Summary of Breakout Session Comments Received from the July 24, 2025, CalEPA VI Workgroup's Vapor Intrusion Kickoff Workshop

This summary outlines key points from the July 24, 2025, Vapor Intrusion (VI) Kickoff Workshop, hosted by the California Environmental Protection Agency (CalEPA) Vapor Intrusion Workgroup (CalEPA VI Workgroup). The CalEPA VI Workgroup is a multi-agency group consisting of the Department of Toxic Substances Control (DTSC), the State Water Resources Control Board (State Water Board), the Regional Water Quality Control Boards (Regional Water Boards), collectively the Water Boards, and the Office of Environmental Health Hazard Assessment (OEHHA) that serves as a technical and regulatory resource for addressing contaminated sites impacted by vapor intrusion across California.

Participants included consulting firms, community advocates, community members, and regulators. The workshop incorporated presentations from regulatory staff, a panel of public presenters sharing their perspectives on VI, and five concurrent breakout sessions for focused feedback and discussion on:

1. Collective decision making with VI partners,
2. Conceptual site models (CSM) and best practices,
3. Path to closure,
4. VI data, and
5. VI in the community.

The feedback from the breakout sessions comprised of ideas on how to improve decision-making, create robust CSMs more efficiently, collect reliable data for evaluating vapor intrusion, collaboratively plan for project closure, and improve effective community engagement. This and other feedback received will be incorporated into future technical workshops that are planned for the first half of 2026. Below are summaries of feedback and discussions from the focused breakout sessions, along with key challenges, takeaways, and recommendations identified during the July 24th Kickoff Workshop.

1. Collective Decision Making with VI Partners

The comments reflected a discussion on challenges and suggestions related to environmental regulatory processes related to vapor intrusion and redevelopment projects.

Regulatory Review Challenges:

- Delays in agency reviews (such as 6- to 12-month response times)
- High oversight costs (sometimes in the six figures)
- Poor service due to staff turnover
- Lengthy timelines for housing and infill development

Sampling Data Challenges:

- Debates over indoor air sampling vs. modeling, sub-slab sampling, and temporal variability
- Off-site property access issues stall projects

Access/Equity Issues:

- Gaps in area-wide grants for communities lacking funding for engagement
- Need for better collaboration and CalEPA workshops for local agencies

Frustrations of VI projects:

- High costs
- Lack of guidance for pre-demolition sites
- Over-reliance on residential risk assessments for non-residential sites
- Regulatory silos and challenges in agreeing on acceptable risk levels

Recommendations:

- Early alignment meetings and pre-data collection engagement with cleanup oversight agencies
- Default sampling/remediation plans for faster timelines (1-2 years)
- Share ambient air quality data and enforce agency response deadlines (e.g., 60 days)

2. Conceptual Site Model and Best Practices

The comments reflected a range of technical issues, recommendations, guidance/training needs, and questions related to site characterization, risk management, and emerging tools.

Guidance Needs:

- Clarify use of 95% upper confidence limit (UCL) exposure point concentrations vs. maximum concentrations
- Separating indoor air background source contributions from subsurface sources and handling volatile organic compounds (VOCs) in ambient air and associated exposure risks
- How to apply and weigh different lines of evidence to achieve site closure (i.e., to better understand what regulators are looking for)

Recommendations & Training Needs:

- Provide framework for developing building-specific attenuation factors (AFs)
- Provide a minimum data set for implementing interim remedial measures and/or pilot studies, and examples/case studies with maximum likelihood estimation for closure (to better understand what regulators are looking for)
- Discuss the option to use the United States Environmental Protection Agency's (USEPA) risk management guidance
- Review how to determine the lateral and vertical extent of contamination to complete the CSM for interim remedial actions and final remedy decisions

- Discuss who is responsible for contaminant characterization beyond source property boundaries

Specific Issues and Emerging Tools:

- Applicability of VI CSM to hazardous waste landfills near residential areas
- Explore how to incorporate/utilize artificial intelligence (AI) in identifying patterns in plume geometry

3. Vapor Intrusion Path to Closure

The comments reflected a desire for more site-specific, flexible, and transparent approaches to VI risk assessment, site closure, and regulatory decision-making.

Site Closure:

- Request for cleanup oversight agencies to summarize recent cases that have received No Further Action (NFA) determinations to provide examples for decision making on other sites.

VI Risk Assessments:

- Concerns about indefinite monitoring for low-risk sites and overly conservative default AFs (such as USEPA's 0.03)
- Advocating for site-specific AFs using paired indoor air/soil gas data
- Base risk assessments on site-specific contaminants of concern

Regulatory Practices:

- Flexibility to focus on site-specific contaminants and avoid the cost of analyzing full VOC lists

Laboratory Practices:

- Improve communication with regulators and laboratories to understand required method detection limits, reporting limits, and laboratory analytical methods before environmental samples are collected.

Standardization/Transparency:

- Propose standardized closure forms and summarize the general findings of long-term mitigation, monitoring, and reporting requirements to help future decision-making related to mitigation planning

Recommended Guidance:

- Criteria needed to determine stable soil gas site conditions and how to perform rebound testing
- Address community concerns about any VOC presence, even below regulatory levels

4. Vapor Intrusion Data

The comments focused on VI assessments, regulatory practices, and site-specific considerations. They highlighted the need for regulatory flexibility, improved data collection methods, and better communication with stakeholders.

