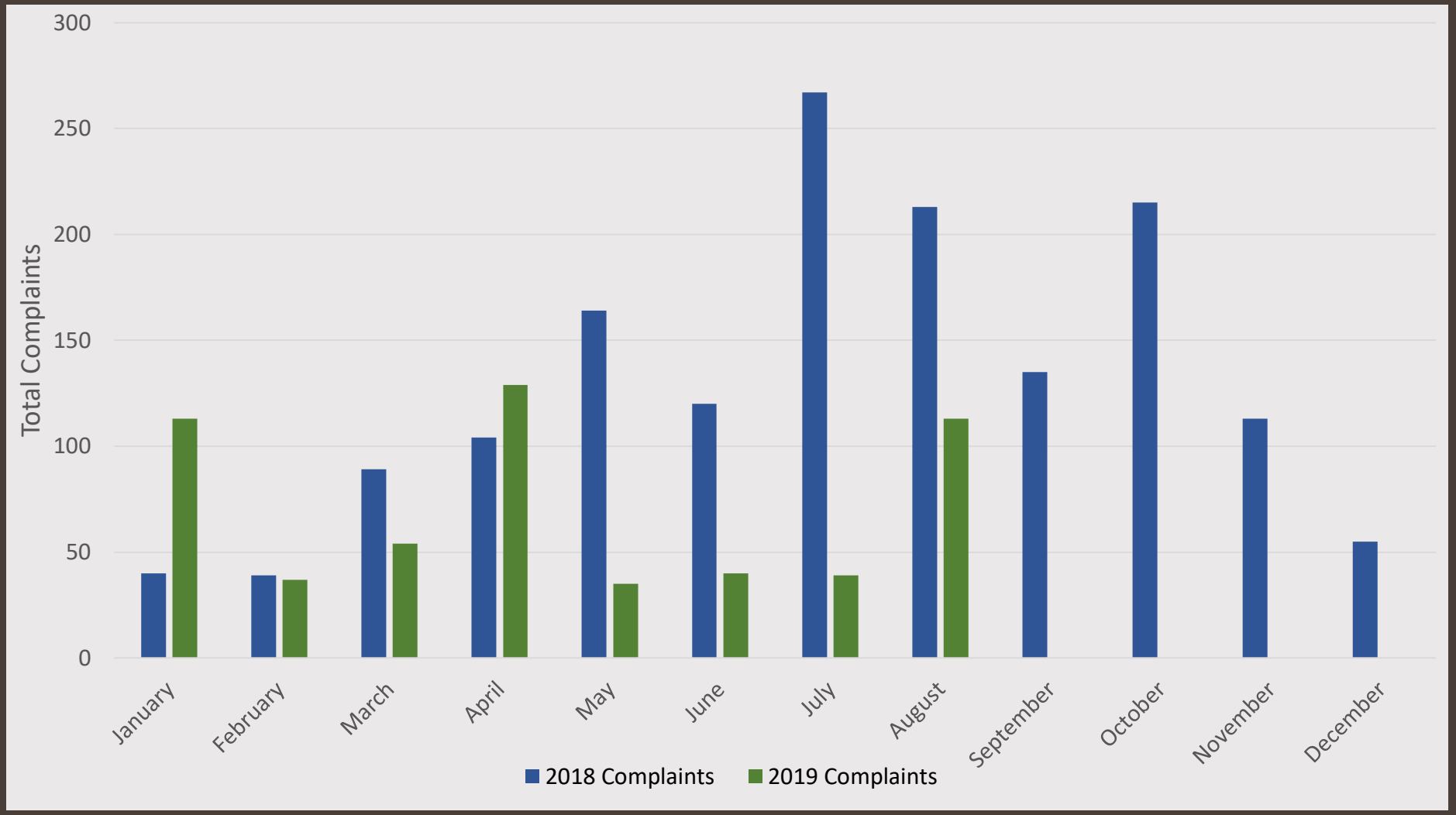
Overview

- South Bay Odor Update
  - Complaint Summary
  - Area Overview
  - Odor Sources
- South Bay Odor Stakeholder Group
- Air District Odor Attribution Study
- Other Actions

