

BlueScape Environmental

Statement of Qualifications

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SUMMARY OF AIR QUALITY EXPERIENCE

Since 1997, BlueScape Environmental has been dedicated to providing exceptional customer service throughout California and across the continental United States. Our knowledgeable team of environmental engineers and scientists apply regulatory analysis, engineering calculation, atmospheric dispersion modeling, emissions inventory and health risk assessment techniques to assist clients in solving air quality problems. Areas of expertise include:

- Air Permitting
- Air Permit Feasibility
- Air Dispersion Modeling
- Health Risk & Exposure Assessment
- Air Quality Compliance Support
- Litigation Support
- Air Emissions Inventories
- Environmental Impact Reports
- Business and Risk Management Plans
- Control Technology Assessment

INDUSTRY EXPERIENCE

BlueScape understands air quality compliance problems specific to industry. Company experience extends into the following industries:

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| ➤ Fiberglass Manufacturing | ➤ Semiconductor Manufacturing |
| ➤ Electric Power Generation | ➤ Battery Manufacturing |
| ➤ Petroleum Production and Refining | ➤ Furniture Manufacturing |
| ➤ Food Production and Storage | ➤ Mining Industry |
| ➤ Chemical Manufacturing/Processing | ➤ Pharmaceutical Industry |
| ➤ Electronics Manufacturing | ➤ Glass Container Manufacturing |
| ➤ Secondary Metals Smelting | ➤ Metal Container Manufacturing |
| ➤ Metal Plating and Finishing | ➤ Coating Manufacturing and Use |
| ➤ Aggregate and Asphalt Production | ➤ Natural Gas Processing |

NATIONAL EXPERIENCE

BlueScape's global key agency contacts and extensive working knowledge of federal, state, and local air quality regulations extends throughout much of the Continental United States, Mexico and Canada. Lending to the company's success is an organizational focus to remain current on the rapidly changing federal Clean Air Act requirements as well as the stringent air rules of California's air districts.

SELECT TEAM PROJECT EXPERIENCE

A select, representative list of BlueScape staff project experience by major practice area is included below:

Air Permitting

Distributed Generation Air Permits, Real Energy Inc., California. Real Energy, Inc. sites and manages engines in corporate and municipal office buildings to reduce electricity costs during peak cost periods (peak shaving) and provide energy for heating and cooling (cogeneration).

Assisted Phase I installation of clean gas-fired, internal combustion engines in 10 sites located in the South Coast Region and San Diego County of California. Under aggressive time schedule, assessed potential air permitting hurdles, arranged kickoff meetings with key agency staff, obtained equipment and emissions data for air permit applications, and completed air dispersion modeling and health risk assessment work. Obtained agency approval to begin construction under an expedited schedule and air permitting manuals were developed to train client's staff on air permitting in four air districts.

Distributed Generating CEC Siting Application, RAMCO Inc. & PG&E, California. As subcontractor to Resource Catalyst, coordinated with several other subcontractors to pull together over 15 separate documents to develop CEC application. Client's original scope included the building of two new peaker turbine facilities to be sited in Chula Vista and Escondido, California. Scope change included the building of a secondary peaker turbine facility on the Chula Vista property (CVII), and licensing of that facility under the 21-day California Energy Commission (CEC) licensing process. Under expedited schedule, submitted fifty copies of application document to CEC, attended public hearings and workshops for proposed facility and received approval by CEC to begin construction.

Backup Diesel Engine Air Permits, EDS Corporation and the U.S. Navy. Rancho Santa Fe Technologies was hired to develop a computer help desk / command center at Commerce Point in San Diego as part of the U.S. Naval global military intranet system called "SPAWARS."

As subcontractor to Rancho Santa Fe Technologies, prepared air permit applications under very aggressive schedule hampered by changing San Diego APDC health risk policy for diesel-fired engines. Critical to the project was installation of five 1 MW diesel-fired engines to provide backup power to the command center. The project required a target installation period during the summer when the potential for power blackouts was high. EDS received air permits for construction within a reasonable timeframe. Client was able to avoid retrofitting of engines with catalyzed particulate filters.

