

December 20, 2019

Wade Crowfoot, Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Dear Mr. Wade Crowfoot,

In accordance with the State Leadership Accountability Act (Leadership Accountability), the Department of Water Resources submits this report on the review of our internal control and monitoring systems for the biennial period ending December 31, 2019.

Should you have any questions please contact Kathie Kishaba, Deputy Director, Business Operations, at (916) 653-6743, Kathie.Kishaba@water.ca.gov.

GOVERNANCE

Mission and Strategic Plan

To sustainably manage the water resources of California, in cooperation with other agencies, to benefit the state's people and protect, restore, and enhance the natural and human environments.

Secure the functions of the State Water Project for future generations – The State Water Project (SWP) has long been a centerpiece of the Department's functions, from water supply to flood protection to recreation and, in later years, environmental stewardship. The Oroville spillways emergency accelerated the Department's understanding of the dual realities of aging infrastructure and extreme hydrology. The Department will reconstruct both spillways to their original design capacity and advance the development of a comprehensive needs assessment for the safe operation of the dam and its appurtenances into the future; complete an asset management plan for all State Water Project facilities; and obtain permits for and begin implementation of a delta conveyance facility.

Implement a comprehensive and system-wide approach to dam safety, flood protection, and emergency management –

The interrelated nature of upper watershed hydrology and downstream flood protection requires greater alignment of regulatory and emergency response functions pertaining to dam and levee safety, flood management operations, data sharing, and project delivery. The Department will complete a statewide roadmap to address lessons learned from the Oroville Independent Forensic Team report. The Department will explore opportunities to recharge groundwater basins with flood waters, and pursue strategic investment of levee maintenance dollars to reduce urban and rural flood risk, protect local water supplies, and decrease state liability. In addition, the Department will also work to maintain its position as a respected state partner in emergency response and recovery.

Improve and expand integrated watershed management and bring groundwater basins into

balance – California’s water management success rests in large part on the public water agencies that are responsible for investing in a drought-proof and sustainable water supply that supports the economy and environment. To prepare California for climate change, the Department must take a comprehensive, multi-pronged approach to water management that aligns state and local planning efforts and statutory responsibilities to ensure wise and equitable use of water. The Department will complete the five-year update to the California Water Plan and implement new mandates to improve water use efficiency and sustainable groundwater management. The Department will also continue efforts to provide safe drinking water to all California communities and integrate local and state water management strategies.

Make the Department an employer of choice for our field of expertise and practitioners of good government – The Department is preparing for the workforce of tomorrow. With an expected wave of retirements in leadership positions, the Department is working to reorganize in ways that promote innovation and sustainability. This is an opportunity to thoughtfully promote the Department as a water industry leader, one that embraces new technologies, seeks new ideas from other sectors, and actively engages with the international engineering and safety communities. The Department will expand recruitment efforts, support pathways to leadership, and increase public and stakeholder awareness of priorities and accomplishments. The development of employees is critical to the future success of the Department and its ability to deliver water to Californians.

The California Water Commission (CWC) consists of nine members appointed by the Governor and confirmed by the State Senate. Seven members are chosen for their general expertise related to the control, storage, and beneficial use of water. The other two are chosen for their knowledge of the environment. The CWC provides a public forum for discussing water issues, advises DWR, and takes appropriate statutory actions to further the development of policies that support integrated and sustainable water resource management and a healthy environment. Statutory duties include advising the Director of DWR, approving rules and regulations, and monitoring and reporting on the construction and operation of the SWP.

Control Environment

DWR's financial health, processes, activities, programs, and internal controls are continuously monitored by DWR management. This is accomplished through various management meetings at all levels of the organization, including the Directorate. DWR management advocates for and supports open communication throughout the Department so as concerns are identified, they can be elevated and appropriately addressed at any time. Continuous monitoring also occurs through constant reporting and analysis of data. DWR's internal and external auditors also provide monitoring and feedback to DWR management.