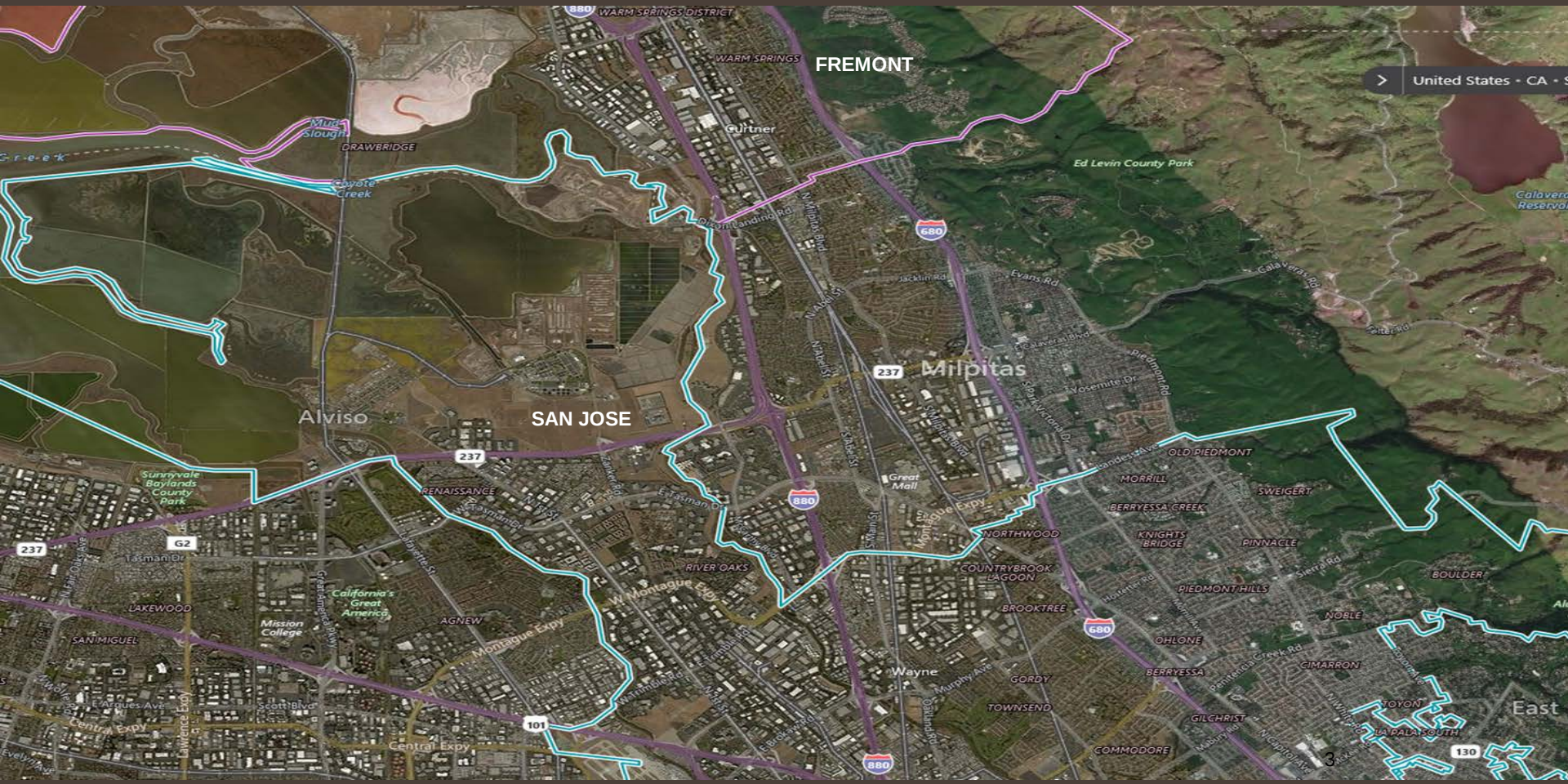
Summary of Odor Complaints (2013 - 2019)