PSD Permit, Confidential Fiberglass Manufacturer, Georgia. Managed and completed the modeling study to support a PSD application submittal for a fiberglass manufacturing facility located near Atlanta. The facility proposed to add sodium nitrate to raw batch materials to reduce odor-causing emissions of hydrogen sulfide from a melter. As a result, PSD for NO₂ was triggered. The project involved estimating process emissions of criteria pollutants, assessing compliance with NAAQS and increment thresholds for NO₂, and completing other required PSD analyses, including a visibility screening analysis.

PSD Permit, Confidential Fiberglass Manufacturer, Northern California. Project Manager for completion of a PSD air permit application for a fiberglass manufacturing facility located in Northern California. Work included an air quality modeling analysis for PM₁₀ and CO emissions. The facility's compliance with federal ambient air quality standards and with allowable PSD increment consumption was assessed. Assisted with preparation of a PM₁₀ pre-construction monitoring and QA/QC plan, addressing monitor-siting issues.

SIP Permit, Confidential Fiberglass Manufacturer, West Virginia. Project Manager for completion of air dispersion modeling services for a fiberglass manufacturing facility located in West Virginia. The work was performed to assess the affect of changing the West Virginia State Implementation Plan on attainment of area PM₁₀ NAAQS. The work was performed to assess how changes in the West Virginia State Implementation Plan would affect attainment of area PM₁₀ NAAQS. On-site meteorological data was processed for multiple tower levels. The SCREEN3 model was used to

reduce the number of nearby sources to be included in the NAAQS modeling analyses. The IGM model with ISCST and RTDM was used to model impacts from facility sources. ISCST and COMPLEX I were used to model impacts from nearby sources.

Synthetic Minor Air Permit, Fisher-Hamilton Scientific, Two Rivers, Wisconsin. Project Manager for completion of a Federally Enforceable State Operating Permit (FESOP) application for a wood furniture manufacturer. Our staff assisted the facility in implementing strategic measures to reduce VOC emissions and avoid Title V permit requirements. Calculations were performed for both actual and potential emissions based on future production scenarios, and drafted permit limits.

Synthetic Minor Air Permits, Two Prestolite Wire Corporation Facilities. Project Manager for completion of synthetic minor air permit applications for telecommunication and automotive wire manufacturing facilities located in Nebraska and Arkansas. Assisted facilities in preparing up-to-date emission inventories and avoiding Title V permitting requirements. For a third facility located in Georgia, negotiated with air pollution control agency staff to obtain an exemption from State air permitting requirements.

Title V Permits, Three California Facilities. Assisted with completion of Title V permit applications for the Owens-Brockway glass facility in Tracy, California, the Lodi Metal Tech Facility in Lodi, California, and the Sony Electronics facility in San Diego, California. Lists of Title V-applicable regulations were developed for the facilities, and application forms were completed using client-supplied information.

Air Permits, Confidential Fiberglass Facility, Southern California. Assisted a fiberglass facility in obtaining a modified air permit for an increase in production capacity on a highly restricted line. Although no net increase in emissions was expected following regulatory definitions, the permitting agency wanted air emission increases to be calculated using a restrictive methodology. This methodology triggered a Rule 1401 health risk assessment and led to delays in the permitting process. Assisted the facility throughout the process by analyzing the effect of agency requirements and presented ways to express production limits in a manner that would move the project forward. Ultimately, BlueScape succeeded in showing that the facility could expand production without causing significant health risk impacts or requiring emissions offsets. The facility received the modified air permit.

Air Dispersion Modeling

Modeling Feasibility Siting Study, Confidential Power Generation Company. Currently assisting a power generation company with siting natural gas-fired turbines for a fast-track air permitting process. For initial candidate sites and ranges of source release parameters, BlueScape will model expected turbine configurations for initial candidate sites and ranges of source release parameters to determine if turbine emissions will trigger either health risk impact thresholds or ambient criteria pollutant standards.

