

Public Workshop for Potential Amendments to Rule 4101 – Visible Emissions

February 24, 2026

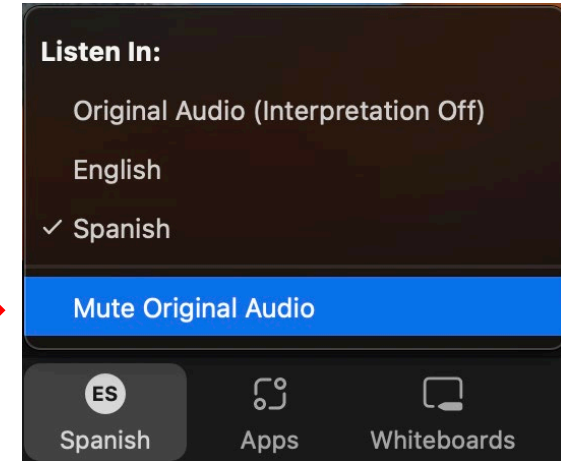
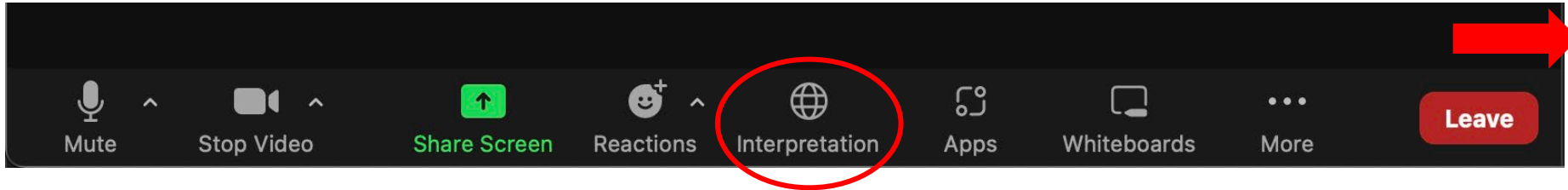
webcast@valleyair.org

How to Listen to the Webinar in Spanish

Cómo Escuchar la Interpretación Español

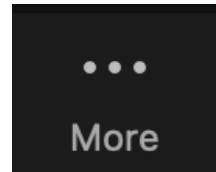
En Una Computadora

1. En los controles de la reunión o el seminario web, seleccione el *icono de interpretación*, que parece a un mundo en la parte debajo de la pantalla.
2. Seleccione español y silencie el audio original.



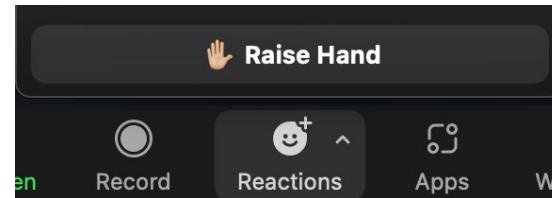
En Un Teléfono o Tableta

1. Seleccione los tres puntos para ver más opciones, seleccione interpretación y siga las mismas instrucciones de arriba.



