AGENDA: 5

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Building Appliance Rules Update

Stationary Source and Climate Impacts Committee
April 18, 2022

Jennifer Elwell
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Presentation Outcome

- Update committee on comments received on draft amendments to Regulation 9, Rules 4 and 6 for Nitric Oxide (NOx) emissions from building appliances, the implementation working group, and timeline moving forward.

Presentation Outline

- Background
- Path Forward
- Implementation Working Group
- Timeline Updates

Presentation Requested Action

- None, informational only.

Background

- Draft amendments include zero-NOx requirement for residential and commercial space and water heaters
  - Compliance dates 2027-2031 depending on equipment type and size

- Public comment period from September 30, 2021 – November 1, 2021
  - Workshop and Stationary Source and Climate Impacts (SSCI) presentations in the Fourth Quarter of 2021
  - Committee feedback
    - Further stakeholder engagement, including labor groups and PG&E
    - Evaluate CEQA path forward

Path Forward on California Environmental Quality Act (CEQA)

- Staff has determined need for Environmental Impact Report (EIR)
  - Evaluate potential energy, utility, and air quality impacts
  - Additional assessment including third party grid analysis
  - Release Notice of Preparation/Initial Study (NOP/IS) in Quarter 2 for public review and comment
  - Draft EIR to be released in Quarter 3 of 2022

- Final package will also include health analysis including equity impacts, socio-economic analysis and technology evaluation

Implementation Working Group

- Inform periodic reporting back to the Board on accessibility of zero-NOx technologies including technology availability, funding and costs of compliance
  - Impacts to different stakeholder groups (renters, homeowners, small businesses, industry, local governments)
  - Suggestions on new/enhanced funding/financing streams
  - Potential barriers, including affordability, and interventions needed to meet the compliance deadlines
  - Flag any concerns with the rule compliance dates based on new information and market developments

Implementation Working Group Cont'd

- Led by staff with the assistance of a contracted facilitator
- Periodic reports to Board to be authored by Staff with input from working group members

-EJ/Community Organizations

-Local Governments

-Labor/Building Trades

-Affordable and Market Rate Housing Developers

-Property Management

-State Funding Agencies

-Equipment Manufacturers

-Other Subject Matter Expert Organizations

Implementation Working Group Cont'd

- Example: 2021 rule development working group members

-Menlo Spark

-Rocky Moutain Institute

-Building Decarbonization Coalition

-Greenlining Institute

-Poder

-Emerald Cities

-Bayview Hunters Point Community Advocates

-Redwood Energy

-Sierra Club

-SPUR

-Association for Energy Affordability

-Energy Solutions

-BlocPower

-BayRen

- CA Housing Partnership Corportation

-Building Elec. Inst.

-Bay Area Regional Collab.

- CEC, CARB

-City staff (SF, Oakland, SJ, Berkeley, PA, Hayward)

-SCAQMD

-Johnson Controls

-Trane Technologies

-AC, Heating and Refrigeration Institute

-Rheem

Implementation Working Group Cont'd

- Implementation working group will be formed in Quarter 3 2022 and begin meeting upon adoption of rule amendments
  - Identify working group members
  - Contract with third party facilitator
  - Determine need for and method of providing stipends for working group members
  - Set date for first meeting following adoption

Potential Timeline Updates

- Previously: Board adoption Quarter 2 of 2022
- ***Anticipated timeline: Board adoption in Quarter 4 of 2022***
  - Required for additional environmental impact analysis, including grid capacity
  - Regulatory timelines would not change

Feedback Requested/Prompt

- Questions or concerns about proposed path forward from committee members
  - CEQA/EIR path and timeline
  - Membership of the implementation group

AGENDA: 6

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

South Bay Odor Attribution Study

Stationary Source and Climate Impacts Committee Meeting
April 18, 2022

Ranyee Chiang, Ph.D.
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Presentation Outcome

- Understand motivation and results from Air District's South Bay Odor study and provide feedback on recommendations

Presentation Outline

- Area overview
- History of complaints and actions
- South Bay Odor Stakeholder group
- Odor study challenges and goals
- Key findings
- Possible Air District actions

