

**DUTY STATEMENT**

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Employee Name: Vacant	Current Date: 10/18/2024
Classification: Staff Air Pollution Specialist	Position #: 673-860-3875-002
Division/Office: OIS	CBID: R09
Section: Science & Technology	
Supervisor Name: Skip Campbell	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:
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I have read this duty statement and agree that it represents the duties I am assigned.

Employee:	Date:
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**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

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

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

FOR LEADPERSONS OR TEAM LEADERS ONLY:

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

MISSION OF SECTION:

The mission of the Office of Information Services (OIS) is to leverage the most effective information technologies (IT) available to achieve the California Air Resources Board's (CARB) program goals. The mission includes ensuring that such technologies are professionally managed, properly maintained, and efficiently used. The Science and Technology Section (STS) provides science and regulatory-based expertise within OIS to address increasingly complex, multifaceted technology and environmental issues. STS works closely with CARB scientists, engineers, and IT staff to perform analysis and plan for the design, development and support of information technology solutions to address complex CARB scientific or engineering program needs. STS supports efforts requiring the highest level of expertise in addressing complex technology and environmental issues.

CONCEPT OF POSITION:

The Staff Air Pollution Specialist (SAPS) series is the fully-qualified independent specialist level that performs the more responsible, varied, and complex work, and provides consultation or coordination in joint studies. Incumbents carry program or project responsibilities with extreme sensitivity and complexity usually dealing with emerging or undefined issues or problems and typically involving intense conflict among issues such as "State of the Art," public concern, local, State, and Federal Government concerns, costs, and business interest. Positions at this level require expertise that is significantly greater than standard full journey level analytical assignments, and this expertise is critical to the Board's basic mission. This SAPS position applies scientific methods and principles in the research, design and implementation of technologies for CARB's High-Performance Computing (HPC) environments used to conduct intensive numerical simulations with spatially and temporally refined inputs of meteorology, terrain, and chemically speciated emissions. These environments are in CARB's clustered services located at the State Data Center and in the Cloud.

This position involves working closely with diverse users of the HPC to understand their varying needs and establish usage priorities. The role includes installing and maintaining information technology equipment and managing access to secure infrastructure and applications to ensure efficient business operations. The SAPS will maintain the confidentiality of sensitive data and critical infrastructure through collaboration and shared privilege principles.

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<u><b>% OF TIME</b></u>	<u><b>RESPONSIBILITIES OF POSITION</b></u>
30% E	<p>High-Performance Computing Center Installation and Maintenance:</p> <p>Installs, configures and maintains CARB’s High-Performance Computing (HPC) technology environments to provide data collection, analysis and modeling platforms for ARB scientists. Evaluates current HPC infrastructure and identifies areas for expansion to support increased modeling capacity through server cluster design and implementation of new hardware, data streaming, storage allocation, and network connectivity for HPC clusters. The SAPS manages hardware and data at a large scale at the State data center and Cloud-based environments. The SAPS researches current industry trends and advancements in emerging on-premises and Cloud-based technologies and services with a goal of continuously improving modeling capabilities for extensive numerical simulations with spatially and temporally refined inputs of meteorology, terrain, and chemically speciated emissions.</p>
25% E	<p>Technology Oversight and Administrative Workload</p> <p>Provides training and support on the use and support of these technologies and tools to create redundant support resources. Develop user guides, conduct training sessions, and create tutorials to help users maximize the potential of the HPC resources. Implement and enforce security policies to protect data, user privacy, and the integrity of the system. Researches and identifies suitable Cloud-based storage solutions for housing large datasets generated from NAAQS SIP and other efforts. Perform the procurement of servers, storage systems, networking equipment, and other HPC resources. Develop a plan for migrating existing data to Cloud-based storage, ensuring data integrity and security. Collaborate with Cloud service providers to configure storage environments that meet performance and compliance requirements. Establish data warehousing and other Cloud-based solutions to facilitate easy access, retrieval, and analysis of stored data. Implement and manage data backup and disaster recovery plans to safeguard critical information.</p> <p>Maintains the Technology Recovery Plan required for disaster recovery procedures for mission critical HPC systems and associated data. Validate and update retention schedules for all data that needs to be preserved based on defined requirements to CARB regulations. Coordinates with divisions to assist in the formulation of annual division spend plans for information technology spending on HPC-related IT resources.</p>
25% E	Data Center Resource Allocation

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	<p>Collaborates with HPC users to understand their diverse needs to meet regulatory timelines and model-specific requirements such as technologies, data capacity, processing needs, and data display, storage, retrieval, and accessibility capabilities. Performs regular review of production, development and test environments to ensure that systems are being utilized at full capacity and reclaim infrastructures resources when no longer needed. Works closely with users and management to establish criteria for prioritizing tasks and improving efficiencies in managing the environment. Documents procedures and guidelines for usage allocation. Evaluates information technology requests from CARB programs to validate workload necessity and consistency of each request with business objectives. Develops a strategic roadmap for adopting Cloud-based solutions when beneficial. Conducts cost-benefit analysis, risk assessment, and implementation planning. Pilot tests selected alternatives to assess their performance, scalability, and compatibility with existing systems. Partners with scientists to ensure models and analysis workloads are performing optimally.</p>
10% E	<p>Monitoring and reporting</p> <p>Regularly monitors all science data backup and archiving scheduled jobs and troubleshoots any failures. Monitors physical hardware performance metrics, operating system metrics and modelling workloads to ensure optimal performance. Prepares regular reports for CARB scientists and management on modelling workloads and data retention</p>
10% M	<p>Marginal Duties</p> <p>Aids in inventory control and asset management of CARB infrastructure equipment. Assists in regular security patching of hardware and software for CARB systems. Ensures documentation for CARB's server environment is up to date for operational recovery requirements.</p>