Para Hacer una Pregunta o un Comentario

1. Seleccione el icono de reacciones para levantar su mano



Valley's Air Quality Challenges



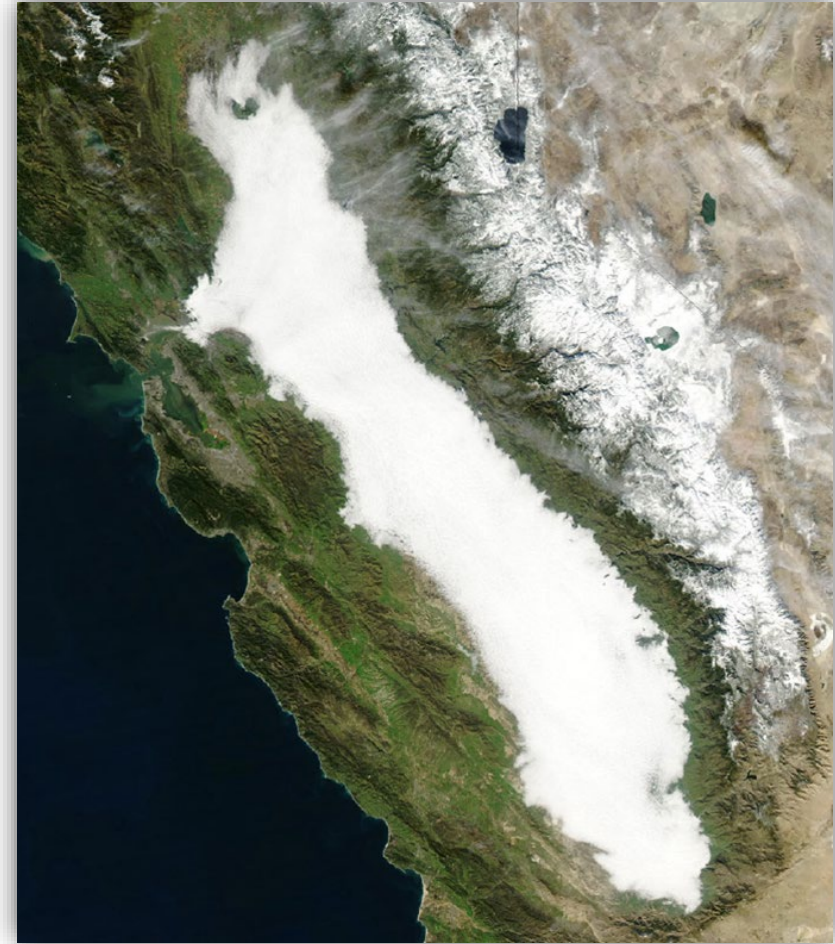
Valley's challenges in meeting federal air quality standards unmatched due to unique topography and meteorology



Valley designated as non-attainment status for State Standards of Particulate Matter 10 Microns or less (PM10)

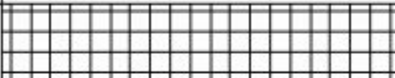






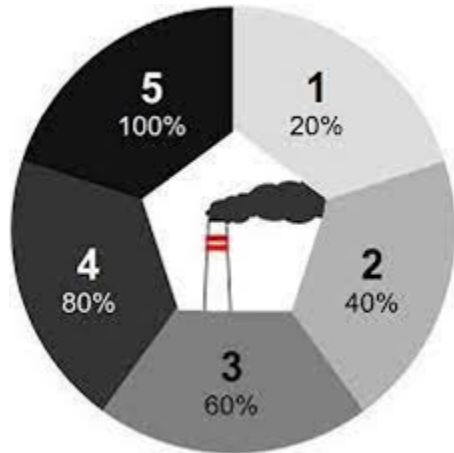
Valley designated "Serious" non-attainment of federal standards for fine particulate matter (PM2.5)



Visible Emissions are, "any particulate or gaseous matter which can be detected by the human eye."

Rule 4101 Requirements

Ringelmann 0	0% opacity – clear	
Ringelmann 1	20% opacity – barely visible	
Ringelmann 2	40% opacity – clearly visible	
Ringelmann 3	60% opacity – somewhat transparent	
Ringelmann 4	80% opacity – barely transparent	
Ringelmann 5	100% opacity – black	



Rule 4101 requires:

A person shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

- As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- Of such opacity as to obscure an observer's view to a degree equal to or greater than the smoke described above [20% opacity].