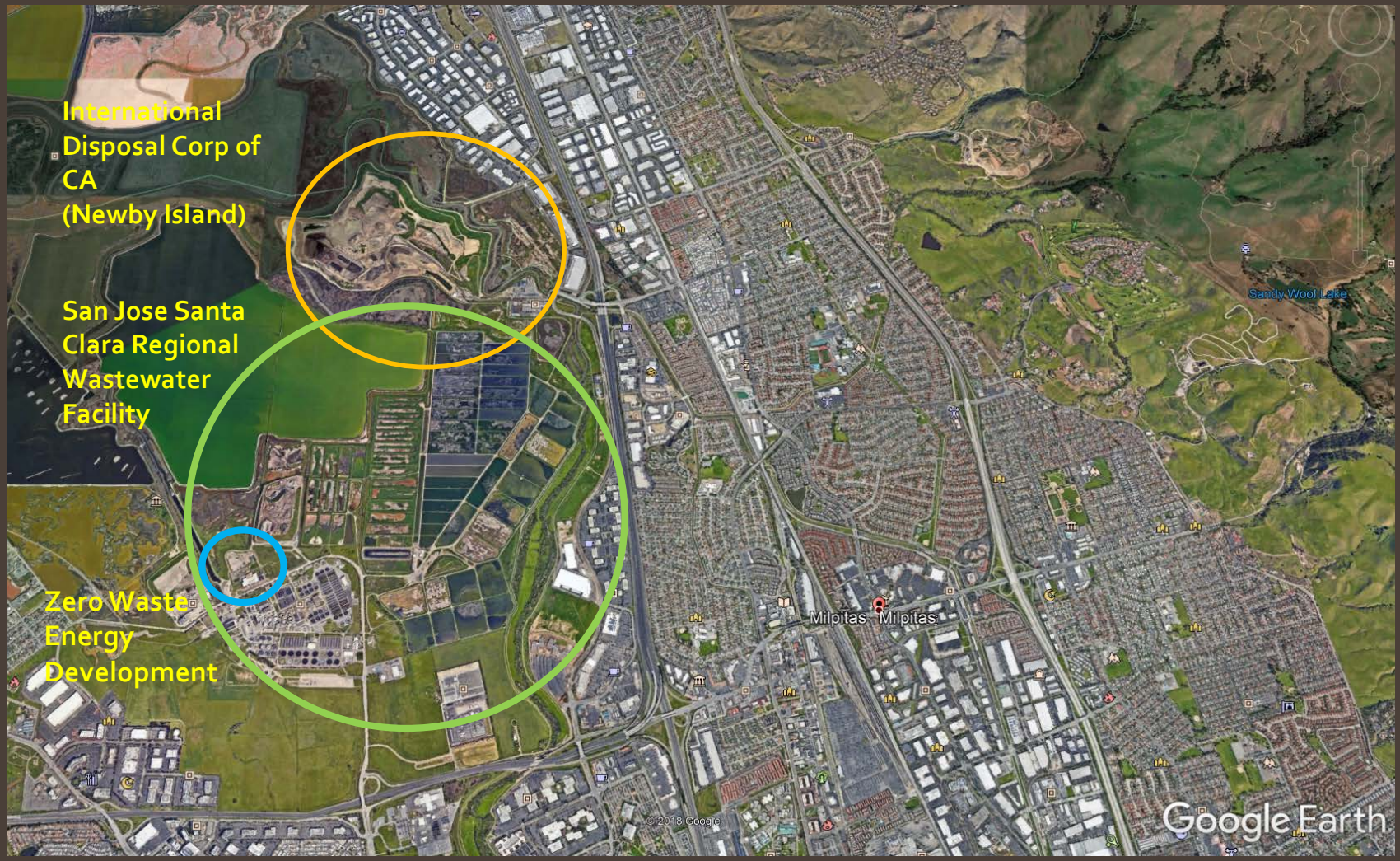
Summary of Odor Complaints (2018 and 2019)



Area Overview



Odor Sources



South Bay Odor Stakeholder Group (SBOSG)

- Goal is to address and resolve community concerns through an open and transparent process
- Stakeholders include local government and state representatives, enforcement agencies, industry and community members

Air District Odor Attribution Study

- Determine the relative contribution and variability of odor causing compounds
- Develop strategy for measuring how often and at what concentration these potential odor causing compounds may be impacting the local community

Air District Odor Attribution Study (Cont'd)

- International Disposal Corp of CA (Newby Island)
  - Landfill
  - Material Recovery Facility
  - Composting Operation
- Zero Waste Energy Development (ZWED)
  - Dry Anaerobic Digestion
  - In-Vessel Composting
- San Jose Santa Clara Regional Wastewater Facility
  - Sewage Treatment Plant
  - Sludge Ponds & Drying Beds

International Disposal Corp. of CA
(Newby Island)

