

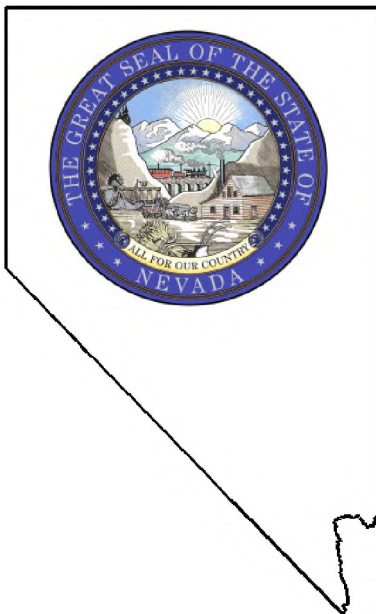
# STATE OF NEVADA

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## Performance Audit

Colorado River Commission of Nevada  
Resource and Technology Administration

2023



Legislative Auditor  
Carson City, Nevada

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# Audit Highlights



Highlights of performance audit report on the Colorado River Commission of Nevada issued on September 10, 2024.

Legislative Auditor report # LA24-10.

## Background

The Colorado River Commission of Nevada (CRC) is responsible for establishing policy and overseeing the management of Nevada's allocation of water resources and electrical power from the Colorado River. CRC is composed of a body of seven commissioners and its staff.

CRC operations fall into four principal areas which include oversight of hydropower, power delivery, natural resources, and administration. Administration oversees information technology, accounting, budgeting, and other functions like fiscal and performance measures reporting.

CRC operates and maintains 17 high-voltage substations along with overhead and underground transmission lines in Southern Nevada. CRC also oversees the tracking of Nevada's Colorado River water usage, and supports federal conservation programs relating to the Colorado River. As part of their water usage tracking responsibilities, CRC personnel calculate Nevada's annual consumptive use of its allocation of Colorado River water.

In fiscal year 2022, CRC had \$42.6 million in expenditures. As of June 30, 2022, CRC had 8 vacant positions out of 46 approved positions, which reflects a 17% vacancy rate.

## Purpose of Audit

The purpose of the audit was to determine if CRC was adequately managing certain activities related to its power delivery, hydroelectric power billing, water usage tracking and to assess the security of power delivery information technology (IT) systems and CRC IT risk management processes. Our audit focused on CRC activities from January 1, 2021, through December 31, 2022, and prior years in select testing areas.

## Audit Recommendations

This audit report contains 13 recommendations to improve CRC's oversight of its power delivery, water usage tracking, and IT and security processes.

CRC accepted the 13 recommendations.

## Recommendation Status

CRC's 60-day plan for corrective action is due on December 9, 2024. In addition, the 6-month report on the status of audit recommendations is due on June 9, 2025.

# Resource and Technology Administration

## Colorado River Commission of Nevada

### Summary

CRC can improve its recordkeeping, policies and procedures, and oversight of its operational processes including power delivery, water usage tracking, and performance measures reporting. For example, records used to document electrical switching and inspections were not always complete and sometimes lacked evidence of required review, although our inspections did not identify any major safety or security concerns. CRC reporting of Nevada's Colorado River water usage was materially accurate, although there were minor reporting errors and internal review processes were lacking. Improved oversight of these CRC processes will enhance reporting accuracy and formalize efforts to maintain safe and secure facilities.

CRC can strengthen its oversight of information technology (IT) assessments and planning, and certain security processes. CRC has not completed an IT risk assessment or important plans to respond to risk-related incidents and disasters. The lack of a documented IT risk assessment and planning increases the risk CRC has not appropriately identified, assessed, and taken steps to reduce IT risks to an acceptable level. In addition, certain security processes can be improved to protect sensitive IT and electrical systems.

### Key Findings

Records used to document safety procedures performed when taking high voltage electrical systems in and out of service were not always complete and sometimes lacked evidence of management review. For 10 out of 29 (34%) CRC switching records reviewed, certain switching fields relating to required review and switching procedures were not completed. (page 3)

Of the total required monthly inspections for 33 substations overseen by CRC, there was no evidence 36 out of 396 (9%) inspections were performed. Monthly inspections are the primary means to help ensure critical electrical equipment is working properly and safely. (page 5)

For the 13 of 14 substations with maintenance issues, CRC did not have a documented corrective action plan to help ensure issues were corrected. CRC also had not documented prioritization of issues in terms of risk or evidence that management reviewed inspection results. (page 6)

CRC's reporting of Nevada's Colorado River water usage to federal and state officials was materially accurate. However, the 2021 report contained an informational table with minor miscalculations comparing the 2021 water usage to the previous year. After we identified the errors, CRC made corrections to the table and resubmitted the report. The minor error in the informational table did not impact the overall reporting or accounting of Nevada's net water usage. (page 7)

