

PAUL W. SCHAFER, CIEC, VEE

Education

B.S. Chemical Engineering, University of California, Santa Barbara

Professional License/Certifications

- ▶ Certified Indoor Environmental Consultant (CIEC #1012011)
- ▶ Climate Action Reserve (CAR) Lead Verifier
- ▶ Certified U.S EPA Method 9 Visible Emissions Evaluator (VEE) (ID # 22868)
- ▶ OSHA HAZWOPER 40-hour Trained (OSHA 29 CFR 1910.120)



Professional Associations

- ▶ National Society of Professional Engineers
- ▶ Rocky Mountain Association of Environmental Professionals
- ▶ Air and Waste Management Association

Training Services/ Course Instruction Experience (Select)

- ▶ 2015 - Schafer, Paul W., et. al. "Air Monitoring Tips and Technologies, The Power of Defensible Data", SCS Engineers Client Presentation and Day Course.
- ▶ 2020-present: SCS internal training platform, Sustainable U Series, "Ambient Air, Stack Testing, and Odors" Course.
- ▶ 2022-2023: Asphalt Industry Class, "Perimeter Air Measurements", two separate in person classes.
- ▶ 2010-Present: National Ambient Air Monitoring Conference, Multiple Presentations on Air Monitoring Case Studies.
- ▶ 2009-Present: SCS Environmental Services College, Multiple presentations on Air Monitoring including Quality Assurance (QA) and Quality Control (QC) practices, emerging sensor technologies, and federal reference and equivalency method designations.
- ▶ 2021- SCS Landfill University, Day Course and presentations on "Odor Assessment Methodologies" including odor measurements, surrogate chemical sampling, odor panels, flux assessments and modelling.
- ▶ 2017: Odor Management Conference and Technology Showcase, Day Course and presentations on "Odor Assessments".

Professional Experience

Mr. Schafer is a Vice President and Project Director at SCS Engineers, and is SCS's National Expert for Ambient Air Monitoring Services and Odor Impact Assessment Services. During his technical career at SCS which spans over 24 years, Mr. Schafer has assumed key roles on several nationally significant monitoring efforts. He has in-depth experience in interfacing with regulatory agencies regarding the performance of monitoring systems, source emission tests, and odor assessments. He has had direct working experience with the San Luis Obispo County APCD, San Joaquin Valley APCD, Imperial County APCD, South Coast AQMD, Santa Barbara APCD, San Diego County APCD, California Air Resources Board, EPA Region IX, and the General Services Administration regarding monitoring programs and air quality impact assessments.

Mr. Schafer offers decisive management skills, which contribute to the success of monitoring programs under his purview, including solid cost control and high-quality, defensible technical

performance. He has developed close business relationships with manufacturers and vendors in the ambient air quality monitoring field. He managed/continues to manage the following projects:

California Air Resource Board/U.S. EPA - Ambient Monitoring Program for Cities along the California/Mexico Border. Program Manager for a 12 station monitoring network which measured urban baseline impacts for Tijuana and Mexicali, Baja California. Specific tasks include technician management, logistical planning, data review, equipment repairs, and QA/QC oversight. Each network supported criteria pollutant monitoring as well and particulates (PM₁₀), VOCs (TO-14) and air toxics (aldehydes, metals). Recently a new contract was awarded to SCs to install and operate PM_{2.5} samplers and continuous instrumentation in Mexicali, Mexico. (1995-2008 and 2014-2018, 2020-Present)

California State Parks, Oceano Dunes SVRA. Project Manager for the installation, operation and maintenance of air quality and meteorological devices at Oceano Dunes State Vehicle Recreation Area (ODSVRA) in San Luis Obispo County, California. OD SVRA is subject to Rule 1001, *Coastal Dunes Dust Control Requirements (Dust Rule)* by the San Luis Obispo County (SLO) Air Pollution Control District (APCD). The *Dust Rule* requires OD SVRA to, among other things, implement dust reduction activities and assess the reduction in particulate matter (PM₁₀). The 2013-2015 phase of this project is a short-term effort to measure the effectiveness of specific dust control activities at reducing ambient particulate matter. A comprehensive Quality Assurance Project Plan was also developed as part of the project. (2014-present)

Los Angeles World Airports (LAWA) Source Apportionment Study. Mr. Schafer oversaw the design and installation of a multi-station network of ambient air monitors around Los Angeles International Airport. Installation included attainment of permits, procurement of samplers and monitoring hardware, site assessments, equipment integration, as well as calibration. Seasonal collection of multiple data parameters will be used in a source-apportionment modeling study. Paul was directly responsible for the installation and field calibration of all samplers and sensors. He also managed data logging and review of all field data. (2011-2012)