- **Compost Operation**
- **Landfill**
- **Material Recovery Facility**

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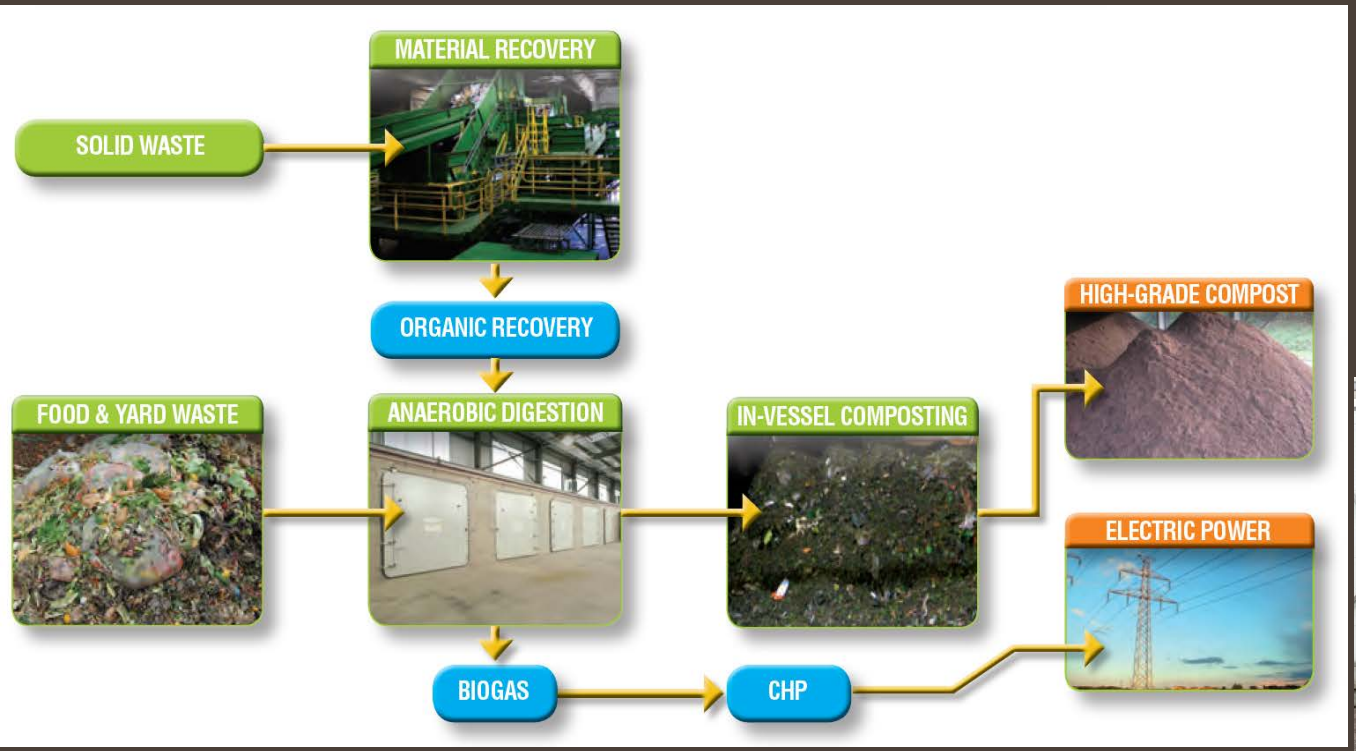
Newby Island Landfill

Newby Island Compost Operation

Newby Island Material Recovery Facility

Zero Waste Energy Development (ZWED)



San Jose Santa Clara Regional Wastewater Facility

Challenges in Determining Sources of Odors

- Humans can detect smells of compounds at very low concentrations, which can be difficult to measure using currently available instruments
- Characteristics of the odors can change with concentration and olfactory fatigue
- Facility processes vary significantly over time and space

Odor Attribution Study : Goals

- Characterize odors to better understand the association between odors and different sources
- Utilize measurement technology that can measure at parts per trillion levels over an extremely large range of compounds

Odor Attribution Study : Goals (cont'd)

- Utilize techniques to characterize odors and aid the community in potentially identifying sources
- Complement project being performed by the City of Milpitas

Odor Attribution Study: Process

- Released Request for Proposals (RFP) in April 2019

- Evaluation panel expertise:
  - Air monitoring
  - Source testing
  - Expert from the South Coast Air Quality Management District

Odor Attribution Study: Process (cont'd)

- Six responses were received and scored
- Three top respondents were interviewed to further clarify approach and methodologies
- Two contractors were chosen

Odor Attribution Study : Next Steps

- Work with the SBOSG to ensure the scope of work meets the groups needs
- Develop a specific scope of work and obtain the Board of Directors approval of contracts
- Continue to work with the City of Milpitas to leverage complementary studies

Other Actions

- Update Air District Complaint Policy
  - Public Workshops Beginning December 2019
- Regulation 13, Rule 2 (Rule 13 – 2): Organic Material Handling Operations
- Regulation 13, Rule 3 (Rule 13 – 3): Composting Operations

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

AGENDA: 5

Particulate Matter Rules Implementation Update

Stationary Source Special Committee Meeting
September 16, 2019

Eliza Kane
Air Quality Specialist

Outline

- Particulate Matter (PM) Basics
- PM Health Impacts
- PM_{10} and $PM_{2.5}$ Sources
- Rule Overview
  - Regulation 6, Rule 1: General Requirements
  - Regulation 6, Rule 3: Prohibition of Trackout
- Best Practices to Reduce PM