CRC did not ensure one of its hydropower performance measures was accurately reported and published in the State of Nevada 2021 – 2023 Executive Budget. Accurate reporting of performance measures provides agency managers, the Legislature, and the public with information to evaluate the performance of CRC. (page 8)

CRC does not have a documented IT risk assessment and continuity of operations, disaster recovery, and incident response plans for their administrative network and the supervisory control and data acquisition system (SCADA). (page 10)

Logs are not utilized to record visitor access to areas that contain sensitive IT equipment. State IT security standards require records of these visits be maintained for a minimum of 1 year. Proper oversight helps ensure organizational resources are protected. (page 12)

Two IT employees did not have a fingerprint-based background check as required by state IT security standards. Additionally, two employees working with critical infrastructure did not receive background checks for 3 years after their hire dates. (page 12)

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This report contains the findings, conclusions, and recommendations from our performance audit of the Colorado River Commission of Nevada (CRC), Resource and Technology Administration. This audit was conducted pursuant to the ongoing program of the Legislative Auditor as authorized by the Legislative Commission. The purpose of legislative audits is to improve state government by providing the Legislature, state officials, and Nevada citizens with independent and reliable information about the operations of state agencies, programs, activities, and functions.

This report includes 13 recommendations to improve CRC's oversight of its resource management and information technology processes. We are available to discuss these recommendations or any other items in the report with any legislative committees, individual legislators, or other state officials.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Daniel Crossman".

Daniel L. Crossman, CPA  
Legislative Auditor

January 17, 2024  
Carson City, Nevada

# Colorado River Commission of Nevada

## Resource and Technology Administration

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# Introduction

## Background

The Colorado River Commission of Nevada (CRC) is responsible for establishing policy and overseeing the management of Nevada's allocation of water resources and electrical power from the Colorado River. CRC is composed of a body of seven commissioners and its staff. CRC was created by the Nevada Legislature in 1935, and is responsible for contracts, agreements, and coordination between Nevada and other governmental and non-governmental entities regarding Colorado River resources.

CRC operations fall into four main areas.

Hydropower: Manages Nevada's allocation of hydropower purchased from the federal government. Hydroelectric power is generated at the Hoover Dam, Parker-Davis Project, and the Salt Lake City Area Integrated Projects. CRC bills and collects funds from government entities, educational institutions, utility contractors, and industrial customers for the hydropower they use so it can reimburse the federal government for the costs incurred in generating and distributing the power.

Power Delivery Project: Operates and maintains 17 high-voltage substations along with overhead and underground transmission lines in Southern Nevada. To assist its customers, it also operates, maintains, and inspects customer substations.

Natural Resources: Oversees tracking of Nevada's Colorado River usage and supports federal conservation programs relating to the Colorado River. It also tracks treated water returned to Lake Mead as a return flow credit, which allows the State to divert additional water as long as its use stays below the contracted amount.

Administration: Oversees information technology, accounting, budgeting, and other functions like fiscal and performance measures reporting.

### **Budgeting and Staffing**

In fiscal year 2022, CRC had \$42.6 million in expenditures. CRC does not receive any general fund or other state or federal funds to support its administrative and operating functions. All functions are funded solely from revenue received from the sale of electrical power and the water administrative charge to its contractors. As of June 30, 2022, CRC had 8 positions vacant of 46 approved positions, a 17% vacancy rate.

## **Scope and Objectives**

The scope of our audit included a review of CRC's activities from January 1, 2021, through December 31, 2022 and prior years in select testing areas. Our audit objectives were to:

- Determine if CRC was adequately managing certain activities related to its power delivery, hydroelectric power billing, and water usage tracking.
- Assess the security of power delivery IT systems and CRC IT risk management processes.

This audit is part of the ongoing program of the Legislative Auditor as authorized by the Legislative Commission and was made pursuant to the provisions of Nevada Revised Statutes 218G.010 to 218G.350. The Legislative Auditor conducts audits as part of the Legislature's oversight responsibility for public programs. The purpose of legislative audits is to improve state government by providing the Legislature, state officials, and Nevada citizens with independent and reliable information about the operations of state agencies, programs, activities, and functions.

# Documentation and Policies Could Be Improved for Power Delivery and Water Usage Oversight

CRC can improve its recordkeeping, policies and procedures, and oversight of its operational processes including power delivery, water usage tracking, and performance measures reporting. For example, records used to document electrical switching and inspections were not always complete and sometimes lacked evidence of required review, although our inspections did not identify any major safety or security concerns. CRC reporting of Nevada's Colorado River water usage was materially accurate, although there were minor reporting errors and internal review processes were lacking. Improved oversight of these CRC processes will enhance reporting accuracy and formalize efforts to maintain safe and secure facilities.

