



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

**AGENDA: 5**

# **Air Monitoring and Modeling of Incidents: Options and Next Steps, Formation of Ad Hoc Committee**

**Stationary Source and Climate Impacts Committee Meeting  
February 8, 2023**

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# Action Requested: Form an Ad Hoc Committee



- Staff requests that the Committee recommend to the Board Chair the appointment of an ad hoc committee to help guide the development of a possible incident response monitoring and/or modeling program. This ad hoc committee would report back to the full Board.

# Presentation Outline



- Recap of Air District role during incidents.
- Summary of incident reports, 2018 – 2023
- Updated proposal
- Components of an incident monitoring and modeling program
- Limitations and challenges of any proposed program
- Competing priorities/strategic opportunities
- Request for ad hoc committee

# Current Air District Role During Incidents



- Emergency Operations Plan, includes advising first responders, incident managers, health officers
  - Ensure safety of Air District personnel
  - Integrate into the existing incident management structure
  - Coordinate Air District resources with the lead agency
  - Coordinate public messaging with response partners
  - Document facility compliance status

# Limitations to Current Air District Role During Incidents



- Not first responders
- Monitoring is designed for goals like community-scale monitoring, enforcement of regulations, comparison with national standards. (September 2022 Stationary Source and Climate Impacts Committee presentation)

# Incident Reports 2018 – 2022, page 1 of 2



Date	Duration	Incident Summary
1/31/2023 – 2/1/2023	TBD	Martinez Refining Company, Fire
12/9/2022	45 min	Martinez Refining Company, Flaring and black smoke
11/25/2022	17 hrs 45 min	Martinez Refining Company, Process unit upset, dust and fallout
8/10/2021	31 min	Chevron Richmond Refinery, Flaring and black smoke
5/27/2021	1 hr 18 min	Chevron Richmond Refinery, Flaring and black smoke
2/23/2021	4 hrs	Phillips 66 Refinery, Hazardous materials release, H <sub>2</sub> S and natural gas release
2/9/2021	1 hr 22 min	Chevron Richmond Refinery, Oil spill Diesel spill to bay
11/2/2020	16 hrs 38 min	Chevron Richmond Refinery, Flaring and black smoke Intermittent flaring
8/14/2020	1 hr 15 min	Chevron Richmond Refinery, Flaring and black smoke

# Incident Reports 2018 – 2022, page 2 of 2



Date	Duration	Incident Summary
10/15/2019	6 hrs 30 min	NuStar Energy LP, Tank explosion and fire
7/27/2019	20 min	Chevron Richmond Refinery, Flaring and black smoke
3/23 - 24/2019		Valero Benicia Refinery, Refinery upset, increased visible emissions Fuel Gas Scrubber release of PM
9/7/2018	2 hrs	Alco Iron & Metal Company, Fire
7/6/2018	6 hrs 15 min	Shell Martinez Refinery, Fire, flaring, and non-combusted gas emissions
6/2/2018	3 hrs	Schnitzer Steel, Fire
3/29/2018		Chevron Richmond Refinery, Steam release
3/23/2018	40 min	Berkeley Asphalt Co, Fire
1/30/2018	9 hrs	Sims Metal Management, Fire

<https://www.baaqmd.gov/about-air-quality/incidents-and-advisories>

# Summary of Proposal



- Updated proposal:
  - Accelerated, high-level design process with ad hoc committee
    - 2-3 meetings before the end of March
    - Work with staff to discuss options, trade-offs, costs, and priorities for the design of a possible program
    - Make an initial recommendation on FYE 2024 budget and whether to charge a new fee
    - Committee could continue working past that date to provide guidance
  - Possible budget request and new fee for FYE 2024
  - If resources are approved, begin building out the program in 2023.
- Avoid delaying other ongoing mandated and community-requested work



# Summary of Proposal - Timeline



- December 2022 – January 2023: Initial concepts developed
- February 8, 2023: Potential ad hoc committee discussed at Stationary Source and Climates Impacts Committee
- February – March 2023: Work with ad hoc committee on scope, fee, and budget recommendation
- March 2023: Planned initiation of overall Air District strategic planning and prioritization process
- FYE 2024 Budget: Consider FTEs, budget, and fee to support the program.
- July 2023: If resources are approved, begin recruitment.
- October 2023: After initial FTEs are hired, begin program development (including additional refinement of scope and objectives) and build out begins.

# Key Components of Incident Monitoring/Modeling



- Field measurements during incidents
  - Staff and equipment on standby 24/7?
  - Integrate with overall incident response system and ensure staff safety
- Computer modeling to estimate exposures where measurements are not available
  - Pre-event modeling for more routine events?
  - Post-event modeling to inform the public and possible enforcement or legal action?
- Transmittal/Integration of results
  - New data and quality assurance systems required
  - Incorporate other available data?
  - Routinizing processes to facilitate timely communication of results?
- Communication of results
  - Requires expertise on measurement techniques, statistical analysis, public health implications
- Partnerships

# Limitations and Challenges



- Not all types of incidents will be able to be addressed with monitoring (e.g. incidents that have short duration impacts or are unlikely to have ground-level impacts)
- Monitoring may miss pollution or show lower concentrations than expected from incidents
- Limited information for influencing actions during incident
- Limited information about health impacts
- Large uncertainties in modeling due to incomplete input information, especially for short duration incidents
- Weak linkage with important objective of incident prevention
- Staff safety will continue to be a priority

# Competing Priorities/Strategic Opportunities?



- Updating the long-term regulatory network to implement corrective actions from EPA Technical Systems Audit and to better address environmental justice
- Reducing backlog in source testing and report review to support enforcement, permitting, and health risk assessments
- Technical support for rule-making, including to strengthen requirements for actionable data, data collection, transparency, and accessibility
- Accelerate Major Stationary Source Community Air Monitoring Program (Schedule X)
- Strengthening and implementing refinery fenceline program (Reg 12-15)
- More advanced analyses of monitoring data
- Expanded community-focused or source-oriented air monitoring, including air toxics of emerging concern

# Source of Funds



- Existing Incident Response Fee (Reg 3)
  - Charged to a facility that is the site where an incident occurs to which the District responds
- Grants are available from CARB and EPA for community monitoring projects
  - Do not cover ongoing expenses or FTEs beyond the duration of a project
  - Example: EPA selected a proposal for a community air monitoring grant co-written by the Air District, CBE and UC Berkeley, with most of funding going to CBE and UC Berkeley
- **Consider a new fee for Incident Monitoring and Modeling**
  - **Covers building out capabilities and functions not included in Incident Response Fee**
  - **Costs to respond to a specific incident would still be charged to that facility**

# Action Requested



Recommend to the Board Chair the appointment of an ad hoc committee to help guide the development of a possible incident response monitoring and/or modeling program. This ad hoc committee would report back to the full Board.