DWR core values and codes of conduct are clearly established and presented in many forms to Department staff and the public. For example, they appear in DWR's strategic plan. Additionally, DWR annually distributes and reiterates key policies such as Incompatible Activities Policy and Standards of Contact Policy to all employees. Similarly, DWR has a robust policy and procedure manual system comprised of the Department Administrative Manual (DAM) and Enterprise Process Guide (EPG) which include all DWR's policies and procedures related to ethics and codes of conduct. The DAM and EPG also contain direction for employees on how to report ethical and code of conduct concerns to DWR programs such as Office of Workforce Equality and the Labor Relations Office for

investigation. Furthermore, DWR posts California Whistleblower Protection Act signage as required which provides employees instruction on how to report concerns to the California State Auditor. Lastly, DWR complies with conflict of interest statutes and has staff complete conflict of interest training and file Form 700s.

DWR resides organizationally under the California Natural Resources Agency (CNRA). CNRA and various control agencies including the Department of Finance, the Department of General Services, the State Controller's Office, the State Treasurer's Office, the Legislature, and DWR's stakeholders provide oversight of DWR's operations and policy decisions. These entities and many others use audits, inquiry, and policies and procedures to manage their oversight of DWR.

Internally, DWR has a Governance Board comprised of senior management and executive-level staff. The Board's charge is to set priorities, establish programmatic direction, and develop policies, and procedures. The Board also makes recommendations to the Director and Deputy Directors on various internal operational matters that involve policy implications.

DWR's DAM, EPGs, and Delegation Orders document DWR's internal controls and responsible parties. In short, the DAM is a policy manual and the EPGs are Departmental procedures. The DAM and EPGs are available to all staff via DWR's intranet. DWR has identified 14 Key Policies (such as the Drug-Free Workplace Policy and Nepotism Prevention Policy), which are distributed to all DWR staff on an annual basis. Similarly, when a policy is changed, Department-wide notification is provided. DWR's Management Analysis Office maintains the DAM and EPGs and the DWR's Internal Audit Office also provides input when developing and or amending internal controls.

DWR released a comprehensive workforce plan in 2019 and is currently developing a succession plan in consultation with CalHR to be released in 2020. DWR also conducted an employee engagement survey in 2018, the responses to which informed a list of 11 specific actions; 10 of the actions were completed in 2019. DWR's strategic plan lists a top goal to be an Employer of Choice. By using a mix of traditional and contemporary recruitment methods, such as career fairs, talent management technology, and social media, DWR is able to reach a broad nationwide candidate pool to attract quality talent. The conversion of in-person civil service exams to an online format also expands the pool of interested and eligible applicants for various positions. DWR also has identified hard to recruit and retain classes such as those in the construction management field, and targets recruitment for these classifications. DWR also provides a substantial training budget to staff so they may complete required and desired training to ensure competencies. DWR also operates a robust apprenticeship program for Utility Craftworkers to ensure an adequate workforce of skilled employees to maintain the State Water Project and California's flood protection levees. Annually, staff utilize Individual Develop Plans to identify and request training to enhance their skills and abilities. DWR has management develop programs to develop talent and prepare future managers to lead DWR. DWR's Human Resources Office oversees and implements DWR's recruitment, training and succession planning activities.

Department-wide, DWR utilizes annual appraisals to evaluate staff performance which provides written and documented analysis of staff performance. Individual supervisors utilize various controls such as one-on-one meetings to discuss staff performance and to perform assignment oversight to ensure performance. Written status reports are commonly used to evaluate progress and performance, as well. Status report are routinely forwarded up the chain of command culminating in reporting to Agency. DWR adheres to the State's progressive discipline model and utilizes corrective memos,

counseling memos, and adverse actions.

