

JOB DESCRIPTION AND POSITION CLASSIFICATION

CLASSIFICATION Associate Control Engineer		DWR POSITION NUMBER 2763-3659-008/2763-3659-011	SAP POSITION NUMBER 50001709/50001715	MCR 1
APPOINTEE VACANT		SAP PERSONNEL NO.	DIVISION/SECTION O&M/ADM-Eng/UPS/Control System Branch/PACS	
COLLECTIVE BARGAINING IDENTIFIER				
<input type="checkbox"/> Management Related BU:	<input type="checkbox"/> Supervisory Related BU:	<input type="checkbox"/> Confidential Related BU:	<input checked="" type="checkbox"/> Rank and File BU: R09	
RESPONSIBILITIES EXERCISED <input type="checkbox"/> Supervisory <input type="checkbox"/> Lead Person		IMMEDIATE SUPERVISOR (Print) Vu "Jack" H. Ta	SUPERVISOR'S CLASSIFICATION Senior Control Engineer (Supv)	
APPROVED BY (Personnel Analyst's Name) Marissa Arriaga			DATE 6/30/26	
<i>Percent of Time</i>	<i>Activity</i>			
30%	<p>POSITION SUMMARY:</p> <p>Under direction of the Senior Control Engineer, the Associate Control Engineer (ACE) will perform at the full journey level. The ACE will provide expertise in current control systems evaluation, design, and implementation practices; perform difficult engineering analysis of control systems equipment functional requirements, and conform to Branch engineering and operational standards with respect to the software, hardware, database control strategies, operator displays, and network communications of the State Water Project's (SWP) Supervisory Control and Data Acquisition (SCADA) control systems. In concert with the Senior Control Engineer, the incumbent will be afforded considerable latitude for independent judgment to execute their assigned work and will frequently provide team leadership and technical direction to Control Technicians, Control Engineers, and Student Assistants on existing, new, and replacement control system projects.</p> <p>ESSENTIAL FUNCTIONS:</p> <p>This position requires that the incumbent work cooperatively with others; maintain regular, consistent, predictable attendance; possess good written, verbal, and interpersonal communications skills, and exercise good judgment and analytic skills.</p> <p>Maintain SWP control system controllers, gateways, miscellaneous communications devices, and other associated Plant Aqueduct Controller equipment. Coordinate work requests, projects, and tasks with other Control Systems Branch (CSB) sections, Energy Management Systems (EMS), Communications Branch, Field Divisions, State Water Project Analysis Office (SWPAO), Division of Engineering (DOE), and others as required. Develop written problem statements, requirements definition, formal design drawings and specifications, contract acquisition documents, implementation details and execution, installation, test, maintenance, and on-site inspection of equipment and software for SWP controllers and associated equipment.</p>			
SUPERVISOR'S STATEMENT:		I HAVE DISCUSSED THE DUTIES OF THE POSITION WITH THE EMPLOYEE.		
SUPERVISOR'S NAME (Print) Vu "Jack" H. Ta		SUPERVISOR'S SIGNATURE ➤	DATE	
EMPLOYEE'S STATEMENT:		I HAVE DISCUSSED WITH MY SUPERVISOR THE DUTIES OF THE POSITION AND HAVE RECEIVED A COPY OF THE DUTY STATEMENT.		
EMPLOYEE'S NAME (Print) VACANT		EMPLOYEE'S SIGNATURE ➤	DATE	

