

**JOB DESCRIPTION AND POSITION CLASSIFICATION**

CLASSIFICATION <b>Engineer, Water Resources</b>		DWR POSITION NUMBER <b>2821-3137-002</b>	SAP POSITION NUMBER <b>50032111</b>	MCR <b>1</b>
APPOINTEE <b>Vacant</b>		SAP PERSONNEL NO. <b>TBD</b>	DIVISION/SECTION <b>POM/Power Planning Section/Power Portfolio Unit</b>	
COLLECTIVE BARGAINING IDENTIFIER Management Related BU: <input type="checkbox"/> Supervisory Related BU: <input type="checkbox"/> Confidential Related BU: <input checked="" type="checkbox"/> Rank and File BU: <b>R09</b>				
RESPONSIBILITIES EXERCISED <input type="checkbox"/> Supervisory <input type="checkbox"/> Lead Person		IMMEDIATE SUPERVISOR (Print) <b>John Chairez</b>	SUPERVISOR'S CLASSIFICATION <b>Senior HEPU Engineer (Supervisor)</b>	
APPROVED BY (Personnel Analyst's Name) <b>Kayla Serrano</b>			DATE <b>08/09/2024</b>	
<i>Percent of Time</i>	<i>Activity</i>			
<b>40%</b>	<p><b>POSITION SUMMARY</b> Under direction of the Power Portfolio Unit Manager, the incumbent performs complex engineering work assisting in valuation analyses, market parameter studies, power portfolio analyses and assessments of regulatory proceedings to support the implementation of the State Water Project (SWP) energy transaction strategies.</p> <p><b>ESSENTIAL FUNCTIONS</b> The scope of the responsibility of the Engineer, Water Resources requires working knowledge of engineering fundamentals, engineering economics, statistics, spreadsheet and word processing applications. This position requires the incumbent to work cooperatively with others; to maintain regular, consistent, and predictable attendance; to exercise good judgment; and participate in a variety of meetings, including ongoing training and developmental opportunities, which may require driving on public roadways. The specific essential functions are, but not limited to the following:</p> <p>Analyze alternative long-term water delivery scenarios and associated water conveyance and storage system operations for the State Water Project (SWP) with respect to their implications on short and long term SWP strategic resource plan, including modeling of SWP aqueduct capturing weirs, turnouts, inflows from streams and rivers and translating water flow into power. Assist in performing hydropower studies on existing SWP hydropower installations and pumped storage plants. Collaborate on flexible resource modeling of SWP assets, optimizing both load and generation schedules while economically delivering water. Work with the Division of Fiscal Services to analyze the effects of transactions on the SWP power portfolio value and risk exposure. Identify impacts of markets strategies and opportunities on SWP water operations and deliveries. Understand water hydraulics and use 82 years of historical hydrology for power planning studies.</p>			
SUPERVISOR'S STATEMENT: <b>I HAVE DISCUSSED THE DUTIES OF THE POSITION WITH THE EMPLOYEE.</b>				
SUPERVISOR'S NAME (Print) <b>John Chairez</b>		SUPERVISOR'S SIGNATURE ➤		DATE
EMPLOYEE'S STATEMENT: <b>I HAVE DISCUSSED WITH MY SUPERVISOR THE DUTIES OF THE POSITION AND HAVE RECEIVED A COPY OF THE DUTY STATEMENT.</b>				
EMPLOYEE'S NAME (Print) <b>Vacant</b>		EMPLOYEE'S SIGNATURE ➤		DATE

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30%	Use hydrology and hydraulic studies as well as market parameters to assist in preparation of asset and portfolio modeling studies and evaluating proposals submitted in response to Power Contracts Section's procurement solicitations, and asset valuation analysis. Utilize powerful analytical and reporting tools to assist in modeling and analysis of SWP portfolio while considering reservoir, water temperatures, environmental restrictions and aqueduct limitations. Some examples of analytical and reporting tools that will be utilized are MS Excel, HEC-RAS, Python, C++, R-language and CALSIM (a modeling tool for water resource systems simulation).			
20%	Research and track renewable generation and exciting new technologies that can serve SWP load and qualify for SWP 2035 zero emissions goals. Performing as a team member, prepare SWP power portfolio reports and deliver presentations that communicate the findings of the unit's studies. Participate in SWP Integrated Resource Planning, contribute though analytics and topic research.			
10%	Review proposed regulations by California Independent System Operator, North American Electric Reliability Corporation, Federal Energy Regulatory Commission, California Public Utilities Commission, California Energy Commission and Western Electricity Coordinating Council and summaries of regulatory proceedings to develop a working knowledge of industry standards relating to energy risk management. Convey relevant regulatory changes to other groups in the office to integrate into different business processes, such as, power contracts, greenhouse gas management, and transmission contracts.			
	SPECIAL REQUIREMENTS: Must be willing to work occasionally outside of normal business hours, travel, and stay overnight in various locations throughout the State of California or other states which may require air travel or other means of transportation. Must possess a valid California Driver's License as travel throughout the State may require driving a vehicle on public roadways.  Under the provisions of the North American Electric Reliability Corporation Critical Infrastructure Protection Standard CIP-004 as part of the Energy Policy of 2005, this position has authorized cyber access to or unescorted physical access around critical cyber assets and is subject to a satisfactory background check prior to appointment and every seven years thereafter.  All employees are responsible for contributing to an inclusive, safe, and secure work environment that values diverse cultures, perspectives, and experiences, and is free from discrimination.  The Department of Water Resources (DWR) is committed to its mission and employees, and we are grounded in our commitment to public safety. DWR offers a hybrid workplace model that is designed to support a workforce of both office-centered and remote-centered workers. Regular and consistent attendance - whether office-centered or remote-centered - is essential to the successful performance in this position.			

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<i>Percent of Time</i>		<i>Activity</i>					
		<p><b>OTHER RESPONSIBILITIES</b></p> <p>This position provides necessary support to the Divisions of Flood Management, Safety of Dams, Operations and Maintenance, Engineering, and/or the Public Affairs Office during Governor declared emergencies, flood, dam, SWP, and other incidents and emergencies. Additionally, this position may participate in emergency operations in the capacity of area teams, field inspection, coordination, and assist agencies such as Cal OES and FEMA in disaster work, including performing fieldwork to complete damage survey reports for droughts, flooding, earthquakes, and other emergencies. This position may also serve in one of the sections as established in the Incident Command System to assist the Department in performing its emergency preparedness, response, recovery, and mitigation functions. These functions are established in the California State Emergency Plan and the Department's Administrative Orders.</p>					