Ambient Air Quality Analysis, Motorola 52nd Street, Phoenix, Arizona. Lead dispersion modeler for an ambient air quality analyses performed for a semiconductor manufacturing facility. Estimated off-site air quality impacts using the ISCST and SHORTZ dispersion models. From estimates of off-site concentrations and emissions data, compared modeling results to state ambient air quality guidelines. Completed feasibility studies to evaluate the impact of modifying facilities.

Ambient Air Quality Impact Analysis, Confidential Power Producer, Las Vegas, Nevada. Completed an ambient air quality analysis for criteria pollutant emissions from natural gas and oil-fired turbines. Onsite meteorological data was processed for modeling using MPRM. The results of the analysis were compared to the National Ambient Air Quality Standards and provided to the client for regulatory compliance purposes.

Monitoring/Meteorological Data Validation Study, Confidential Municipal Waste Landfill, Southern California. Compared vinyl chloride monitoring data to concurrently obtain meteorological measurements. Used on-site meteorological measurements as well as synoptic observations to validate monitoring data.

Stack Increase Study, Confidential Metal Container Manufacturer, Southern California. Entrainment of sulfuric acid emissions released from three stacks into building ventilation intakes was apparently resulting in poor product finish quality for some can batches. As a subcontractor to Kleinfelder, BlueScape made visual observations at the site and confirmed a potential problem during strong northeast winds. Using the ISCST3 model and ASHRAE guidance, stack height increases needed to avoid intake contamination were estimated. Reconstruction of the stacks was commenced based upon study recommendations.

Indoor Contamination Study, Confidential Hospital, Nevada. A hospital in Nevada was evaluating reports of health effects possibly caused by indoor pollutant contamination. An investigation of rooftop stacks revealed that emissions from two boilers were potentially entrained into building ventilation intakes on the lee side (cavity area) of a downwind structure. The ASHRAE ventilation guidance was used to estimate boiler stack height increases recommended to avoid the building cavity zone.

Meteorological Data Processing for Several Industrial Clients. Processed raw meteorological data into dispersion modeling-ready format for many projects. Received data in many different formats from universities, industrial plants, public agencies, etc. In some cases, modified FORTRAN code of existing programs to process data.

Health Risk and Exposure Assessment

AB2588 Health Risk Assessments, Southern California Facilities. Completed more than 20 AB2588 health risk assessment projects for industrial facilities located in Southern California. These included 10 Southern California Edison power plants, a fiberglass manufacturing facility, a spice processing plant, a plumbing supplies plant, the Kwikset manufacturing facility in Anaheim, two petroleum processing/refining facilities, two small parts coatings facilities (hexavalent chromium-based pigments), a resin manufacturer, and two aerospace part manufacturers. The facilities are located in four air pollution control districts.

Over the 10-year history of the AB2588 program, BlueScape staff has provided client support in many aspects of the program; from completing full original health risk assessment reports, to revising risk assessments following agency comments. BlueScape has been asked by several clients to revise and refine original air toxic emissions and risk assessment calculations, when those results were overly conservative and led to significant risk reporting issues. BlueScape assists clients in locating potential technical refinements and creditable facility changes that can effectively lower reported health risks, avoiding higher program fees and public notification issues.

Following strict agency guidance, BlueScape has used the SCREEN3, ISCST3, COMPLEX-I, and SHORTZ models to estimate off-site impacts from air toxic emission sources. BlueScape estimated and reported cancer and noncancer risks to maximally exposed residential and worker receptors, as well as to sensitive receptors (hospitals, schools, etc.). BlueScape has used the ACE2588 and HRA health risk assessment models to calculate and report health risks.