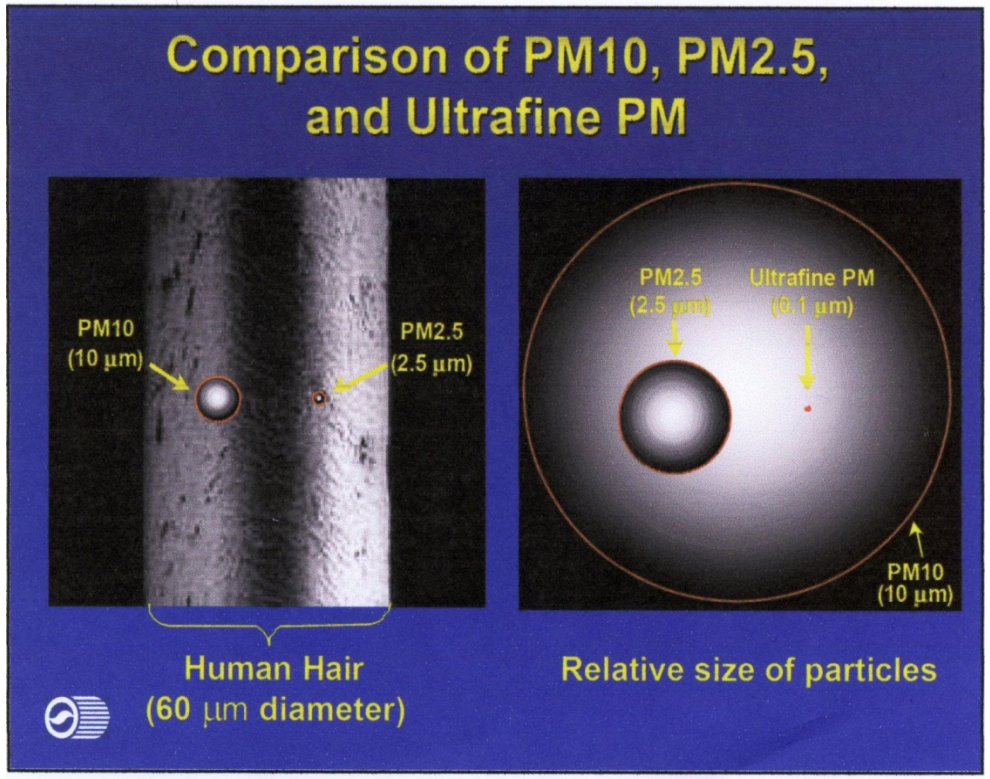
Particulate Matter Basics

Particulate Matter is a diverse mix of airborne solid particles and liquid droplets that differ in size, mass, toxicity, chemical properties and how they behave in the atmosphere

- **Total Suspended Solids (TSP)**:
  ~50 microns or less
- **PM_{10}**: 10 microns or less
- **$PM_{2.5}$**: "Fine" PM
  2.5 microns or less
- **Ultrafine PM**: 0.1 microns or less*

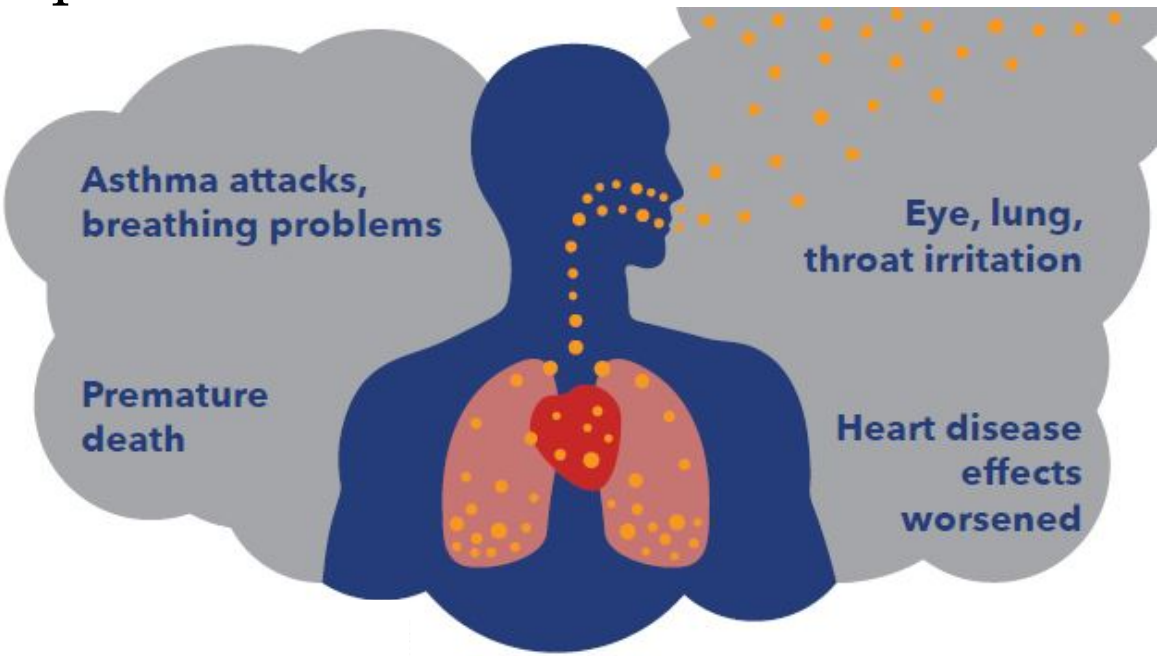
Smallest particles have the greatest health impacts!