Information and Communication

The Director and Deputy Directors of DWR meet on a weekly basis. The Department also has a Governance Board which is made up of its Director, Deputy Directors, other Executive staff and all Division/Office Chiefs. The Governance Board meets on a regular basis - often twice a month. The risks identified in this report are often the subjects of both groups' meetings. Division/Office Chiefs are responsible for sharing the decisions of the Governance Board with their staff. DWR's Chief Internal Auditor meets regularly with the Executive Monitoring Sponsor and reports any issues of concern that require action by DWR management.

DWR has countless processes to ensure effective and efficient communication with external stakeholders and other external parties. Processes are derivative of a myriad controls, policies, procedures and law. For example, as required, DWR annually produces and distributes Bulletin 132 "Management of the California State Water Project." The Bulletin provides fiscal, operational, construction, water supply and environmental information for one of the nation's largest infrastructure projects to a world-wide audience.

DWR's internet site passively shares information on countless subjects such as the California Water Plan, Well Standards, department organization and department contacts. In large part, the information is contained in reports and or publications which include facts, plans, and statistics about DWR programs. The site also informs external parties about other past and future communication opportunities such as upcoming public meetings and gatherings. The site is also the pathway for individuals to access public records. Last year DWR processed 670 requests from the public for official records. DWR's internet adheres to accessibility requirements as prescribed by law.

DWR constantly avails itself to its external stakeholder/partners in person, as well. For example, DWR participates in a multitude of local working groups such as county advisory groups, holds and participates in town-hall meetings related to planned and ongoing projects, meets and confers with State Water Contractors, provides media updates, responds to media and governmental inquiries, and testifies before the Legislature.

MONITORING

The information included here discusses the entity-wide, continuous process to ensure internal control systems are working as intended. The role of the executive monitoring sponsor includes facilitating and verifying that the Department of Water Resources monitoring practices are implemented and functioning. The responsibilities as the executive monitoring sponsor(s) have been given to: Kathie Kishaba, Deputy Director, Business Operations.

DWR's Executive management team is notified when vulnerabilities are identified. A task force of Department subject matter experts is typically convened to assess the magnitude of the vulnerability on operations and identify solutions and resource costs (both financial and personnel) to address the issue. Vulnerabilities are validated and assessed using data this is available through DWR's enterprise resource planning (ERP) program, SAP, and business analytics and reporting. DWR also uses a document management system to house business records. These systems aid management in identifying gaps and possible solutions. Executive management, including DWR's Governance Board,

is continually briefed so that informed policy decisions can be made in a timely manner. Issues and decisions are documented via formal memorandums, policy documents, water resources engineering memorandums, white papers, meeting minutes, reports, spreadsheets and forms, as appropriate. Once remedies are in place, DWR management monitors results to ensure the selected action is effective.

RISK ASSESSMENT PROCESS

The following personnel were involved in the Department of Water Resources risk assessment process: executive management, middle management, and front line management.

The following methods were used to identify risks: brainstorming meetings, ongoing monitoring activities, audit/review results, other/prior risk assessments, and consideration of potential fraud.

The following criteria were used to rank risks: likelihood of occurrence, potential impact to mission/goals/objectives, timing of potential event, potential impact of remediation efforts, and tolerance level for the type of risk.

The risks listed in this report were identified in meetings led by the Deputy Director, Business Operations, which included Executive staff and the Department's Chief Financial Officer, Chief Information Officer, and Chief Counsel. The discussions focused on risks that could adversely impact DWR's ability to achieve its mission. Risks were also identified based on prior and ongoing external influences, including the Administration's priorities and directives, public perception of DWR and its programs, stakeholder feedback, and legislative interests and mandates.

The risks were prioritized based on an assessment of the level of impact to DWR's operations, and whether the risk, if realized, would: 1) completely stop operations, 2) severely hinder operations, or 3) slow down operations. DWR's Executive Management also considered the likelihood of when the risk could occur, in the next fiscal year, two fiscal years out, or longer.