## **Electrical Switching Recordkeeping Needs Enhanced Oversight**





Records used to document safety procedures performed when taking high voltage electrical systems in and out of service were not always complete and sometimes lacked evidence of management review. CRC staff use forms, known as switching orders, to document the procedures they perform to shut off electrical systems so maintenance can be completed. Management or other qualified staff are required to review and sign off on these procedures before they are performed. Additionally, staff must check off each procedure documented on the switching order to document the step was completed.

We evaluated all 29 switching orders completed by CRC between January 2021 and July 2022. Our evaluation found for 10 of 29 (34%) switching orders, CRC staff and management did not complete important fields of the forms. For 3 of the 10 (30%)

switching orders, multiple fields were incomplete. Exhibit 1 summarizes the results of our review.

## Summary of Switching Order Deficiencies Identified

## Exhibit 1

	2	Switching request forms did not have documentation of required preliminary review. Thus, evidence was lacking that management or other qualified staff reviewed and approved switching requests.
	1	Switching record did not have documentation of required secondary review of critical procedures prior to switching taking place. Insufficient review increases the risk that inadequate switching procedures will not be identified and resolved.
	4	Switching records lacked verification that certain required switching procedures were completed. Proper documentation of procedures helps ensure approved maintenance and safety procedures were followed.
	6	Switching records lacked important switching-related information, including: <ul style="list-style-type: none"><li>• who prepared the switching request record (2 records),</li><li>• who completed certain switching procedures (2 records), and</li><li>• documentation of electricity lockout procedures (2 records).</li></ul> Inadequate recordkeeping does not demonstrate compliance with important procedures that protect employees and equipment.

Source: Auditor testing of 29 CRC switching records from January 2021 to July 2022.

Proper completion of switching orders is important to demonstrate compliance with approved switching procedures and federal safety standards. CRC management indicated there have been no switching injuries during the last 25 years; however, properly documented switching procedures are important to ensure CRC staff are following steps designed to mitigate the risk of injuries or death associated with working on high voltage lines. CRC's standard operating procedures clearly define the documentary responsibilities of each individual involved in switching procedures, but they do not require a documented post-review of switching documentation by management to ensure switching procedures were followed.



## **Substation Inspection Recordkeeping Could Be Enhanced**

CRC could not provide documentary evidence that some required monthly maintenance inspections of their electrical substations were performed. Furthermore, when inspection documentation was available, it lacked evidence management reviewed the inspection results. Finally, CRC did not have a process for documenting corrective action plans and prioritizing maintenance issues identified during the inspections. We inspected a sample of 8 of 17 CRC-owned electrical substations. We did not identify any major safety or security concerns. Reviewing inspection results and prioritizing maintenance are critical steps for ensuring substations remain safe and secure.

### **Improvements Needed Over Substation Inspection Process**

CRC management was unable to provide inspection checklists evidencing some of the monthly inspections for 33 electrical substations it oversees. A total of 396 monthly inspections were required for CRC's substations in fiscal year 2022. CRC management could not provide checklists for 49 of the 396 (12%) inspections. Regarding the 49 missing inspection checklists, we found:

- For 36 of the 49, CRC was unable to provide a checklist or a logbook entry regarding the inspection. Therefore, for 36 of the 396 (9%) total required monthly inspections in fiscal year 2022, CRC had no evidence the inspections were performed; and
- For 13 of the 49, CRC provided evidence of a logbook entry showing the inspection took place. However, the logbook entry did not include critical information regarding maintenance items normally included on the inspection checklists. For example, the logbook did not include information regarding the condition of the electrical equipment, fences, and yard lights.

Without sufficient documentation, CRC management does not have assurance inspections took place. CRC management indicated the monthly inspections are the primary means to help ensure critical electrical infrastructure equipment is working properly and safely. Thus, substations were at a higher risk of

operating and safety issues not being identified and corrected timely. Maintaining equipment properly helps prevent service interruptions. Inspection checklists were not completed in part because CRC lacked policies and procedures governing the substation inspection process and retention of related documentation.

### **Corrective Action and Management Review of Inspection Documentation Could Be Improved**

CRC did not document effective prioritization of maintenance issues identified in routine inspections, and it also did not always record corrective action plans designed to resolve identified concerns. We found 14 of the 17 substations had maintenance issues identified by CRC staff. However, none of the 14 electrical substations had documentation their maintenance issues were prioritized in terms of risk. Additionally, 13 of the 14 substations with maintenance issues did not have a documented corrective action plan to help ensure issues were corrected.

