

DUTY STATEMENT

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DUTY STATEMENT

Employee Name: Vacant	Current Date: November 2025
Classification: Air Resources Engineer	Position #: 673-310-3735-003
Division/Office: Research Division	CBID: R09
Section: Climate Change Mitigation and Emissions Research	
Supervisor Name: Seungju Yoon	Supervisor Classification: Air Resources Supervisor I

I certify that this duty statement represents an accurate description of the essential functions of this position.	
Supervisor:	Date:

I have read this duty statement and agree that it represents the duties I am assigned.	
Employee:	Date:

SPECIAL REQUIREMENTS OF POSITION (IF ANY):

- ☒ Designated under Conflict of Interest Code.
- ☐ Duties performed may require pre-employment physical.
- ☐ Duties performed may require drug testing.
- ☐ Duties require participation in the DMV Pull Notice Program.
- ☐ Requires the utilization of a 32-pound self-contained breathing apparatus.
- ☐ Operates heavy motorized vehicles.
- ☐ Requires repetitive movement of heavy objects.
- ☐ Works at elevated heights or near fast moving machinery or traffic.
- ☐ Performs other duties requiring high physical demand. (Explain below):
- ☐ Duties require use of hearing protection and annual hearing examinations.

SUPERVISION EXERCISED

<input checked="" type="checkbox"/> None	<input type="checkbox"/> Lead Person
<input type="checkbox"/> Supervisor	<input type="checkbox"/> Team Leader

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FOR SUPERVISORY POSITIONS ONLY: Indicate the number of positions by classification that this position **DIRECTLY** supervises: N/A

Total number of positions in Section/Branch/Office for which this position is responsible: N/A

FOR LEAD PERSONS OR TEAM LEADERS ONLY:

Indicate the number of positions by classification that this position **LEADS**: N/A

MISSION OF SECTION: The Climate Change Mitigation and Emissions Research Section (Section) in the Research Division develops and conducts policy-relevant in-house and extramural research to advance the science and to support California Air Resources Board (CARB) mobile source programs and policies. Current research includes efforts to better understand the discrepancy between certification and real-world emissions levels, achieve further NOx reductions from heavy-duty trucks and off-road equipment, investigate the effect of various regulatory options to achieve real-world emission targets using laboratory, portable emissions measurement system (PEMS), remote-sensing, and engine and activity data-logging technologies, and understand non-tailpipe emissions such as brake and tire wear particulate matters. Current research also includes evaluating energy use, mobility options, and incentive strategies of low carbon transportation technologies and characterize emission and socioeconomic benefits of low carbon fuel and transportation technologies. The Section is also responsible for programs to reduce emissions of high global warming potential greenhouse gases from motor vehicle air conditioners (MVAC) and transportation refrigeration units. The Section conducts large dataset and database driven technical analyses, provides expert opinions to decision-makers, networks with internal, national and international stakeholders, and publishes research findings.

CONCEPT OF POSITION:

Working independently and under the general direction of the Air Resources Supervisor I (ARS I), the incumbent should lead multiple research projects and enhance the scientific, analytical, and technical capacity of the Section. The incumbent should conduct technical and scientific evaluations of existing mobile source emissions research using scientific methods to manipulate, interpret, and analyze large mobile source datasets. A key role of the incumbent will be to work collaboratively with internal and external partners, identify and initiate exhaust and non-exhaust emissions research needs for mobile sources, conduct and manage research projects, and inform CARB programs with research findings. The incumbent should be able to work independently and collaboratively both within and beyond CARB, build consensus on research directions, participate in workgroups and committees of professional organizations for conveying CARB's perspectives on mobile source emission reduction and greenhouse gas mitigation, and maintain productive and collaborative relations with CARB mobile source programs, regional air quality management organizations, federal governments, the scientific community, as well as national and international industry stakeholders.

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<u>% OF TIME</u>	<u>RESPONSIBILITIES OF POSITION</u>
35% E	Using scientific and engineering principles and analytical skills, conduct a technical and scientific evaluation of existing transportation research, evaluate research needs for mobile source programs and policies, initiate and conduct policy-relevant in-house and extramural research for conventional and zero emission on-road and off-road mobile sources, and provide information to mobile source programs and policies. Maintain abreast of emerging issues in vehicle emissions and technology, energy use, and activity research and explore the potential implications of emission reduction strategies for air quality and climate change. Develop cutting-edge scientific and engineering principles and policy-supporting tools using large transportation datasets, numerical models, statistical models, and data manipulation and analysis computing tools such as Excel, Access, MATLAB, Python, Perl, SAS, R, MariaDB, MySQL, cloud server, etc.
25% E	Initiate and conduct novel and independent research programs that holistically consider the emission and climate change implications of mobile sources to provide answers beneficial to air quality and climate change programs and policies. Design and manage in-house or extramural research projects pertaining to mobile sources emissions, low carbon transportation energy use, and greenhouse gases, activity characterization with datalogger instrumentation, in-use emission measurement, and remote-sensing. Prepare presentations and technical manuscripts with significant research findings for public conferences and journal publications. Manage the research projects by strictly following the research contract management training guide. Review the interim and draft final reports from the research projects and provide comments and recommendations proactively to ensure the research findings are relevant and informative to CARB air quality and climate change programs and policies.
15% E	Participate in CARB's research planning process and workgroup meetings, coordinate with internal stakeholders to identify mobile source research needs, and initiate research projects that support mobile source programs. Interact and communicate with internal and external stakeholders to effectively translate scientific and research findings into recommendations for air quality and climate change programs and policies. Prepare and present research concepts in the stakeholder group meetings internally and externally to support mobile source emission control and greenhouse gas reduction programs and policies.

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15% E	Prepare and present Section research work at the stakeholder group meetings internally and externally to support emission control and greenhouse gas reduction programs and policies for on-road vehicles and off-road equipment. Maintain the RD SharePoint, Section website site, Section drive, and Section database (e.g., integrated database for vehicular emissions and activity) and share policy-relevant data and information with internal stakeholders. Complete tasks on time and make verbal and written communications for the completed tasks clearly, concisely, and appropriately for audiences with varying levels of understanding. Write and prepare clear, concise, comprehensive, and review-ready documents (e.g., memos, letters, white papers, research idea synopsis, data analysis plans, journal articles, conferences, meeting presentations, and others). Check for proper content, format, grammar, punctuation, and sentence structure to ensure accuracy and effectiveness.
10% M	Participate, as a CARB liaison, in workgroups and committees of professional organizations such as Coordinating Research Council (CRC), Engine Manufacturers Association (EMA), Transportation Research Board (TRB), Society of Automotive Engineers (SAE), and Manufacturers of Emission Controls Association (MECA) to convey CARB's perspectives on mobile source emissions and greenhouse gases, fuel research, test method development, and industry-standard development. Coordinate with professional organizations to develop research projects relevant to CARB programs and policies and maintain positive and productive relationships.