* One *million microns = one meter*



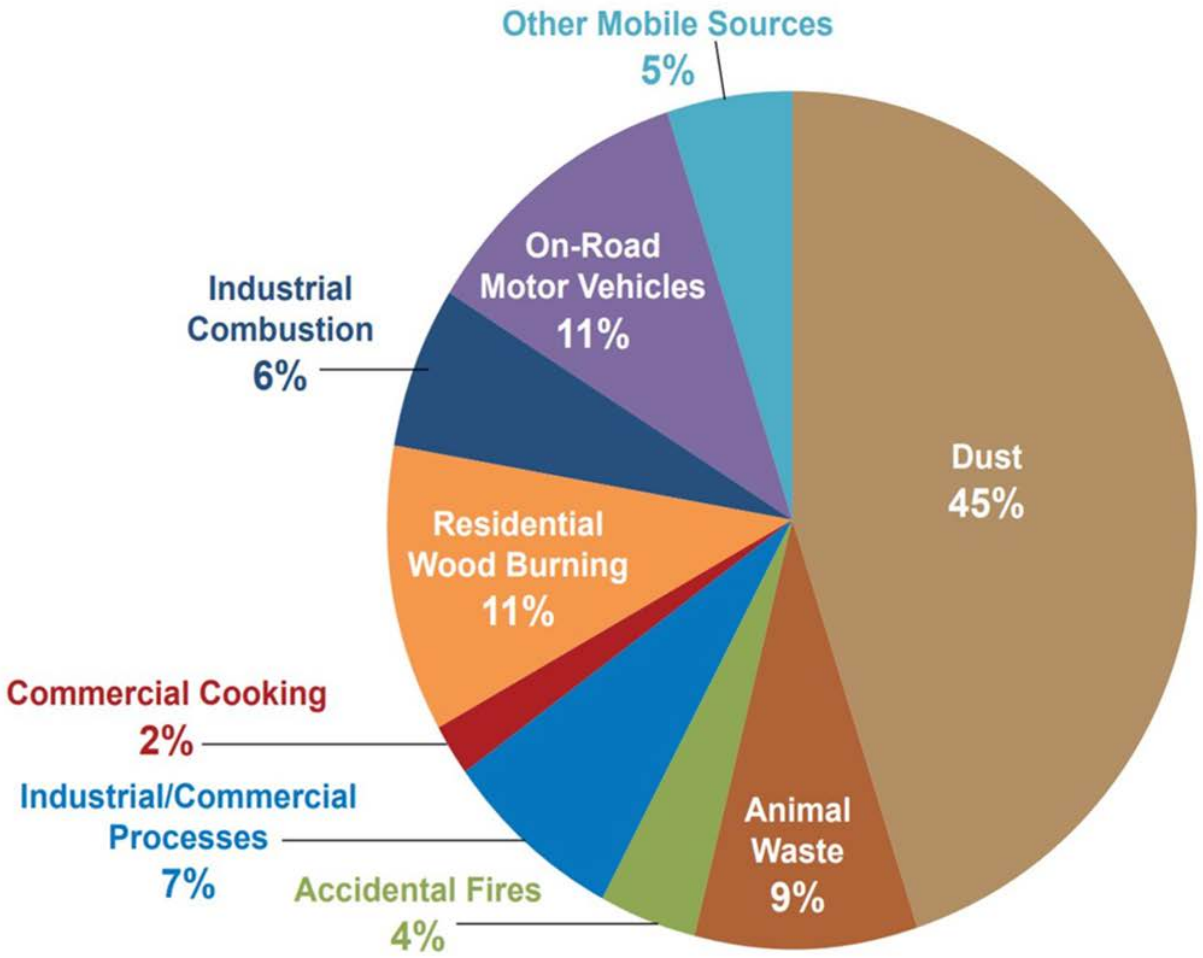
PM Health Impacts

- Premature mortality
- Respiratory problems
- Cardiovascular problems
- Cancer



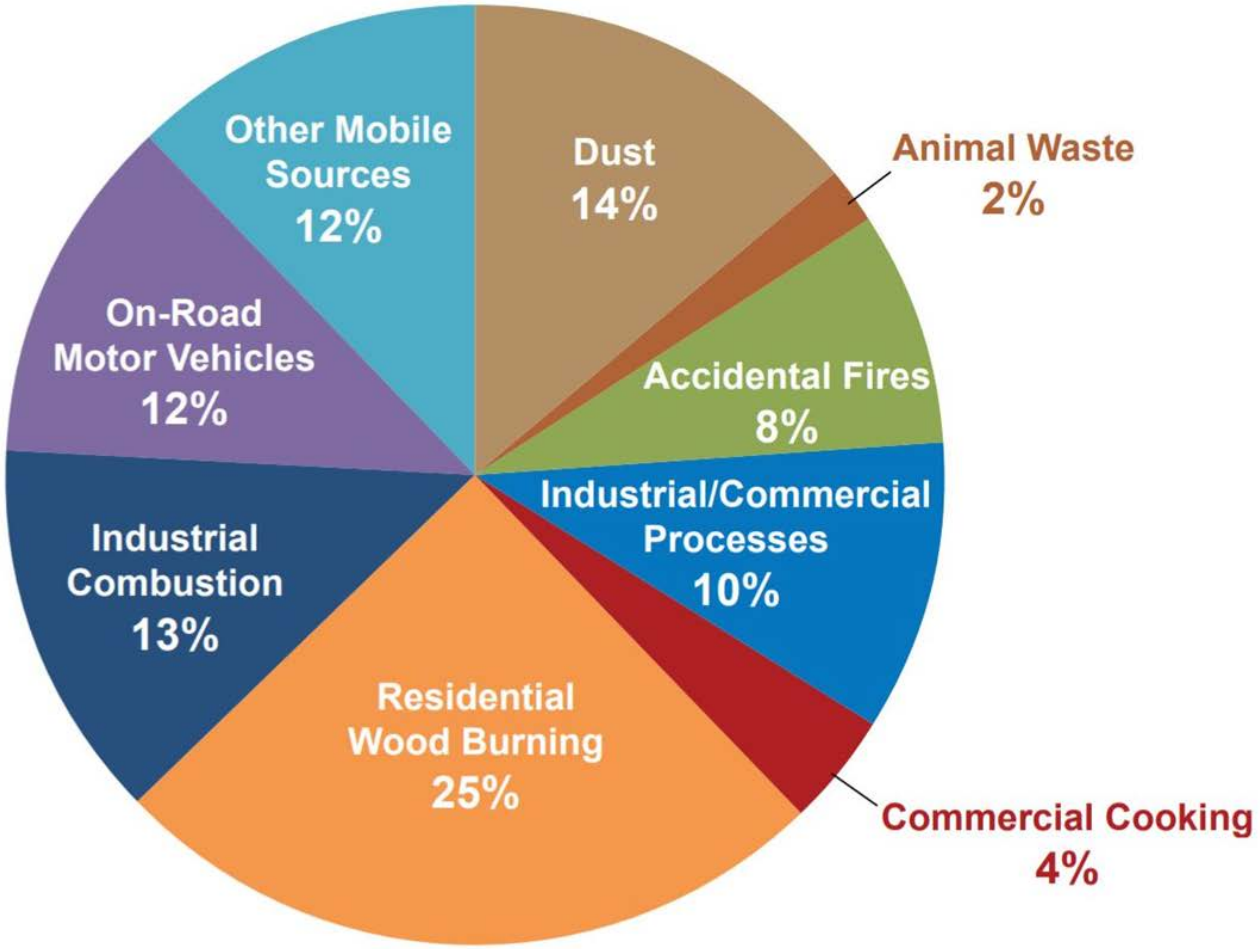
Sources of PM_{10}

2015 Annual Average PM_{10} Emissions: 109 tons/day



Sources of $PM_{2.5}$

2015 Annual Average $PM_{2.5}$ Emissions: 47 tons/day



Regulation 6, Rule 1 Amendment: Bulk Material Handling

Limits the quantity of fugitive dust from all bulk material sites by setting limits on emission rates, concentrations, visible emissions and opacity.

- Standards
  - Visible emissions limit (Ringelmann standard)
  - No visible fugitive dust beyond property line
  - Requirements for spill cleanup
- Monitoring & Recordkeeping Requirements

Examples of Bulk Material Dust

Unpaved roads

Petroleum Coke

Quarry

Asphalt recycling

Bulk Material Dust Controls

Wind Screens

Mist Systems

New Regulation 6, Rule 6: Prohibition of Trackout

Limits PM emissions through control of trackout of solid materials onto paved public roads.

- Standards
  - No "significant" trackout at any active site exit onto an adjacent paved roadway
    - Significant = more than cumulative 25 linear feet
    - Cleanup required within four hours
    - No more than one quart of trackout can remain at end of work day
  - Visible emissions limit (Ringelmann standard)
- Monitoring & Recordkeeping Requirements

Examples of Road Dust - Trackout

From Trucks

Soil Erosion

Trackout Controls

Grizzlies

Truck Wash System

Best Practices to Reduce PM

- Purchase high-efficiency sweepers to remove trackout
- Install sprinkler and misting systems
- Extend heights of windscreens
- Establish watering schedules
- Adjust facility operations, delivery routes and schedules

Best Practices to Reduce PM (cont'd)

- Dedicate additional staffing resources to conduct more frequent inspections
- Develop employee training program
- Evaluate equipment placement and site logistics
- Review and modify equipment operational times
- Manage stockpiles to prevent offsite dust impacts

Questions?