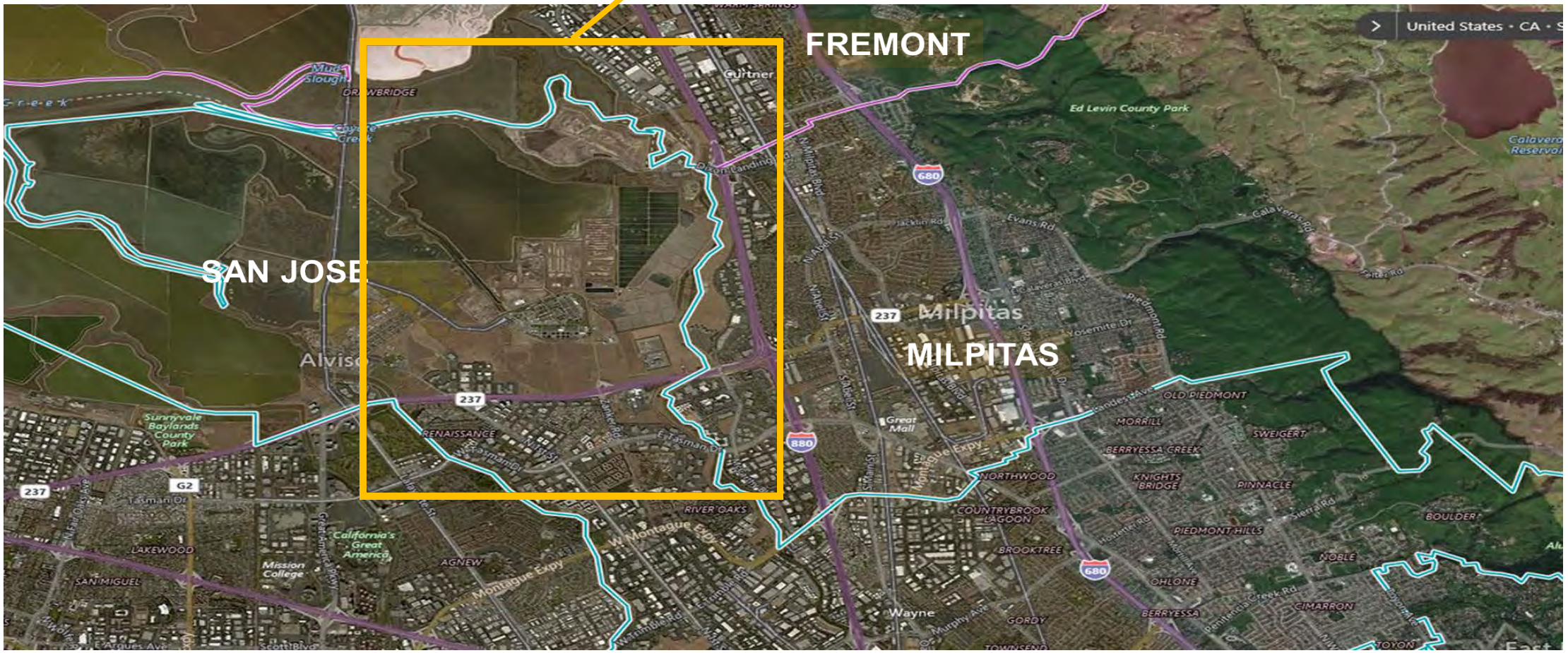
Presentation Requested Action

- None. Informational only.

Area Overview

Area Overview Cont'd

Details of this area shown on next slide



Waste Facilities

Newby Island Resource Recovery Park (NIRRP)