County Sanitation Districts of Los Angeles County. SCS Engineers established and operated a particulate and meteorological monitoring network at the Mesquite Regional Landfill in Imperial County. Paul Schafer authored an extensive monitoring protocol for the landfill, which was accepted by the Imperial County APCD without revision. The network consists of three medium-volume samplers for PM₁₀ as well as one BAM-1020 unit for PM₁₀. These samplers have also been modified in order to accurately measure PM_{2.5} according to EPA protocol and reference methods. The sampling program is supported by a PSD-quality meteorological monitoring station consisting of wind speed, wind direction, and temperature. (2006-2009)

San Joaquin Valley Air Pollution Control District. SCS has designed and installed a complete PSD quality air monitoring station for the SJVAPCD in Madera, CA. All aspects of the installation including design, construction management, permitting, procurement of equipment, and equipment installation and verification were managed by Paul Schafer. Since this original award, SCS has also been contracted to design, build and install air quality monitoring stations in Hanford, Manteca, and Fresno. (2009-2014)

Venoco, Inc. & Beacon West & Freeport McMoran Oil and Gas Operation and maintenance of a PSD and odor monitoring network in support of permit conditions for an offshore and onshore oil and gas recovery program. Continuous air quality measurements include ozone, NO/NO₂/NO_x, THC, TRS, H₂S and SO₂. Meteorological monitoring is also included in the program. (2000-2022)

Publications and Presentations

Schafer, Paul W., et. al.: “Cannabis Odors: Causes, Influences and Solutions”. Lucky Leaf Conferences, Albuquerque and Minneapolis, 2024-2025.

Schafer, Paul W., et. al. “Quality Assurance Project Plan – Arroyo Grande Oil Field, H₂S and Meteorological Monitoring” SCS Engineers Report to San Luis Obispo County APCD, January, 2016.

Schafer, Paul W., et. al. “Air Monitoring Tips and Technologies, The Power of Defensible Data” SCS Engineers Client Presentation, June 2015.

Schafer, Paul W., et. al. “Quality Assurance Project Plan – Oceano Dunes SVRA” SCS Tracer Environmental Report to California State Parks and San Luis Obispo County APCD, June, 2014 and April, 2015.

Schafer, Paul W., et. al. “Air Monitoring Plan – Blanche Park” SCS Engineers Report to Miami-Dade County Dept. of Environmental Resources Management (DERM), April, 2014.

Schafer, Paul W., et. al. “PSD Monitoring Plan – West Campus” SCS Tracer Environmental Report to Santa Barbara County APCD, January, 2010.

Schafer, Paul W., et. al. “Quality Assurance/Quality Control Program Manual – West Campus/Ellwood Odor” SCS Tracer Environmental Report to Santa Barbara County APCD, February, 2010.

Schafer, Paul W., et. al. “Carpenteria Meteorological Monitoring Site - Quality Assurance/Quality Control Program Manual” SCS Tracer Environmental Report to Santa Barbara County APCD, January, 2009.

Schafer, Paul W., et. al. “Quality Assurance/Quality Control Program Manual – Carpenteria Monitoring Site” SCS Tracer Environmental Report to Santa Barbara County APCD, October, 2008.

Schafer, Paul W., et. al. “Meteorological Monitoring Plan – Carpenteria Gas Plant” SCS Tracer Environmental Report to Santa Barbara County APCD, October, 2008.

Schafer, Paul W., et. al. “PSD Monitoring Plan – Lompoc Oil and Gas Plant – HS&P Monitoring Plan” SCS Tracer Environmental Report to Santa Barbara County APCD, September, 2008.

Schafer, Paul W., et. al. “PSD Monitoring Plan – Lompoc Oil and Gas Plant – Paradise Road Monitoring Plan” SCS Tracer Environmental Report to Santa Barbara County APCD, September, 2008.

Schafer, Paul W., et. al. “PSD Monitoring Plan – Lompoc Oil and Gas Plant – Odor Monitoring Plan” SCS Tracer Environmental Report to Santa Barbara County APCD, September, 2008.

Schafer, Paul W., et. al. “PSD Monitoring Plan – Gaviota Oil Heating Facility – Carpenteria Monitoring Plan” SCS Tracer Environmental Report to Santa Barbara County APCD, September, 2008.

Schafer, Paul W., et. al. “PM-10 Monitoring Protocol for the Mesquite Regional Landfill” SCS Tracer Environmental Report to Imperial County APCD, September, 2007.