Once the risks were identified and prioritized, corresponding controls were identified to provide reasonable assurance that risks would be mitigated. In some instances, the risks facing DWR are outside its control, and therefore, management accepts some level of risk and provides guidance to staff so they can make informed business decisions.

DWR recognizes the importance of maintaining an adequate and effective control environment over its operations by adherence to its mission statement.

The Department sets policies to ensure that ethics and values are strongly promoted within the organization, that employees receive the proper training and tools to complete their assignments, and that risks and controls are communicated to employees so they can take appropriate action.

RISKS AND CONTROLS

Risk: Aging Infrastructure

The State's water infrastructure, including the aqueducts, canals, dams, spillways, reservoirs, levees, and pumping plants is aging and needs to be bolstered or reconstructed in order to continue providing water to millions of Californians and hundreds of thousands of acres of farmland, along with ensuring

public safety. The sheer scope, complexity and multi-billion dollar price tag associated with upgrading the infrastructure create extraordinary and monumental challenges for the Department. There is significant risk in the degradation of the State's water infrastructure and facilities to meet water needs, which will also jeopardize efforts to improve public safety, ecosystem conditions, and economic stability.

The California State Auditor's State High Risk Report of 2019 (published January 2020) discusses water infrastructure risks:

<https://www.auditor.ca.gov/pdfs/reports/2019-601.pdf>

Control: Active Infrastructure Improvement Projects

The Department of Water Resources constructs, operates, and maintains several infrastructure projects as part of its mission to sustainably manage the water resources of California. Some of the larger infrastructure projects include, but are not limited to, the following: Lower Elkhorn Basin Levee Setback Project, Lookout Slough Tidal Habitat Restoration, and Flood Improvement Project, Oroville Spillways Emergency Response and Recovery, Thermalito Powerplant Restoration and Modernization, Perris Dam Remediation Program, and Improved Delta Conveyance.

Control: SWP Asset Management Program

DWR is actively engaged in an ongoing effort to upgrade California's aging water delivery system. DWR's Division of Operations Maintenance (O&M) has multiple programs which are tasked with addressing the state's aging infrastructure. One such program is O&M's Asset Management Program, which is responsible for providing a unified framework for the condition assessment, risk management, and strategic planning of capital investments in SWP electrical, mechanical, and civil infrastructure. Specifically, the Asset Management Program is charged with improving the plant and Civil Condition Assessment Programs, applying new analytical tools to prioritize long-term investments, and implementing maintenance management strategies to optimize the lifecycle of the SWP assets.

Control: DWR's Division of Safety of Dams

The California Water Code entrusts dam safety regulatory power to DWR's Division of Safety of Dams (DSOD). DSOD provides oversight to the design, construction, and maintenance of over 1,200 jurisdictional sized dams in California. DSOD ensures dam safety by reviewing and approving dam enlargements, repairs, alterations, and removals; performing independent analyses to understand dam and appurtenant structures performance; overseeing construction to ensure work is being done in accordance with the approved plans and specifications; inspecting each dam on an annual basis to ensure it is safe, performing as intended, and is not developing issues; and reviewing the stability of dams and their major appurtenances.

Risk: Climate Change and Natural Hazard Impacts

The impacts of climate change could result in an increased number of natural disasters, which could affect SWP and flood control infrastructure statewide.

Ninety-seven percent of scientists agree with DWR that climate change is real. Greenhouse gases trap heat in the atmosphere and cause increased temperatures, as the gases create a blanket around the earth, which retains heat. Increased greenhouse gases thicken the blanket making the earth warmer. Increases in temperature are already causing decreases in the snowpack. The mountain snowpack provides as much as a third of California's water supply by accumulating snow during our wet winters and releasing it slowly during dry springs and summers. Warmer temperatures will melt the snow faster and earlier, making it more challenging to store and use throughout the dry season. By the end of this century, California's Sierra Nevada snowpack is projected to experience a 48 to 65 percent loss from the historical April 1 average. This significant decrease in snowpack has a direct impact on the water supply for Californians.