Database Development:

- Frustration with delays in California-specific AF database; suggest using peer-reviewed studies in the interim

Data Quality:

- Concerns about lab methods, detection limits, and QA/QC reliability

Site-Specific AFs:

- Advocate for site-specific AFs with clear framework on how to calculate a site-specific AF

Challenges:

- Variable building construction and HVAC operation complicate VI modeling; these are potentially high costs for building-specific data collection

Transparency:

- Share database progress via web updates and workshops; clarify offsite data inclusion in GeoTracker

Emerging Issues:

- Questions about per- and polyfluoroalkyl substances (PFAS) in VI regulations and reliability of predictive tools for VOC plume shape and trajectory

5. Vapor Intrusion in the Community

The comments reflected a focus on improving risk assessment, community engagement, communication, and outreach strategies to ensure equitable and effective environmental and housing solutions.

Risk and Housing:

- Revise risk thresholds (e.g., <1 in 1 million) to avoid housing project delays, especially in vulnerable communities

Community Engagement:

- Prioritize face-to-face interactions and use city council meetings/newsletters
- Avoid comment periods during holidays and provide opportunities for engagement in the evening
- Partner and engage with existing community groups (such as parent and teacher associations (PTAs), neighborhood associations, etc.)

Communication:

- Simplify technical terms and avoid jargon/acronyms.
- Provide outreach materials in multiple formats (digital, posters, etc.) and in languages used in the community

Outreach Strategies:

- Transparent contractor vetting, collaborative outreach, and offer to conduct air testing to build trust
- Leverage social media and create agency guidance documents/fact sheets that are easy to understand

Environmental Screening Levels:

- Need more guidance for mixed-use developments

Landlord/Tenant Dynamics:

- Engage tenants directly in response to issues with absentee landlords

6. Key Challenges Identified in Comments

A. Regulatory and Process Challenges

- **Delays and Costs:** Reviews by cleanup oversight agencies can take 6–12 months and oversight costs can reach hundreds of thousands of dollars. These delays slow down housing and urban redevelopment projects.

- **Staff Turnover:** Frequent changes in agency staff create inconsistencies and delays.

- **Regulatory Silos:** Different agencies and labs use inconsistent methods, making processes more complicated and slow overall progress.

- **Limited Community Input:** Some permits are approved without involving local communities, reducing trust.

- **Support for Voluntary Sites:** Projects where developers voluntarily clean up sometimes feel a lack of support from regulatory agencies.

B. Sampling and Data Challenges

- **Debates on Methods:** Experts disagree on whether to test indoor air directly or use models to predict VI risks. Other challenges include testing under building foundations (sub-slab sampling) and accounting for changes in vapor concentrations over time.

- **Access Issues:** Gaining access to off-site properties for sampling or testing can be difficult.

- **Data Quality:** Lab methods, detection limits, and quality control can be unreliable, leading to uncertainty in results.

- **Unreliable Tools:** Predictive VI models often lack accuracy, especially for large contamination areas or when indoor air contains chemicals from household products (such as cleaning supplies).

- **Unnecessary Testing:** Testing for all volatile organic compounds (VOCs) in indoor air is often excessive when only a few chemicals from the ground are a concern.

C. Access and Equity Concerns

- **Limited Funding:** Environmental justice (EJ) communities, which often face higher pollution risks, lack funding for cleanup and technical support.

- **Knowledge Gaps:** Residents may not understand technical terms like “one in a million” risk, and regulators need training to better explain these concepts.

- **Community Concerns:** There are residents that do not want any detectable chemical levels in their homes, even if they are below safe limits, and want clear action plans to address the situation.

7. Overarching Themes and Commenter Recommendations:

- Set firm deadlines (such as 60 days) for agency responses to reduce delays.
- Rely on site-specific data rather than overly cautious defaults to make decisions.
- Focus on indoor air testing when soil gas shows risks.
- Engage communities transparently to ensure fair outcomes, especially in environmental justice areas. Offer air testing to build community trust.
- Address inconsistencies in lab reporting for chemicals.
- Enhance lab reliability and consider using AI to improve VI predictions.
- Offer training and resources on VI modeling, risk assessment, and how to attain site closure.
- Use standardized forms and best practices for progressing and closing VI cases.
- Support voluntary cleanup sites and share successful case studies to aid redevelopment.
- Manage rising oversight costs to make projects more feasible.
- Address issues with large contamination areas and accessing rental homes.

- Consider natural and household chemical sources (also known as background sources) in VI evaluations.

8. Conclusion:

This summary attempts to document key points from comments received. It is organized to help readers understand the challenges, recommendations, and strategies for managing vapor intrusion in California's redevelopment projects identified by commenters. Feedback from this workshop will be used to develop future technical workshops that are planned for the first half of 2026.

For more details or specific questions, access/contact the specific regulatory agency via the following:

- State Water Board VI email: DWQ-vaporintrusion@waterboards.ca.gov
- State Water Board VI website: Vapor Intrusion | California State Water Resources Control Board
- DTSC Vapor Intrusion Email: vaporintrusion@dtsc.ca.gov
- DTSC VI website: Vapor Intrusion (VI) | Department of Toxic Substances Control