None of our sample of 32 of the 347 inspection checklists in fiscal year 2022 had evidence management reviewed the results of the inspections. Not reviewing inspection results increased the risk management will not be aware of missing or incomplete inspections and of unaddressed maintenance issues.

CRC did not have policies and procedures for prioritizing and developing corrective action plans for maintenance issues identified during the inspections. Furthermore, CRC did not have policies and procedures to ensure management reviewed inspection results documented on the inspection checklists. CRC management verified they do not document corrective action plans or document their prioritization of maintenance issues, although management stated any critical issues identified are promptly scheduled for maintenance.

Review of inspection records and development of corrective action plans help ensure management is aware, has prioritized, and has ensured timely correction of maintenance issues. For example, because management did not have an adequate review process of inspection forms, they did not identify, prioritize, and correct

## **Water Usage Tracking Process Can Be Improved**

maintenance issues relating to a substation's eye wash station. We determined during an electrical substation inspection that the eyewash station had expired solution. CRC management promptly corrected this issue when we brought it to their attention.

CRC's reporting of Nevada's use of its Colorado River allocation by water customers was materially accurate. However, the 2021 report contained minor miscalculations affecting an informational table comparing the 2021 water use to the previous year for two of seven water users. The minor errors in the informational table did not impact the overall reporting or accounting of Nevada's net water usage, but the reporting misstated the annual change in water use for one water user by 18%.

CRC is assigned by law the responsibility to collect and disburse data connected with Nevada's Colorado River water usage, including the amount of water diverted, consumed, and returned. Accurate data allows state and federal officials to make appropriate decisions regarding water allocations. After we identified the errors, CRC made corrections to the informational table and resubmitted the report.

Inaccuracies occurred in part because a secondary internal review was not performed. The employee responsible for the report's preparation was the only employee at CRC with the technical expertise to calculate the reported values. Additionally, CRC has not documented policies and procedures for water usage tracking calculations, reporting, and management oversight. Without policies and procedures, there is an increased risk of errors.

Best practices established by the federal government indicate management should use quality information to achieve the entity's objectives. CRC's water usage report is distributed to the United States Bureau of Reclamation, its water customers, and the State Engineer's Office. Accurate data on the water usage report is important for federal and state agencies to monitor Nevada's Colorado River water usage.

## **Hydropower Performance Measure Reporting Was Inaccurate**

We reviewed two hydropower performance measures reported in the State of Nevada 2021 – 2023 Executive Budget and found that one performance measure reported had values that were inaccurate and lacked supporting documentation. CRC did not ensure its hydropower performance measure “Competitive Comparison of Electric Resources” was accurately reported or documented. For the performance measure, certain reported values diverged over 30% compared to values we calculated based on CRC records.

Additionally, we could not verify the accuracy of the values reported for fiscal years 2020 and 2021 because CRC did not maintain supporting documentation for its calculations. Accurate reporting of performance measures provides agency managers, the Legislature, and the public with information to evaluate the performance of CRC.

Performance measure values were inaccurately reported and inadequately documented because CRC does not have written procedures and controls for calculating, reviewing, and reporting performance measures. State administrative policy requires agencies to develop written procedures for calculating performance measures. Both fiscal and program staff should review the procedures to ensure they are followed. State policy also requires agencies to retain records used for computing performance measures.

### **Recommendations**

1. Enhance procedures and controls to ensure management verifies individuals involved in shutting off electrical systems comply with required procedures; and if noncompliance is identified, corrective action is completed timely.
2. Develop procedures and controls to ensure substation inspections are performed, documented, and reviewed by management.
3. Implement a process to document corrective action plans that prioritize and describe expected timelines to correct issues identified during electrical substation inspections when repairs are needed.

4. Develop policies and procedures for water usage tracking which define the responsibilities, technical processes, and quality reviews of reporting.
5. Crosstrain other employee(s) in Colorado River water usage reporting to provide for a knowledgeable reviewer to ensure accurate information is given to state and federal officials.
6. Develop procedures for calculating, reviewing, and reporting performance measures, including retaining documentation for reported results.

# Controls Over Information Technology Systems Can Be Strengthened

CRC can strengthen its oversight of information technology (IT) assessments and planning, and certain security processes. CRC has not completed an IT risk assessment or important plans to respond to risk-related incidents and disasters. The lack of a documented IT risk assessment and planning increases the risk CRC has not appropriately identified, assessed, and taken steps to reduce IT risks to an acceptable level. In addition, certain security processes can be improved to protect sensitive IT and electrical systems.