New Source Review Air Permitting Health Risk Assessments, Southern California Facilities. Companies are required to complete a new source review health risk assessment in order to obtain an air permit for new or modified air toxic emission sources in the South Coast Air Quality Management District (Rule 1401) and the San Diego Air Pollution Control District (Rule 1200). BlueScape has calculated project-related air toxic emission increases and helped clients determine if a proposed project will cause an exceedance of regulatory health risk significance thresholds. Facilities exceeding

risk thresholds were required to install Best Available Control Technology for Toxics (T-BACT). If an exceedance is likely, BlueScape counseled clients on health risk analysis refinements or project changes that could lower predicted health risk impacts.

BlueScape's has provided new source review health risk assessments in the Southern California area for various industries: air strippers, can manufacturing, landfill gas flare, wood cabinet manufacturing, fiberglass manufacturing, major refineries, and power generation. BlueScape has also assisted a water pollution control district in San Diego County with health risk assessments for 12 diesel and natural gas-fired standby engines. Utilizing techniques ranging from consulting look-up tables and screening dispersion modeling, to full refined dispersion modeling and risk calculations to complete the necessary analyses.

Proposition 65 Risk Assessment, Confidential California Facility. Prepared a Proposition 65 health risk assessment for a metal polishing and plating facility that uses perchloroethylene in a vapor degreasing operation. A citizen's group contended that the facility failed to warn off-site receptors of perchloroethylene levels above the no significant risk level (NSRL). BlueScape used refined analysis methods to show that, given very conservative exposure assumptions that overstate actual risk, exposure values above the NSRL were confined to locations very near the emissions source.

Proposition 65 Risk Assessments, Six Confidential Facilities. Assisted two battery manufacturers located in Southern California and a glass container manufacturer in response to class action lawsuits regarding lead emissions. Completed Proposition 65 due diligence for a golf club manufacturer. Performed third-party review of Prop. 65 reports for lead for a battery manufacturer and a plumbing supplies manufacturer. Completed dispersion modeling using SCREEN3 and ISCST. Evaluated representativeness of assumptions used in litigant's and plaintiff's modeling analyses, including meteorological data inputs, monitoring and emissions data referenced, equipment operating schedules, estimates of indoor concentrations of lead relative to outdoor concentrations, and mobility of worker populations.

Benzene Exposure Analysis, Confidential Refinery, Appalachian Region. Lead dispersion modeler for an analysis of potential human exposure to benzene emitted from wastewater processing operations at a medium-sized petroleum refinery. Used the ISCST and COMPLEX1 models to estimate ground-level impacts due to fugitive sources such as tanks, pipes, and ponds, as well as point sources such as cooling towers. Estimated potential excess cancer risk under various exposure scenarios, accounting for population mobility, indoor concentrations relative to outdoor concentrations, and movement of population between various microenvironments.

Evaluation of U.S. EPA's use of the HAPEM Exposure Model to Estimate Benzene Emissions from Mobile Sources, Confidential Client. Lead modeler for evaluating U.S. EPA's application of the HAPEM exposure model to mobile source pollutants, especially benzene. Downloaded CO monitoring data from the Aerometric Information Retrieval System. Using statistical and graphical methods, analyzed the relationship between ambient measurements of CO and tailpipe benzene emissions to critically evaluate U.S. EPA's methodology.

Litigation Assistance for a Consortium of Confidential Petroleum Refineries. Assisted several petroleum refineries located in Texas in class action litigation involving fugitive benzene emissions from piping and tanks, and chromium emissions from cooling towers. Performed dispersion modeling for benzene impacts using plaintiff's input files and ISCST, but revised benzene emissions estimates reflecting more realistic assumptions. Also, used plaintiffs ISCST and FDM input files to evaluate chromium impacts for various particle sizes and surface roughness lengths.

HEM-II Analyses, Two Confidential Clients. Remotely (via modem) ran U.S. EPA's HEM-II dispersion and risk assessment model to assist a major refinery located in the Appalachian Region and a fiber glass manufacturing company located in Ohio quantitatively evaluate programs instituted by USEPA. Evaluated documentation for USEPA's final benzene wastewater NESHAP rule. Used EPA's updated

HEM-II model and compared results with HEM model results cited in the NESHAP rule. Calculated much lower benzene exposure than U.S. EPA using HEM-II and refined human exposure assumptions. For the fiber glass manufacturer, potential impacts due to ammonia, phenol, formaldehyde, and mineral fiber emissions were evaluated to assist development of a Maximum Achievable Control Technology standard for the industry.

