# DUTY STATEMENT

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| Employee Name: Vacancy | Current Date:  |
| Classification: Air Resources Engineer | Position #: 673-710-3735-058 |
| Division/Office: AQPSD/MSAB | CBID: R09 |
| Section: On-Road Model Development Section |
| Supervisor Name: Fang Yan | Supervisor Classification: ARS I |

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

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

# SPECIAL REQUIREMENTS OF POSITION (IF ANY):

[x]  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

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| [x]  None | [ ]  Lead Person |
| [ ]  Supervisor | [ ]  Team Leader |

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 LEADPERSONS OR TEAM LEADERS ONLY:

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

MISSION OF SECTION: The On-Road Model Development Section of the Mobile Source Analysis Branch assesses on-road motor vehicle activity and emission factors in order to develop fundamental emissions inventory estimates and models. Major projects include supporting emission inventory estimates for regulations, continued development and refinement of EMFAC, the development of emission factors for on-road cars and heavy-duty trucks, as well as the analysis and forecasting of California’s freight and passenger transportation system. The section is also responsible for development of new programming platforms upon which next generations of EMFAC modules will be based on.

CONCEPT OF POSITION: SB 210 requires CARB to adopt and implement, in consultation with the Department of Motor Vehicles (DMV), Bureau of Automotive Repair (BAR), and California Highway Patrol (CHP), California’s Heavy-Duty Vehicle and Inspection and Maintenance (HD I/M) program to ensure that emissions control systems on non-gasoline heavy-duty vehicles over 14,000 pounds gross vehicle weight rating (GVWR) are present and properly functioning. This requires staff to perform research, conduct roadside test programs, analyze in-use performance data, establish program validation method, code logic and data into computer models to assess emissions benefits and cost effectiveness from HD I/M program. This also includes modeling a variety of different regulatory scenarios to inform design and structure of the program to ensure effective emission reductions for State Implementation Plan (SIP) compliance. The position requires close interaction and teamwork with other CARB inventory staff, as well as a variety of internal and external clients, including other CARB divisions, government agencies, policymakers, industry, environmental organizations, and the public. The specific duties include:

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| **% OF TIME** | **RESPONSIBILITIES OF POSITION** |
| 35% - E | Perform HD I/M program emissions modeling efforts to inform design and structure of the program, determine program validation methods utilizing advanced data collection techniques (e.g. Portable Emission AcQuisition System (PEAQS), and On-Board Diagnostics (OBD) monitoring system), and assess program effectiveness upon implementation. Coordinate with other state agencies in various aspects of program development, implementation, and operation. |
| 30% - E | Apply data mining techniques to data from roadside testing and in-use performance of heavy duty emission control systems to assess emission benefits. Establish protocols to ensure that emission reductions attributed to HD I/M will be accounted for and credited in planning and technical documents such as SIP, Scoping Plan, and the EMFAC model. Design and develop state-of-art techniques and models to track and assess the effectiveness of HD I/M program on regional emission inventories affecting SIP compliance. Develop new or recommend updates to model formulations, modeling techniques, and input data.  |
| 20% - E | Write model evaluation and development work plans to be implemented independently or by contractor and/or in-house teams. Prepare and review technical reports, memoranda, and other documents intended for management or outside stakeholders. Independently stay abreast of and brief management on the state-of-the-science in existing, new, or evolving data collection efforts associated with characterizing mobile source inventories. |
| 5% - E | Meet with clients, contractors, and stakeholders to discuss emission estimation methodologies and results. Participate in public workshops. Develop and deliver oral presentations as needed. Assist section manager in planning, organizing, and implementing section programs.  |
| 5% - E | Summarize findings and their policy implications in reports, presentations, and management briefings to provide a robust technical foundation for CARB policy decisions, next generation mobile source regulations, next generation in-house data collection, and on-road model development. |
| 5% - M | Respond to requests and inquiries. Coordinate with and provide consultation to private and governmental agencies doing related emissions development work. Perform other duties as may be necessary to meet the needs of the On-Road Model Development Section. Occasional travel may be required. |