## **Information Technology Risk Assessment and Information Security Plans Are Needed**

CRC does not have written assessments and plans to help protect the agency's IT systems and resume operations in a catastrophe. Specifically, CRC does not have a documented IT risk assessment and continuity of operations, disaster recovery, and incident response plans for their administrative network and the supervisory control and data acquisition (SCADA) system.

A SCADA system is used by CRC to remotely operate its electrical substations. In the event of system failure, CRC would switch to running its electrical system manually. However, CRC did not have a disaster recovery plan documenting the procedures for implementing manual operations. Additionally, CRC did not document routine tests relating to manual operations which ensure functionality of the manual systems.

As a state agency, CRC is subject to the Office of the Chief Information Officer (OCIO), formally Enterprise IT Services, security standards. These standards require agencies to assess organizational IT controls and processes, document plans to support operations and respond to risks, and implement certain

processes to protect valuable IT resources. Exhibit 2 outlines the IT assessment and plans required by OCIO and their purposes.

## Required IT Assessment and Plans and Their Purposes

## Exhibit 2

	<p><b>Risk Assessment</b></p> <ul style="list-style-type: none"> <li>• Determine the risks, threats, and vulnerabilities of IT systems, applications, information, and operational controls and processes.</li> <li>• Must be conducted at each state agency.</li> </ul>
	<p><b>Incident Response Plan</b></p> <ul style="list-style-type: none"> <li>• Defines roles of personnel and the phases of security incident handling and management.</li> <li>• An incident is an event that jeopardizes the integrity, confidentiality, or availability of an information system.</li> </ul>
	<p><b>Continuity of Operations Plan</b></p> <ul style="list-style-type: none"> <li>• Defines backup and recovery procedures to assure the agency can continue its critical business services and operations when there are interruptions to or major failures of information systems.</li> <li>• Covers each major application and system.</li> </ul>
	<p><b>Disaster Recovery Plan</b></p> <ul style="list-style-type: none"> <li>• Outlines the plan to continue critical business services and operations when disasters occur.</li> </ul>

Source: Auditor prepared based on State Information Security Policy.

We also assessed CRC standard operating procedures to verify if SCADA system emergency procedures were contained therein. There were no standard operating procedures specific to the operations of the system. For example, there were no procedures detailing the system's security, oversight, or operations. State IT security standards require technical and operational documentation be developed for all agency systems, networks, and applications.

IT security and emergency plans and procedures were not developed for the SCADA system in part because management stated that if the system went down, electrical operations would not be critically affected. However, the system is an important IT system that is incorporated into CRC's operations for switching and operating their electrical systems. Required assessments,

plans, and procedures were also not prepared for administrative networks because CRC IT management did not sufficiently maintain up-to-date knowledge of state IT security standards. Without IT security plans, there is an increased risk staff will not have sufficient resources and training to appropriately react to IT-related incidents. Thus, continuity of operations could be negatively impacted.

### **Certain Security Processes Can Be Improved**

CRC needs to improve certain IT-related security processes. During on-site inspections of CRC facilities, we observed physical access controls like secure entrances and doors at CRC facilities that prevent unauthorized public access to the buildings. Although management effectively oversaw many elements of security, CRC's process for monitoring visitor access to sensitive areas could be enhanced. Additionally, CRC lacked an effective process for ensuring background checks were completed for employees working in sensitive areas. State IT security standards establish requirements for oversight of physical access to IT systems and for completing important background checks of employees. Proper oversight helps ensure organizational resources are protected.

CRC did not develop sufficient policies and procedures for monitoring visitor access to secure areas. Specifically, we found CRC did not maintain visitor logs for their SCADA control room and the main server room. State IT security standards require visitors to secure areas be escorted by an authorized person and records of these visits be maintained for a minimum of 1 year. Establishing visitor access policies helps standardize and prioritize control and management of visitor access, improving security over sensitive IT resources.

CRC also did not ensure certain staff received appropriate and timely background checks. Our assessment of CRC's records identified two IT employees who did not have a fingerprint-based background check as required by state IT security standards. Further, two employees working within the critical infrastructure of CRC's electrical systems did not receive a timely background check. Background checks were not performed until 3 years after these employees' hire dates even though management indicated



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the checks were best practice in the industry. Timely background checks help ensure employees working in critical areas are free from criminal activity which could impact the agency and the public. Background checks were not performed because CRC did not have policies and procedures to identify positions requiring checks or for their timely performance.