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VACANT		O&M/ADM-Eng/UPS/Control System Branch/PACS	
<i>Percent of Time</i>	<i>Activity</i>		
30%	Define, design, develop/program, test, and deploy real time control software for Programmable Logic Controllers (PLC), Remote Terminal Units (RTU), Local Operator Panels (LOP) at SWP pumping, generating, hydro-sites, turnouts, and other non-SWP specialty sites. Develop system and software requirements based on operational and functional specifications. Document work in a manner that provides traceability from functional requirements to software design specifications to implementation and testing.		
20%	Identify required improvements and develop applicable controller standard and guideline documents and work-flow processes to define the purpose, methods, and means to create consistent and re-usable controller solutions. Define the problem statement, functional requirements, constraint definition, technical design drawings, specifications, alternative solution, and recommendation for new work and enhancement requests related to controllers and associated equipment.		
15%	Prepare and implement scheduled patch management, backup, and catastrophic recovery procedures, tests, and documentation for operating systems, applications software, firmware, and databases related to the Plant Aqueduct Controller development and production equipment. Understand, evaluate, and adhere to the Critical Infrastructure Protection (CIP) program and generally accepted Best Business Practices, where applicable, to the systems supported by CSB.		
5%	Provide regular written status updates and reports to Branch management to assure the coordinated efforts of Branch staff. Prepare concise written documentation, reports, task descriptions, work plans, work/effort estimates, and correspondence. Represent CSB at field locations of the SWP which requires driving a vehicle on public roadways and/or air travel and may include overnight stays.		
	<p>KNOWLEDGE, SKILLS, AND ABILITIES:</p> <p>Finger dexterity is required to operate a computer keyboard; ability to transport 25-pound boxes. Ability to: see clearly with normal or corrected vision and distinguish colors as the computer screens are color-coded indicating either a function or action; think logically and creatively; concentrate over long periods of time; produce computer algorithms from abstractions; demonstrate good judgment in response to stressful or emergency situations; follow work procedures; occasionally work outside normal business hours; and occasionally work around loud machinery. Must have stamina and ability to bend, stoop, kneel, crawl, climb stairs, and uneven (sometimes steep) slopes while transporting equipment; and ability to move throughout the facilities of the State Water Project. Incumbent will be required to work on uneven terrain, in enclosed areas, ascend/descend stairs, slopes, and ladders to enter/exit equipment vaults and structures. Incumbent must be able and willing to work in adverse weather conditions (e.g., extreme hot and/or cold climates.) Must work well with others and follow established safety procedures inherent in the job. Assignments also include working in project/group work environments wherein an open office area is shared by personnel.</p> <p>Incumbent must have a fundamental understanding of real-time controller Remote Terminal Units (RTU) and Programmable Logic Controllers (PLC), hardware, software applications, and system architecture. Knowledge and experience with real-time hierarchical data base structures, modern object-oriented structures and constructs, relational data bases, and controller memory mapping coordination and principles.</p>		

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<i>Percent of Time</i>	<i>Activity</i>		
	<p>Must have expertise with controllers (RTU and PLC), controller configuration using IEC 61131 (Relay Ladder Logic, Function Block, & Structured Text), data communications (RS-232, RS-485, analog modems and telemetry), and electrical and process field instrumentation.</p> <p>General knowledge of high level language programming structures and syntax, and proficient in binary math & logic concepts. Familiar with programming using one or more of the following high level languages: FORTRAN, C/C++/C#, and other high level language. Visual Basic (VB/VBA) Programming Experience is highly desirable. Knowledge and practice with Industrial Controller Communication protocols including one or more of the following: Modbus, DNP3, ICCC, Wonderware SuiteLink, OPC. Familiarity with Microsoft Windows Desktop (XP, Windows 7), Server (2003, 2008), Active Directory, and Web technologies. Be proficient in the use of MS Office applications including Visio and Access.</p> <p>SPECIAL REQUIREMENTS:</p> <p>Must be willing to work sometimes outside of normal business hours, travel, and stay overnight in various locations throughout the State of California. Regular travel throughout the State will be required.</p> <p>Employee is required to successfully complete all safety training related to the functions of the job.</p> <p>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.</p> <p>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.</p> <p>The Department of Water Resources (DWR) is committed to its mission and employees, and we are grounded in our commitment to public safety. Regular, consistent, and predictable attendance is essential to the successful performance in this position.</p> <p>OTHER RESPONSIBILITIES:</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>		