

Air Quality

CEC provides comprehensive air quality consulting services to help clients cost-effectively balance operational flexibility and regulatory compliance.



EMISSION INVENTORIES

Complete emission source information is critical to permit applications, modeling studies, risk assessments, compliance evaluations, annual reporting and internal studies. CEC uses published emission factors, specialized modeling software, field measurements and source testing methods to characterize the type and magnitude of emissions based on production capacities, equipment specifications, vendor data and site-specific information.

TESTING AND MONITORING

CEC performs source emissions testing using U.S. EPA sampling methods in conformance with the requirements of ASTM D7036-04 (Reapproved 2011). QSTI-certified testing personnel are experienced with state-of-the-art testing equipment, including continuous emissions monitoring systems (CEMS) and specialized instruments. CEC performs relative accuracy test audits (RATA) and CEMS measurements of SO₂, NO_x, VOC, mercury, and other related pollutants. CEC also maintains an inventory of portable and stationary samplers as well as meteorological instruments for ambient air monitoring studies. CEC has developed and implemented hazardous air pollutants perimeter monitoring programs for health risk exposure studies, nuisance exposures, and other informational purposes.

PERMITTING AND COMPLIANCE

Construction and operating permits are required for a wide range of processes and activities. With a thorough understanding of the processes that generate pollutants and the technologies that control them, CEC develops air permit applications for minor sources (state-only permits) and major sources (Prevention of Significant Deterioration [PSD] and Non-Attainment New Source Review [NA-NSR] permits). CEC recommends permitting strategies, provides guidance on appropriate control devices, prepares required permit applications, and develops compliance programs and procedures. CEC helps clients prepare for and respond to regulatory developments and modify permits to respond to changing conditions.

DISPERSION MODELING

Dispersion modeling uses meteorological conditions, terrain elevations, source characteristics, and emission estimates to predict expected atmospheric concentrations of regulated pollutants. CEC air dispersion modeling capabilities include the modeling systems of AERMOD/AERMET, CALPUFF/CALMET, numerous versions of ISC, MOBILE/CAL3QHC, HY-SPLIT, dense gas models such as DEGADIS and SLAB, screening models such as AERSCREEN, SCREEN3, TSCREEN, CTSCREEN, VISCREEN, COMPLEX1, and VALLEY, among others.

CONTROL SYSTEM EVALUATION

CEC advises clients on appropriate technologies relative to regulatory and permit compliance obligations. CEC evaluates best available control technology (BACT) and lowest achievable emission rates (LAER) to support PSD and NA-NSR applications. CEC helps facilities meet the requirements of reasonably available control technology (RACT) and maximum achievable control technology (MACT) and routinely performs best available technology (BAT) studies.