### **Recommendations**

7. Routinely review state IT security standards to ensure CRC's IT policies and procedures comply with these standards.
8. Perform and document a formal IT risk assessment covering the main CRC network and Power Delivery Project IT operations, and ensure sensitive IT systems are identified.
9. Develop and document continuity of operations, disaster recovery, and incident response plans for all CRC IT systems.
10. Develop standard operating procedures related to the SCADA system that outline the operational processes and emergency-related procedures in compliance with state IT security standards.
11. Establish procedures and controls to ensure regular testing of manual electrical operating systems is completed and documented.
12. Develop policies and procedures that define physical access controls and processes that monitor access to sensitive IT resources, including a requirement for a visitor log to be maintained and monitored for areas with sensitive IT resources.
13. Determine positions that need background checks and document and implement controls to ensure they are completed timely.

# Appendix A

## Audit Methodology

To gain an understanding of the Colorado River Commission of Nevada (CRC), we interviewed staff and reviewed statutes, regulations, and policies and procedures significant to CRC's operations. We also reviewed financial information, prior audit reports, budgets, legislative committee minutes, and other information describing the activities of CRC. In addition, we documented and evaluated internal controls related to CRC's processes for managing certain activities of its power delivery, performance measure reporting, water usage tracking, security, and information technology (IT) risk assessment and planning.

Our audit included a review of CRC's internal controls significant to our audit objectives. Internal control is a process effected by an entity's oversight body, management, and other personnel that provides reasonable assurance that the objectives of an entity will be achieved. Internal control comprises the plans, methods, policies, and procedures used to fulfill the mission, strategic plan, goals, and objective of the entity. The scope of our work on controls related to the management of power substation inspections, switching, and security; performance measures reporting; water usage tracking; and IT planning and security, included the following:

- Exercise oversight responsibility; establish structure, responsibility, and authority (Control Environment);
- Design control activities; design information system control activities; and implement control activities through policy (Control Activities);
- Use quality information; communicate internally; and communicate externally (Information and Communication); and

- Perform monitoring activities and evaluate issues and remediate deficiencies (Monitoring).

Deficiencies and related recommendations to strengthen CRC's internal control systems are discussed in the body of this report. The design, implementation, and ongoing compliance with internal controls is the responsibility of agency management.

To determine the process for compiling, summarizing, and ensuring the completeness of electrical switching records, we had discussions with CRC management. We also requested documentation for all 29 switching requests and orders from January 2021 through July 2022. We assessed the population of switching documentation to identify if it was properly completed with required backup documentation and oversight. Identified exceptions were discussed with CRC management.

To identify the population of fiscal year 2022 substation inspection checklists, we requested all inspection checklists on file from July 2021 through June 2022. Based on there being 33 substations CRC inspected during this timeframe, the expected population of monthly checklists totaled 396. We tested for the completeness of inspection documentation by assessing if there was a checklist for each month for each substation. We shared the list of missing inspection checklists with Power Delivery Project (PDP) management, and they provided us with certain logbook entries that recorded the date and time of certain inspections lacking a checklist.

We held discussions with PDP management to determine their process for ensuring the completeness and quality of substation inspections. We selected a judgmental and random sample of 32 substation inspection checklists from the population of 347 checklists completed in fiscal year 2022. Judgmental selection ensured inspection checklists were assessed from all PDP employees that completed substation inspections during the assessed timeframe, substations supporting industrial and nonindustrial customers, and from one substation for a 12-month period. We assessed the quality of checklist documentation by ensuring the checklists recorded safety and security checks,

corrective action, prioritization of issues identified, and preventative maintenance procedures. We discussed the results of our assessment with CRC management.

To assess the safety and security of CRC's substations, we identified the population of 17 electrical substations owned and operated by CRC from a list provided by PDP management. We selected a judgmental sample of eight CRC-owned power substations to ensure we inspected substations supporting industrial and nonindustrial customers and distribution and control center sites. We reviewed federal safety requirements, National Electric Safety Code, and industry best practices. During substation inspections, we assessed physical security, orderliness, signs of vandalism or intentional damage, safety equipment, and climate control systems. We discussed our results with CRC management.

To evaluate whether CRC adequately manages activities related to its water usage tracking function, we obtained the calendar year 2021 Nevada water usage report. CRC also provided us with source documentation and calculations supporting this report. To assess the reliability and accuracy of the water usage reported data, we selected two random samples of 3 months out of the population of 12 months in calendar year 2021. One sample was utilized to trace the reported values from the source records to the final report, and the other sample was utilized to compare the final report values to the source records. We determined the data was sufficiently reliable for the purpose of our analysis.

We discussed the processes to reconcile and ensure the accuracy of reported water usage with CRC management. We assessed if the formulas and calculations supporting the water usage reporting for the population of seven 2021 Colorado River water users were accurate and if they followed required state and federal procedures and methodology. Finally, we requested and obtained documentation of internal and external reviews of the 2021 reporting and assessed the thoroughness of the reviews.