Climate change is also expected to result in more variable weather patterns throughout California, which are expected to increase the number of natural disasters. More variability can lead to more prolonged and more severe droughts and floods, which present significant challenges to California's water supply. Rising sea level will bring more salt water into the Sacramento-San Joaquin Delta. To keep the salt water out, more freshwater will need to be pushed through the Delta, decreasing the amount of water available for people who rely on it. Rising sea level also presents coastal flood hazards from storm surges, as well as salt water intrusion in coastal aquifers.

Control: Climate Action Plan

DWR has implemented a Climate Action Plan, which includes a Green House Gas (GHG) Emissions Reduction Plan designed to reduce DWR's GHG emissions to 50 percent below 1990 levels by 2020 and 80 percent below 1990 levels by 2050. These goals are more aggressive than California mandates, and the first goal has already been achieved. The significant reduction in GHG emissions is being accomplished by changing power supplies to cleaner and renewable sources and increasing the energy efficiency of water pumps and generators. As DWR implements its Climate Action Plan, the use of renewable energy resources will increase, and purchases of fossil-fuel generated energy will decrease. DWR is the third-largest producer of greenhouse-free hydropower in California and produces approximately 14 percent of California's hydroelectricity, which allows many Californians an opportunity to help mitigate Climate Change.

Control: Modernizing SWP Facilities

DWR is modernizing its SWP facilities across the state, including Castaic Dam. This effort consists of identifying and proactively addressing any issues that could impact the delivery of water or the safety of surrounding communities. In the fall of 2019, DWR initiated field work for the Castaic Dam Modernization Program. Over the next several years, DWR will conduct assessments of the dam and associated structures and undertake construction activities to ensure the dam continues to function safely.

Control: Technical Methods Manual

DWR collaborates with the California Ocean Science Trust (OST) and the Scripps Institution of Oceanography (SIO) to prepare a Technical Methods Manual and quick-guide for coastal communities to help them adapt to coastal flood hazards caused by climate change. The project was funded by a grant from the National Oceanic and Atmospheric Administration's Coastal and

Ocean Climate Applications program funded for the project, with additional support from DWR.

Risk: Power Grid

Due to the unpredictability of the power grid, the availability of electricity may be impacted which could affect DWR's ability to operate the SWP and deliver water.

The SWP is both a major producer and consumer of electricity. As the largest single consumer of electricity in California, the SWP pump load ranges from 6,000,000 megawatt-hours (MWh) to 9,500,000 MWh depending on the type of water year. The electricity is used to operate the SWP pumping plants that are needed to deliver the water throughout the State. However, even though the hydroelectric plants of the SWP generate energy, the energy produced is highly variable due to changes in annual hydrologic conditions and is only a fraction of the energy needed to lift water over the Tehachapi Mountains. Unfortunately, power energy markets have become more volatile and unpredictable than in prior decades. As such, the reliability of the grid to sustain the SWP's power needs is of great concern to DWR.

Control: Power Portfolio Management

The SWP has one of the cleanest power portfolios of all major utilities in California. DWR has been proactively responding to the evolving power market by reducing reliance on fossil fuel energy resources, assisting in maintaining grid reliability, and controlling energy costs for water customers. Fifty percent of the SWP's power is provided by its own emission-free hydroelectric generation. The SWP, which is committed to reducing its carbon footprint, has a power portfolio consisting of 65 percent carbon-free resources, increasing to 75 percent by 2030 and 100 percent by 2045. DWR is finding innovative ways, such as adding solar to the system, to make this happen.

Control: Power Supply Generation

DWR also produces electricity, which ultimately helps meet SWP's power demands. The energy produced—which is highly variable due to changes in annual hydrologic conditions—averages around 6 billion kilowatt-hours (kWh) a year. The SWP uses five hydroelectric generating plants and four hybrid pumping/generating plants to generate clean power. DWR sells the power it generates from the SWP to the California Independent System Operator (CAISO) market during peak demand hours and helps displace fossil generation and lower overall grid greenhouse gas (GHG) emissions. The revenue from these sales helps keep the net cost of water deliveries more affordable.