Air Toxics Litigation, Confidential Chemical Manufacturer, Texas. A chemical company in Texas was being sued by nearby residents alleging exposure to benzene and other chemicals was causing various health ailments. Depositions from over 30 litigants were reviewed to develop an exposure parameters database. Used a visual basic-driven system to estimate benzene exposure under various scenarios. The scenarios accounted for population mobility, indoor concentrations relative to outdoor concentrations, and movement of population between various micro-environments.

Accidental Release Offsite Consequence Analyses

RMP Offsite Consequence Analysis, Hill Brothers Chemical Company and Modern Ice and Cold Storage, San Jose, California. As a subcontractor to Denali, Inc., completed a CalARP (RMP) modeling study for a chemical company that stores and redistributes for sale anhydrous and aqueous ammonia, and a food cold storage facility. For each facility, assessed the worst-case and alternative release scenarios for each process utilizing ammonia, then calculated the source term (ammonia release rates) for each process. The worst-case and alternative case impacts were determined using the DEGADIS and/or other appropriate models or guidance.

Offsite Consequence Analysis, Microchip, Tempe, Arizona. A semiconductor manufacturer needed to update its accidental release management plan for compressed gases, hydrochloric acid, and sulfuric acid. The ISCST3 model with one year of meteorological data was used to model compressed gas releases. DEGADIS was used to model acid spills. The radii of impact, based upon the distance to IDLH values, were found to be within the facility boundary. A report presenting the results of the analysis and showing the onsite radii of impact was completed.

Risk Management and Prevention Plan, Komag, Fremont, California. For development of an RMPP, analyzed meteorological data to determine typical conditions that could occur during an accidental release. Developed a report section describing typical meteorological conditions in the RMPP.

Accidental Release Models Evaluation, Pure-Etch, Salinas, California. As part of a CEQA study, an etching solution reclaim facility was required to conduct a "customized" accidental release analysis for a mitigated negative declaration. The chemicals at issue were sulfuric acid, hydrochloric acid, and ammonia. Assisted in the project by locating and evaluating candidate dispersion models for completing offsite consequence analyses.

Air Emissions Inventories

Air Emissions Fee Reports, Johns Manville Corporation, Corona, California. Assisted a fiberglass company in Southern California in response to SCAQMD's request for revised Rule 301 emissions inventories for the period 1994-1997 and completed the 1997-1998 report. A full air compliance audit initiated the project to verify permit status and emissions source inclusion. Emission factors were updated to reflect recent source tests and a TitleV emissions inventory.

Clean Air Act Emissions Inventory for Two ABEX/NWL Control Systems Facilities. Managed the completion of facility-wide emissions inventories for two aerospace component manufacturing facilities

located in Michigan and Georgia. The emission inventories were submitted to State agencies and became the basis for determining applicable Clean Air Act requirements, including Title V permitting.

Due Diligence Emissions Inventory, Confidential Golf Club Manufacturer, San Diego, California. A golf club manufacturer was interested in estimating air toxic emissions from one of two facilities. Emissions had not been tracked closely in the past. The project proved to be challenging, since many different paint and solvent products were used, usage logs differed between different production areas, and materials were often transferred from another facility. Data gaps were filled to complete the inventory. Results of the due diligence inventory were compared to local air district regulations to assess compliance.

Dehydration Unit Emissions, Confidential Natural Gas Producer, Western U.S. Using natural gas composition information supplied by the client, estimated VOC and hazardous air pollutant emissions from triethylene glycol dehydration units at three facilities. The purpose of the project was to determine if Title V permit applicability thresholds were exceeded. The GlyCalc 3.0 model was used to complete emissions estimates.