- Landfill
- Material Recovery Facility
- Composting Operation

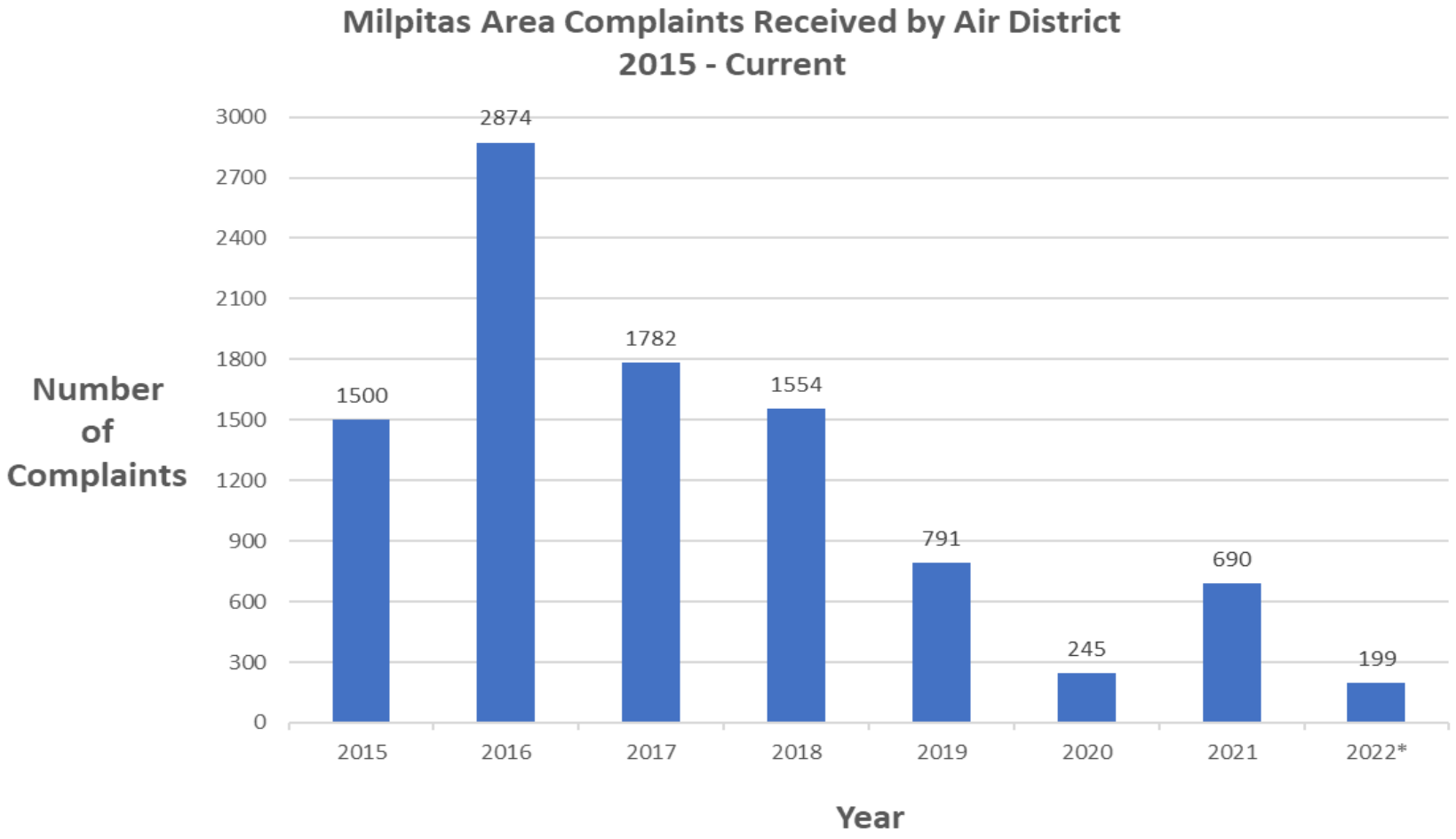
San Jose Santa Clara Regional Wastewater Facility (RWF)

- Sewage
- Sludge Ponds & Drying Beds

Zero Waste Energy Development (ZWED)

- Dry Anaerobic Digestion
- In-vessel Composting

History of Complaints and Actions



	Number of Public Nuisance Violations Issued
2015	4
2016	4
2021	1

*as of 3/9/22

South Bay Odor Stakeholder Group

Community Members

Industry Representatives

Government

Air District
Santa Clara County
Fremont
Milpitas
San Jose
Congressman Ro Khanna
Assemblymember Alex Lee
Senator Bob Wieckowski

- Formed in 2015
- Identified the need for an independent odor study
- Provided input on odor study through quarterly meetings

Challenges In Determining Sources of Odors

Facilities

- Proximity and similarity of three facilities make it difficult to trace odors to specific facilities
- Processes vary over time and space

Sensory

- Characteristics of odors can change with concentration and olfactory fatigue

Meteorology

- Wind, temperature, humidity, inversion, seasonal fluctuations

Technology

- Humans can detect smells at very low concentrations, which are difficult to measure with current, commonly available equipment

Air District Odor Attribution Study

Goals

- Identify contributions of odors from three facilities and specific processes
- Evaluate variability and seasonability of odors, including in nearby communities
- Inform future actions to reduce odors
  - Best practices
  - Enforcement
  - Rules
- Establish methods to measure progress on facilities' future odor reduction actions
- Educate Community