To assess the reliability of CRC's hydropower performance measures, we requested and obtained backup documentation for

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measures published in the State of Nevada 2021 – 2023 Executive Budget. We analyzed the documentation to determine if the measures were appropriately calculated, reviewed, and reported; and if documentation supporting the reporting was retained. We discussed the result of this assessment with CRC management.

To assess whether CRC adequately manages activities related to its IT risk management functions, we determined if CRC had a risk assessment, incident response plan, business continuity plan, and disaster recovery plan. In addition, we held discussions and reviewed documentation and evidence supporting its processes for IT security oversight, employee background checks, visitor access, and system backups. We discussed the results of the IT and security assessment with management.

We held discussions with CRC IT management to determine safety and security processes and procedures in place to protect their IT systems. We then assessed whether the identified processes and procedures had been properly implemented. We reviewed documentation of system tests to verify the functionality of system controls.

We used nonstatistical audit sampling for our audit work, which for these analyses was the most appropriate and cost-effective method for concluding on our audit objectives. Based on our professional judgement, review of authoritative sampling guidance, and careful consideration of underlying statistical concepts, we believe that nonstatistical sampling provided sufficient, appropriate audit evidence to support the conclusions in our report. We did not project the exceptions to the population, because tests were not intended to be projected. Our samples included both randomly and judgmentally selected items.

Our audit work was conducted from April 2022 to March 2023. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We

believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In accordance with Nevada Revised Statutes 218G.230, we furnished a copy of our preliminary report to the Executive Director of the Colorado River Commission of Nevada. On January 3, 2024, we met with agency officials to discuss the results of the audit and requested a written response to the preliminary report. That response is contained in Appendix B, which begins on page 19.

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# Appendix B

Response From the Colorado River Commission of Nevada

## Colorado River Commission of Nevada

January 2024

Response to Legislative Auditor

Performance Audit

Resource and Technology



## I. Opening Comments

The Colorado River Commission of Nevada (Commission or CRC) values the role of Legislative audits in ensuring the provision of accurate and comprehensive information about agency operations. The CRC, in evaluating the results of this audit, with sections titled "*Documentation and Policies Could be Improved for the Power Delivery and Water Usage Oversight*," and "*Controls Over Information Technology Systems Can Be Strengthened*," offers a perspective which highlights key facts and circumstances pertinent to the audit period. Proper utility reviews necessitate an examination of facts, circumstances, and information available at the time to assess the reasonableness of performance.

It is crucial to contextualize that the audit period, from January 1, 2021, through December 2022, coincided with extraordinary challenges due to COVID-19 protocols. For context, in January 2021, state operations were under severe restrictions, to the extent that the Nevada Legislature had to install special COVID protection equipment and, for the first time in over 150 years, barred in-person attendance at the legislative session. Additionally, it is noteworthy that the CRC was selected for this audit in August 2020, shortly after a Sunset audit (spanning March-August 2020) recommended no changes. Notably, the Legislative Counsel Bureau (LCB) audit may have been similarly affected by COVID-19, given the time the audit took to start and complete.

During this period, the CRC's Power Delivery Project (PDP) personnel adjusted to the challenges posted by the pandemic by implementing rotating teams to reduce contamination risks. This measure was part of the CRC's approach to ensuring the health and safety of its staff. Consequently, the use of additional staff for documentation was scaled back, allowing for a focus on the continuity of day-to-day operations. Management's decision to adapt working practices was guided by the need to respond flexibly to the pandemic's uncertainties. The CRC believes these steps were reasonable and necessary to maintain operations during the pandemic.

Despite these extraordinary challenges, the CRC ensured accurate water accounting and the uninterrupted performance and maintenance of power infrastructure. The Hydropower group successfully managed power delivery, billing, and collection. And our Information Technology (IT) systems functioned efficiently, ensuring the continuous provision of essential resources – water and power – to southern Nevada during a global pandemic.



## **II. Specific Comments on the Audit**

In response to the audit, the CRC has the following comments and clarifications:

### **A. Power Delivery Records**

The CRC's Power Delivery Project group acknowledges the need for enhancements in certain records, specifically those pertaining to switching and substation inspection activities. Reflecting on PDP's operations, it is recognized that during the unique challenges posed by the COVID-19 pandemic, PDP staff occasionally relied on phone calls and texts as informal checks on various activities, and that this information was not consistently documented in CRC records.

