



April 14, 2026

TO: Regulated Air Community

FROM: Clark County Department of Environment and Sustainability, Division of Air Quality

SUBJECT: Guidance on the Use of EPA Method ALT-152A Certification for EPA Method 9 Opacity Observations in Clark County

The Clark County Department of Environment and Sustainability, Division of Air Quality (DAQ), is providing guidance regarding the use of ALT-152A, an alternative certification method for Method 9 opacity observations approved by the U.S. Environmental Protection Agency (EPA) on August 13, 2024.

ALT-152A enables individuals to obtain Method 9 certification using virtual reality (VR) technology that meets specified requirements, in place of traditional in-person smoke school training. DAQ representatives observed and participated in a demonstration of this process and have evaluated its applicability.

Based on this evaluation, DAQ recognizes several benefits associated with ALT-152A. These include increased flexibility, reduced travel requirements, improved accessibility, and lower costs. Additionally, the controlled VR environment provides viewing conditions that can achieve accuracy comparable to traditional certification methods.

However, DAQ also notes certain limitations. VR-based training does not fully replicate real-world field conditions, such as variations in lighting, weather, background contrast, and field safety considerations. Furthermore, ALT-152A applies only to the certification process and does not replace the need for practical, hands-on field experience necessary for accurate opacity determinations.

Accordingly, while DAQ considers ALT-152A to be a viable certification option and will not restrict its use, it strongly recommends that individuals complete at least one traditional, hands-on Method 9 field certification prior to utilizing ALT-152A. This ensures that observers are adequately prepared to perform accurate evaluations under real-world conditions.

For additional information, please refer to the ALT-152A Frequently Asked Questions (FAQ) document.

ALT-152A Certification for Method 9 - Frequently Asked Questions

(VR Headset-Based Alternative Certification for Method 9)

1. What is ALT-152A?

ALT-152A is a certification program designed as an alternative to traditional EPA Method 9 certification for smoke opacity observers. It uses virtual reality (VR) technology to present smoke plumes under controlled conditions, providing a safe, repeatable, and standardized training environment.

2. How does ALT-152A differ from traditional Method 9 certification?

Feature	Traditional Method 9	ALT-152A VR Method
Training	Field-based observation of actual smoke plumes.	VR-based observation of video-recorded smoke plumes.
Environmental conditions	Dependent on real weather and lighting.	Controlled VR lighting, background, and contrast.
Repeatability	Variable; depends on natural plume conditions.	High; exact same scenarios can be presented repeatedly.
Safety	Observer exposed to real smoke, weather conditions and possible field hazards.	Observer exposed only to VR-based simulation; no emissions or field hazard exposure.
Equipment	Certified smoke generator with a transmissometer.	VR headset, calibrated display, and smoke plume video clips.

3. What equipment is used in ALT-152A?

The primary equipment is a virtual reality headset with:

- High resolution for accurate visual distinction of plume opacity.
- Controlled grayscale and color fidelity to simulate real smoke contrast.
- Adequate field of view (FOV) to view plume and background simultaneously.

- Stable image presentation with no flicker or motion artifacts.

The VR system displays video-recorded smoke plumes that replicate real emissions at various opacity levels, calibrated to Method 9 reference values. A Meta Quest 3 headset or similar VR headset satisfies the above requirements.

4. How are smoke simulations generated?

- The VR software uses digital recordings of smoke plumes from a certified Method 9 smoke generator.
 - Plumes are displayed against differing backgrounds similar to what an observer would see in the field.
 - Lighting, movement, and plume density are controlled and standardized to ensure repeatable training scenarios.
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5. How does testing work in ALT-152A?

- Observers view pre-recorded smoke plumes through a VR headset and estimate opacity percentages.
 - Scenarios are calibrated against Method 9 reference opacity values.
 - Observer scores are recorded digitally, and pass/fail criteria are identical to traditional Method 9 certification.
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6. Does ALT-152A certification meet EPA Method 9 certification requirements?

Yes. ALT-152A meets Method 9 criteria and is approved by the EPA. VR is solely a delivery mechanism; the fundamental Method 9 methodology is unchanged.

7. What are the advantages of ALT-152A?

- **Safety:** No exposure to actual emissions.
 - **Repeatability:** Every observer receives identical training scenarios.
 - **Controlled conditions:** Eliminates variable weather or lighting.
 - **Remote capability:** Can be deployed virtually for flexible training programs.
 - **Standardization:** Consistent training and testing for regulatory compliance.
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8. What are the limitations?

- Requires VR equipment, software with updates, as necessary.
 - Does not replicate real-world field conditions, including variations in lighting, weather, background contrast, and field safety considerations.
 - Observers must still meet normal vision requirements, and they should use eye wear they intend to use during field observations. However, sunglasses cannot be used with ALT-152A.
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9. How are records maintained?

Through ALT-152A, the observers' results are stored digitally, which include:

- Date/time of training and testing.
- Opacity scores for each observed plume for both black and white smoke.
- Observer's certification status.

These records are equivalent to traditional Method 9 logbooks and can be provided for regulatory audits. Method 9 opacity certification through ALT-152A is valid for a 6-month period.

10. Can an observer be night certified?

Currently, night certification is not available through ALT-152A.

For more information on ALT-152A certification, please contact our Small Business Assistance group at AQSBAP@ClarkCountyNV.gov or at 702-455-1660.