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Update on Organic Material Handling and Composting Rules

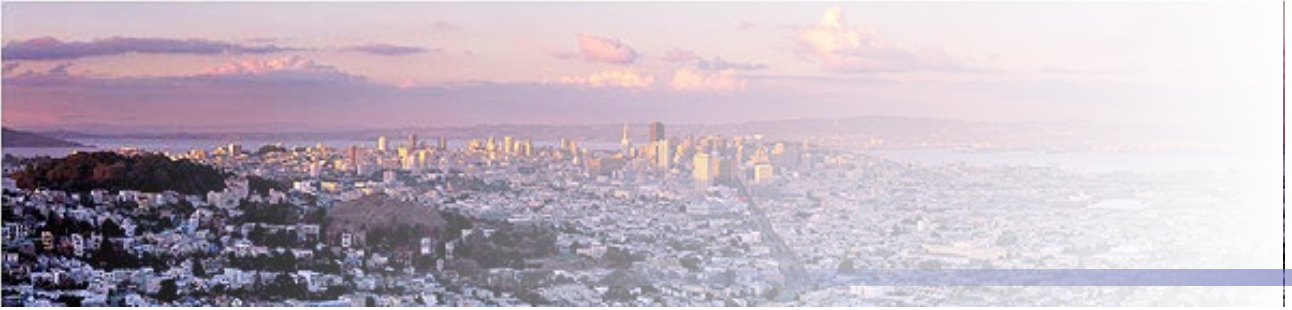
Stationary Source Special Committee Meeting

September 16, 2019

Misha Nishiki
Assistant Counsel

Agenda

- Rule Drivers
- Overview of Workshop Draft
- Stakeholder Comments
- Proposed Revisions
- Tentative Schedule
- Questions



Rule Drivers

- **Senate Bill (SB) 1383**
  - Mandates a statewide diversion of organic material by 50 percent of 2014 baseline levels by 2020, and 75 percent by 2025.
- **Anticipated increase in organic waste diverted to organic waste handling facilities**
  - Regulatory uniformity
  - Emissions reductions from affected facilities
  - Odor control as a co-benefit
- **2017 Clean Air Plan**

Overview of Workshop Draft

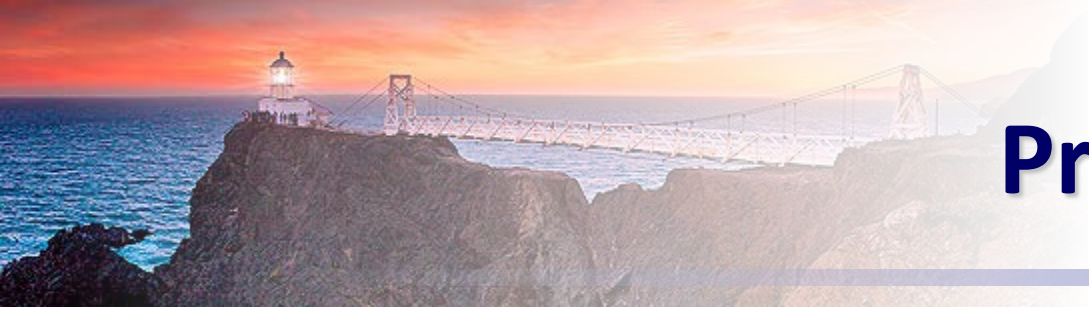
- **Affected Industries**
  - Composting Operations, Material Recovery Facilities, Transfer Stations, Anaerobic Digesters, Chip and Grind Operations, and any facility that handles organic waste
- **Emission Control Provisions**
  - Enclosure requirements
  - Prescriptive limits
  - Best management practices and record keeping
- **Facility Summary Report**

Stakeholder Comments

- **June 2019 Workshops** (San Francisco, Milpitas, Richmond)
  - Approximately 75 comment letters received
- **Commenters**: facility operators and industry advocacy groups
- **Main Comments**
  - Draft would impede compliance w/SB 1383 diversion mandates
  - Prospective compliance timeframe unrealistic
  - Material handling stockpiling and active phase requirements are too proscriptive and too costly
  - Emissions and potential reductions are poorly characterized

Stakeholder Comments (cont.)

- **August 2019 Stakeholder Meetings** (San Francisco)
- **Stakeholder Participants**
  - Material Recovery Facility (MRF) and Transfer Station operators/industry groups
  - Anaerobic Digester and Wastewater Plant operators/industry groups
  - Compost Facility operators/industry groups
- **Outcome of Meetings**
  - Exploration and analysis of comments and concerns
  - Air District commitment to work with CalRecycle
  - Air District to provide greater flexibility



Proposed Revisions

Bifurcation of Rule

- **Rule 13-2: Organic Material Handling**
  - Best management practices and standards specific to affected industries (MRFs, Transfer Stations, Chip & Grind)
  - Organic material handling at other facilities will be addressed by source-specific rules (Rules 13-3, 13-4, 8-34)
- **Rule 13-3: Compost Operations**
  - Incorporation of industry best management practices
  - Align definitions and recordkeeping requirements with SB 1383 regulations

Tentative Schedule

Rule #	Rule Name	Workshop	Public Hearing
13-2	Organic Material Handling	Q2 2019	Q4 2019
13-3	Composting Operations	Q1 2020	Q3 2020
13-4	Sewage Treatment and Anaerobic Digestion	Q1 2020	Q3 2020
8-34	Solid Waste Disposal (Landfills)	Q1 2020	Q3 2020

Questions

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