Control: SWP Operational Flexibility

The SWP's flexible pumping operations help it to manage the timing of its power needs. This flexibility is allowed by Project reservoirs, which temporarily store water until it is needed to meet the daily and seasonal demands of its contracting agencies. To reduce power costs, pumping is minimized during on-peak hours when power prices are highest. Maximum pumping is scheduled during off-peak periods (nights, solar hours, weekends, and holidays) when power costs are cheaper. Thus, the SWP can purchase, when needed, inexpensive surplus generation from other power suppliers for its pumping operations.

Risk: Workforce Management

DWR could be facing a lack of qualified staff resources to accomplish its mission.

DWR, like all State agencies, is facing difficulties recruiting new employees, as well as the loss of years of experience and expertise as large numbers of Department employees reach retirement age. The State's lengthy and complicated hiring practices and compensation often make it difficult for DWR to hire personnel in specialized fields, which presents a risk in carrying out critical operations. Also, although initially the 2009 recession may have mitigated some of the projected workforce gaps, the retirement eligibility for our supervisory and management positions indicate that the Department is faced with a critical challenge to ensure the right staff with the right qualifications are prepared to assume leadership positions at the right time to achieve our mission.

As of September 2019, DWR had 415 vacant positions out of a total base of 3,486. DWR's current vacancy rate is 11.9 percent. DWR management continually monitors the vacancy rate because it is one of the key indicators used to predict future gaps in the workforce. Further, in 2017, 20 percent of employees in leadership positions (supervisors, managers, CEAs and above) were immediately eligible to retire (55 years of age and have 20 years of State service). By January 2022, 43 percent will be eligible to retire, and by 2027, 62 percent will be eligible.

Control: Workforce Planning

DWR prepared and continues to update a workforce plan, which details several strategies to attract, develop, and retain the quality workforce essential to accomplishing the goals and mission of the Department. The following are some strategies that are being considered for implementation:

1. Increasing recruitment efforts amongst students.
2. Developing a DWR employment brand.
3. Creating a leadership skills training program for employees to prepare them for leadership positions.

Control: Resource Management

Regarding managing vacancies, DWR is currently taking the following steps:

1. Provides monthly vacancy reports to DWR supervisors and managers for monitoring their vacancies
2. Reconciles internal position database with the State Controller's Office (SCO) position roster regularly.
3. Reconciles Schedule 8 every year and works with the Department of Finance and SCO to provide additional information if necessary.
4. Continues to be an active participant on various Civil Service Improvement initiatives led by the Government Operations Agency.

Control: Succession Planning

DWR has prepared and continues to update a Department Succession Plan with the goal of:

1. Developing a comprehensive Leadership Development Program that includes classroom training, speaker forums, formal mentoring program, and a leadership development program.
2. Enhancing DWR's supervisory training programs to emphasize leadership skills based on leadership competencies. (Note: DWR supervisors, managers, and CEAs currently participate in ongoing training to meet the State's 20-hour ongoing leadership development requirement.)
3. Hire a replacement before someone leaves to help ensure institutional knowledge can be transferred. (Note: Since this strategy was identified, some DWR divisions have begun using it to facilitate knowledge transfer between high-level supervisors. This has resulted in smoother management transitions for those divisions.)

CONCLUSION

The Department of Water Resources strives to reduce the risks inherent in our work and accepts the responsibility to continuously improve by addressing newly recognized risks and revising risk mitigation strategies as appropriate. I certify our internal control and monitoring systems are adequate to identify and address current and potential risks facing the organization.

Karla A. Nemeth, Director

CC: California Legislature [Senate (2), Assembly (1)]
California State Auditor
California State Library
California State Controller
Director of California Department of Finance
Secretary of California Government Operations Agency