Visible Emissions from Stationary Sources

- District staff as well as other trained observers conduct Visible Emissions Evaluations (VEE) pursuant to U.S. EPA Method 9 to ensure compliance with standards set by the Clean Air Act (CAA) and District Rule 4101
- Observers must complete an initial training and be re-certified every six months to perform VEE, per Method 9



Smoke School

- Method 9 also specifies the training and certification procedure for trained observers commonly referred to as “Smoke School” where observers read live smoke from a smoke generator
- The California Air Resources Board (CARB) has historically offered Smoke School throughout the year in various locations around the state to certify and re-certify observers
- In recent years, CARB has reduced the number of locations where VEE certification is offered, requiring longer travel for District staff and other trained observers from industry to maintain their certifications



New Technology Alternatives

- In August 2023, the U.S. EPA approved an alternative method (ALT-152) proposed by Virtual Smoke School, LLC to certify observers for VEE using a Virtual Reality (VR) headset
- Testing was conducted to demonstrate that observers certified using VR technology were just as accurate as observers certified through traditional Smoke School
- This alternative allows Smoke School and VEE certification to be completed anywhere, anytime
- Eliminates challenges of inclement weather and the need to travel
- Only one company has VR software approved by EPA so far, but other competitors could also hit the market in the future



Reason For Amending Rule 4101

- Current Rule 4101 defines an observer as:

“A human observer certified and trained by the California Air Resources Board”

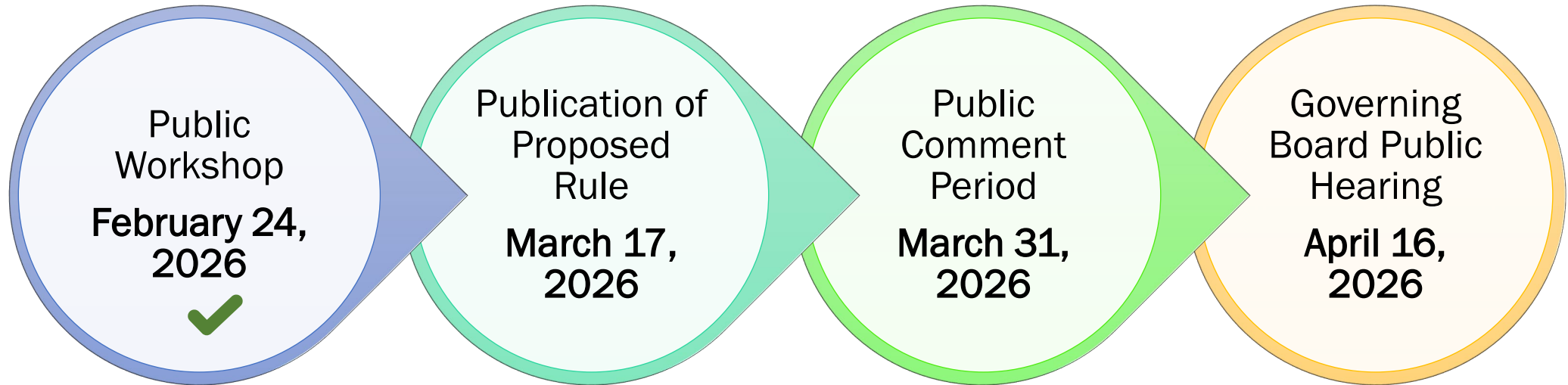
- The purpose of this definition is to ensure that observers complete the necessary training and certification process required in EPA Method 9
- Although CARB has historically been the sole provider of this training in our District, it was not the District’s intent to restrict the use of approved alternative certification methods
- An amendment to the rule language is necessary to allow the use of other alternatives that receive EPA approval, such as ALT-152

Summary of Proposed Amendments under Consideration

- Proposed amendments to Rule 4101 would redefine an observer
- The new definition would allow more flexibility to both the District and industry to utilize other options besides CARB for certification, while still upholding that training and certification must meet the standards set in EPA Method 9 or an approved alternative method
- (Proposed definition) Observer:

“A qualified human observer certified and trained in accordance with the procedures in EPA Method 9 or other alternative methods approved by EPA and the APCO.”

Next Steps: Public Engagement Process for Rule 4101 Amendment



Public Participation and Comment Invited throughout Process

Contact and Resources



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