

Department of Consumer Affairs

Position Duty Statement

HR-041 (Revised 09/19)

Page 1 of 3

Classification Title	Board/Bureau/Division
Air Quality Engineer II	Bureau of Automotive Repair (BAR)
Working Title	Office/Unit/Section / Geographic Location
Lead Engineer	Engineering and Research Branch/Program Evaluation and Referee Unit/Rancho Cordova
Position Number	Name and Effective Date
646-121-9942-012	

General Statement: Under direction of the Senior Air Quality Engineer (Senior AQE), the AQE II will serve as a project lead across multiple projects. Responsibilities include, but are not limited to, organizing projects, setting project goals and tracking progress, reaching across disciplines to identify and involve appropriate stakeholders, assigning tasks, providing necessary documentation, reporting to management on project status. The AQE II will mentor staff-level engineers to ensure program continuity. Specific duties include, but are not limited to, the following:

A. SPECIFIC ASSIGNMENTS [Essential (E) / Marginal (M) Functions]

40% Project Leadership (E)

Serve as the lead over fraud analysis and development of new methods to identify fraud. This includes support for BAR Enforcement cases requiring Engineering support. This includes, but is not limited to, support for clean gassing cases, BAR-97-based cases, Low-Pressure Fuel Evaporative (LPFET) cases, and On-Board Diagnostic Inspection System (OIS) cases.

35% Data Analysis, Reporting, and Referee (E)

Evaluate Smog Check program effectiveness and support of legislatively mandated reports (EPA Report, Smog Check Performance Report, etc.). Provide data analysis and technical expertise on the development of Vehicle Inspection Database (VID)-based fraud detection tools. Develop and conduct maintenance of automated reporting. Develop software, analytical tools, and site selection criteria. Conduct Ad hoc analysis using various database tools including Statistical Analysis System (SAS) and Structured Query Language (SQL) Developer. Conduct analysis for Enforcement, Consumer Assistance Program, and Licensing through data analysis and by developing automated tools. Provide Smog Check Referee Support through activities such as data analysis and the resolution of issues escalated by Referee inspectors.

10% VID and VID-Based Inspection System Development and Support (E)

Analyze new vehicle technologies in support of inspection equipment compatibility. Assist with VID issue diagnosis, testing, change management request (CMR) drafts and tracking. Assist with software design, requirements, testing, changes, and the review of related documentation. Conduct new On-Board Diagnostic Inspection System (OIS) and Data Acquisition Device (DAD) research to support the program's development. Develop VID-based fraud countermeasures. Support the Inspection System development through activities such as establishing procedures and developing software specifications. Research and development of innovative, cutting edge solutions for use in hardware certification and OBD fraud detection.

10% Lab Testing, Certification, and Schools Support (E)

BAR-97 certification, including but not limited to bench, dynamometer, Low Pressure Fuel Evaporative Test, and software. Provide Certification support through activities such as, but not limited to, data analysis and the development of automated tools to assist with the

process. Assist with equipment research and development, specifications, certification, in-use testing, issue tracking and support for equipment in the field. Provide Referee and Roadside support through activities such as developing hardware and software specifications and certification testing of Referee-specific systems. Conduct DAD certification and annual recertification. Conduct remote On-Board Diagnostic (OBD) testing and validation. Conduct gas blender testing, certification, audit procedures, and bottle analysis. Conduct schooling evaluation and certification, exam development support, instructor certification, educational advisory group support, and support for Automotive Resource Center.

5% Testimony, Presentations, Documentation, Regulations, Legislative Proposals (E)

Provide recommendations and develop policy and legislative proposals for any internal changes needed. Develop regulations and other required documentation such as the Initial Statement of Reasons. Provide court witness testimony, expert testimony and write depositions. Write documentation, including reports, memos, specifications, procedures, etc. Present to management, other governing bodies (e.g. California Air Resources Board (CARB), US Environmental Protection Agency (EPA)), peers, industry experts, and audiences in public forums.

B. Supervision Received

The incumbent works under the direction of the Senior AQE. Direction and assignments may also come from the Supervising AQE.

C. Supervision Exercised

NONE

D. Administrative Responsibility

NONE

E. Personal Contacts

The incumbent has occasional contact with motorists regarding their vehicle's smog check test results, and with smog check station owners and technicians regarding their complaints against equipment manufacturers or to provide clarification on smog check test procedures or other inspection issues; frequent contact with equipment manufacturers and contractors regarding testing and certification/approval requirements; and regular contact with representatives from other agencies as well as other staff within BAR and the Department regarding programs.

F. Actions and Consequences

Failure to perform duties could result in reporting of inaccurate information, improper certification of inspection systems and gas blends, falsely failing inspected vehicles, and dissemination of inaccurate information to consumers and industry.

G. Functional Requirements

- 90% Office Work – The incumbent works in an office setting with artificial light and temperature control and uses a personal computer, laptop, copier, and other office equipment.
- 10% Laboratory and Field Work – The incumbent works in the Engineering laboratory under extreme temperatures (from 35 degrees to 100 degrees) or out in the field in varied weather conditions. Incumbent is required to wear safety equipment and apply safety procedures, stand for long periods of time, occasionally lift materials/equipment, not to exceed 50 pounds, set up and/or operate various machineries and equipment, drive a

vehicle, and perform housekeeping in the laboratory. Oversee and aid in field studies as necessary.

H. Other Information

The incumbent must be able to: prepare project plans; design studies; develop techniques for handling and analyzing a large variety of detailed data; communicate the results and implications of studies to non-specialists; do unusual and difficult research and analytical work while applying sound engineering principles. In addition, the incumbent must possess knowledge of research techniques, including the planning of studies and investigations, determining of variables, and developing of reference materials; research reporting techniques; techniques and procedures for evaluating research results; mathematics, computer programming, and applications; Department of Consumer Affairs, CARB, and EPA policies and programs.

In all job functions, employees are responsible for creating an inclusive, safe, and secure work environment that values diverse cultures, perspectives, and experiences, and is free from discrimination. Employees are expected to provide all members of the public equitable services and treatment, collaborate with underserved communities and tribal governments, and work toward improving outcomes for all Californians.

I have read and understand the duties listed above and I can perform these duties with or without reasonable accommodation. (If you believe reasonable accommodation is necessary, discuss your concerns with the hiring supervisor. If unsure of a need for reasonable accommodation, inform the hiring supervisor, who will discuss your concerns with the Health & Safety analyst.)

Employee Signature

Date

Printed Name

I have discussed the duties of this position with and have provided a copy of this duty statement to the employee named above.

Supervisor Signature

Date

Printed Name

Revised: 03/2026