AB2588 Emissions Inventory, Johns Manville, Willows, California. A fiberglass manufacturing facility was required to update its original AB2588 emissions report. Several new source test results had been completed. Using the source test data and other information sources, a comprehensive air toxics inventory was completed and submitted to the Glenn County Air Pollution Control District using FATES. From the results of the analysis, risk prioritization scores were estimated and the facility was counseled on potential updated risk assessment requirements.

AB2588 Emissions Inventory Plans, Calmat, Southern California. Completed Air Toxics Inventory Plans for more than 10 sand and aggregate, batch concrete, and batch asphalt plants. Provided detailed information to agencies on processes and emission quantification methods. The plans were the basis for later completion of emissions inventory reports.

Clean Air Regulatory Analyses and Compliance Audits

Regulatory Analysis for the Petroleum Industry, Western States Petroleum Association. Conducted a comparative analysis of over 150 environmental regulations affecting petroleum companies in five key areas: air toxics, new source review, endangered species, hazardous materials, and oil spills. Determined reporting requirements, and assessed inefficiencies and overlaps between regulations.

Clean Air Act Compliance Audits, Confidential National Client. Task Manager for analyzing the impact of the 1990 Clean Air Act Amendments on over 30 facilities located in 11 states and engaged in a variety of manufacturing activities. Reviewed emissions and process information to determine the applicability of, and compliance with, Federal, State and local air quality regulations. Prioritized issues and gave recommendations for action.

Environmental Compliance Audit, Triptych CD, Stockton, California. Completed the environmental compliance audit for a company located in Stockton, California, which produces compact discs. Evaluated the facility's compliance with applicable air, solid waste, hazardous waste, and water discharge regulations.

Clean Air Act Compliance Audit, Confidential Aluminum Production Facility, South Carolina. Completed a review of Clean Air Act regulations that might apply to the facility as part of an environmental audit. Assessed the applicability of NSPS, NESHAP, MACT, CAA Section 112(r) and other requirements.

Environmental Impact Air Quality Analysis

Environmental and Air Quality Impact Review, City of Antioch and Pittsburg District Energy Facility.

Retained by The City of Antioch, and Intervener, to review the California Energy Commission's (CEC) Preliminary Staff Assessment for the Pittsburg District Energy Facility. City of Antioch was concerned that the proposed power plant might adversely impact environmental and community resources within the Antioch area. Worked with Resource Catalysts and Rothrock Consulting, to educate and represent Antioch in the CEC licensing process. Team developed written testimony regarding potential impacts to air quality, water quality, and infrastructure. Attended workshops and hearings to obtain information and present City of Antioch's concerns to CEC staff.

Air Quality Impact Analysis, Homestead Village, San Ramon, California. Project manager for completion of an air quality impact analysis for a hotel development, as part of a CEQA environmental impact report. The analysis was completed efficiently using BAAQMD guidance and a study previously completed for a shopping center. To the client's benefit, BlueScape was able to utilize traffic information supplied by another consultant to estimate insignificant project impacts.

Air Quality Impact Analysis, Vintage Faire Mall, Modesto, California. The Vintage Faire Mall was planning to expand to include additional services with added parking spaces. An analysis was completed to determine air quality impacts from increased automobile trips. The EMFAC7F model was run to obtain vehicle emission factors. Impacts from CO and other emissions were estimated using the CALINE4 model and CEQA guidance.

Air Quality Modeling Analysis, Alta Ski Resort Draft EIR, Utah. Revised the air quality impact section of a draft EIR for the Alta Ski Resort. The section was expanded to address lead agency comments regarding potential impacts on ambient air quality, visibility, and PSD increments. The SCREEN3 model and CALINE4 model were used to estimate impacts from direct and indirect sources. A formal response satisfying the comments was submitted.

Traffic and Air Emissions Study, Reno, Nevada. As part of the environmental impact report for the Southern Pacific-Union Pacific railroad merger, estimated automobile air emissions due to increased traffic delays caused by train trips in downtown Reno. Estimated emissions using MOBILE5. Train emissions were estimated using emission factors supplied by the Washoe County Air Agency.