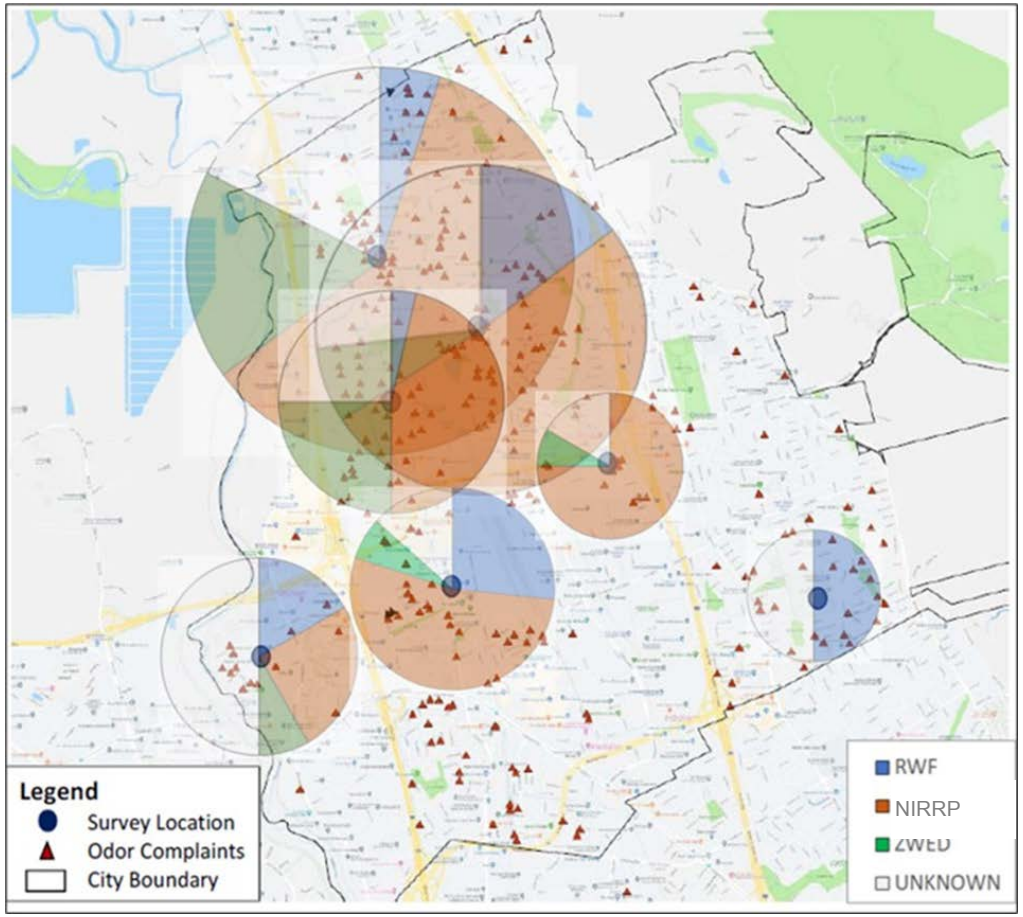
Air District Odor Attribution Study Cont'd

Methods

- Screening and targeted measurement through mobile platform that can measure in parts per trillion (ppt) levels in real time (Montrose Environmental Group)
- Focused field sampling and data collection over three seasons to identify odor compounds relative to facilities and processes (Jacobs Engineering Group, Inc)

Key Findings: Identified Contributions from Each of the 3 Facilities

% Contribution From Facilities at Survey Locations

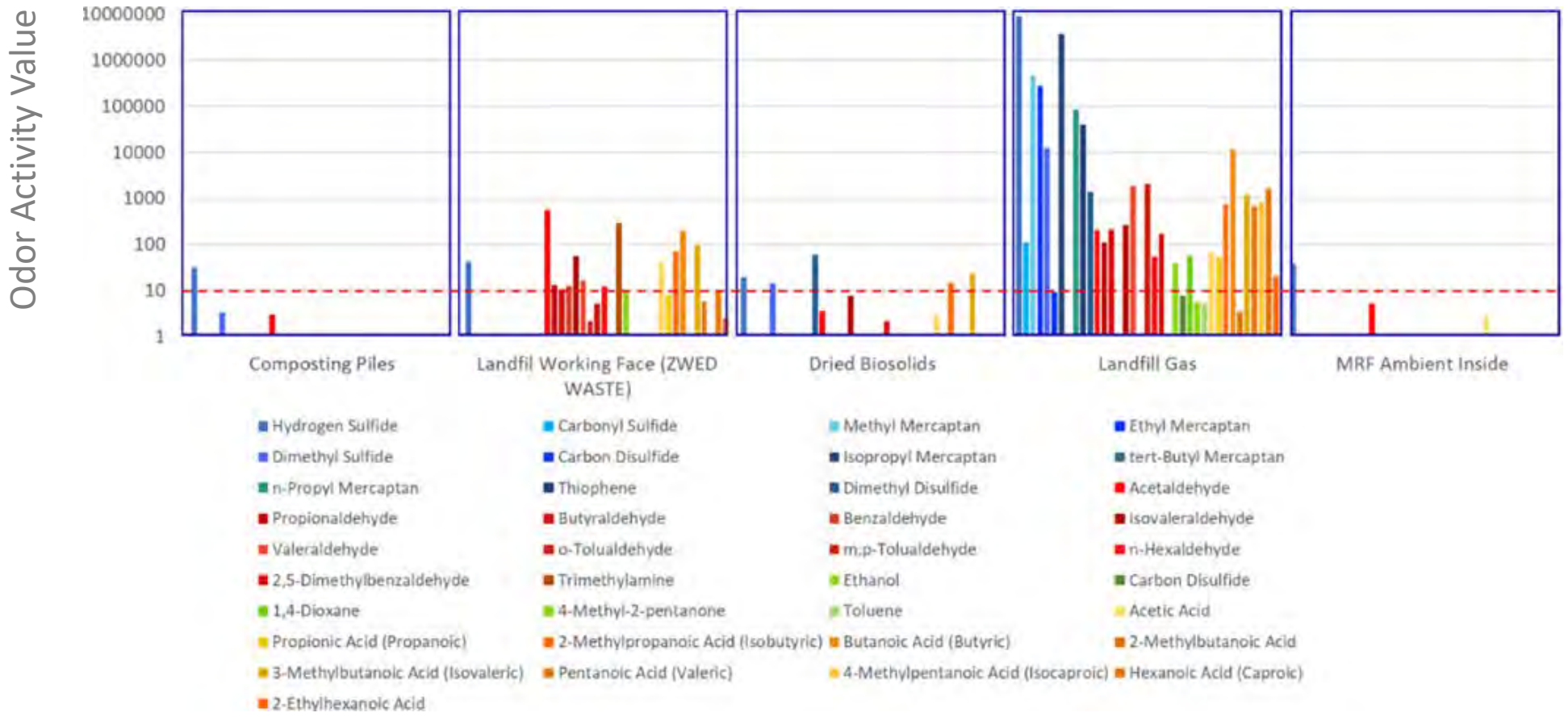


Potent odors can be attributed to:

- ZWED interior space
- RWF lagoons and turbulent streams
- NIRRP landfill gas and landfill working face
- Don Edwards San Francisco Bay Wildlife Refuge also contributes to odors, but this can be distinguished from facility odors

Key Findings: Unique "Fingerprints" for Facilities and Processes

Examples: Odor Compounds from NIRRP Processes



Key Findings: Measures that Facilities Can Take to Reduce Odors

- Facilities can repair leaks, install/repair air curtains at door openings, and establish negative pressure zones in key areas
- Monitor carbon filters more closely and improve system for quick changeovers
- Add landfill gas collection wells; More frequently monitor wells, piping, pressure, and valves with handheld sensors; Make expedient repairs when leaks are identified
- Cover operations that involve flow, mixing, or aeration and vent to dedicated abatement equipment

For Feedback: Possible Air District Actions

- If facilities don't implement measures voluntarily, consider requesting abatement orders to compel a higher level of control and monitoring
- Consider regulation changes
  - Amendments for landfills for odor monitoring and control, with benefits for GHG emissions
  - Rules for composting operations, wastewater treatment, and material recycling to ensure proper operation which generally controls odors
  - Require continuous monitoring or sensor network to automatically pull samples when triggered
- Regulations and methodology impact other similar facilities around the Bay Area, including in overburdened communities

For Feedback: Possible Air District Actions, Cont'd

- Share odor study results with San Jose Local Enforcement Agency
- Additional controls cannot be imposed through permitting unless a facility requests modification of a source
- Facilities should be responsible for improvements, but rule development, implementation, and oversight will also require Air District resources