It is important to clarify that the standards for record keeping, to which the CRC's PDP staff strives, are self-imposed and meet or exceed the baseline requirements set by federal agencies. Notably, the CRC is not mandated to adhere to the standards of North American Electric Reliability Corporation (NERC), as the CRC falls under the category of smaller utilities exempt from Section 215 of the Federal Power Act and NERC reliability standards. This exemption is due to the operational characteristics and specific uses of CRC assets, a determination reaffirmed following a clean audit of the agency by the Western Energy Coordinating Council in 2014, and subsequent delisting from NERC requirements in 2015.

Despite this, the CRC voluntarily adopts these rigorous standards as part of the commitment to prudent utility practices. The agency strives to meet its self-imposed standards to ensure operational excellence even in the absence of NERC oversight. To further this commitment, the CRC is considering the appointment of a Compliance Manager to oversee adherence to these aspirational objectives, particularly in the realm of record keeping.

The audit report's acknowledgement of no major safety or security concerns underscored the agency's ability to maintain core functions effectively, even amidst the staffing and infrastructure challenges posed by the pandemic. This outcome is a testament to the CRC's dedication to upholding high standards in our electric utility operations, guided by prudent utility practices, and the resolve to continuously improve in line with these aspirational goals.

### **B. Water Accounting**

The LCB auditors thoroughly reviewed the CRC's Colorado River water accounting responsibilities and requested a vast amount of supporting documentation that included almost 200 water user reports, federal water contracts, monthly Return Flow Credit (RFC) Reports, water user maps, email correspondence and database access. CRC

staff spent a significant amount of time responding to the LCB auditors' requests and they concluded that the reporting to federal and state officials was "materially accurate."

Nevada's diversions, returns, and consumptive use reporting are considered preliminary until Reclamation finalizes the Colorado River Water Accounting Report, which is a process initiated by Reclamation in the following year. During 2021, all the CRC reports to Reclamation were accurate.

During the 2021 final accounting process, Reclamation requested the CRC to add a column to the RFC spreadsheet which caused a discrepancy to an informational table comparing the water use to the previous year. The informational table was not utilized by Reclamation in the final water accounting process and Nevada's consumptive use was finalized accurately.

### **C. Staff for Water Accounting**

The Audit report states that:

"The CRC employee responsible for the report's preparation was the only employee at the CRC with the technical expertise to calculate the reported values."

During the LCB audit timeframe, a CRC employee with technical expertise in water accounting retired. The CRC has since hired a new employee that is trained in water accounting and has been conducting internal reviews for the monthly RFC Report. The CRC plans to continue cross-training employees for water accounting in the future.

### **D. Information Technology Systems**

While the audit report offered critiques regarding the CRC's Information Technology systems, it is beneficial to provide further context to better appreciate the robust security measures the agency has implemented. This additional information aims to enhance understanding of our IT security framework and the steps the agency has taken to ensure the integrity and reliability of our systems.

#### **1. Information Technology Risk Assessment**

The Performance Audit points out that the CRC does not have "written assessments and plans to help protect the agency's IT systems and resume operations in a catastrophe." P.10.

While the critique emphasizes the lack of formal documentation, it is important to clarify that this does not imply an absence of preparedness or planning by the agency's IT department. Despite the CRC's relatively small operational scale, the CRC's team of capable IT professionals has developed thorough strategies to safeguard the agency's

systems. The primary area for improvement identified is the formal documentation of these strategies. The CRC has comprehensive off-site backups and recovery strategies, which are ready to be implemented by the IT staff if/when needed.

The confidence in the agency's IT department is rooted in their proactive approach, as evidenced in early 2020. The team's timely presentation of the Homeland Security Report on SARS-CoV-2 and subsequent actions exemplify their ability. Anticipating potential disruptions, the IT staff prepared the agency for remote operations in advance. This foresight ensured that when the Governor mandated state government closure in March 2020, the CRC was equipped with the necessary tools, including Microsoft Teams and laptops with VPN connections for staff working remotely. This preparation enabled a transition to remote working, allowing us to conduct our first remote Commission meeting on April 14, 2020, just four weeks after the shutdown order, without any significant disruption. This is a significant achievement when contrasted with the resources available to larger IT departments in other State agencies.

This proactive approach, coupled with the ongoing efforts to formalize CRC IT strategies in writing, demonstrates the CRC's commitment to robust IT security and operational resilience.

## **2. Physical Security**

The audit noted areas for improvement in the CRC's IT-related security processes, specifically mentioning that the "CRC's process monitoring visitor access to sensitive areas could be enhanced." In response to this observation, the CRC would like to provide additional context and information regarding current security measures.

The CRC prioritizes the safety and security of its premises. Both the main office and the Supervisory Control and Data Acquisition (SCADA) system location are equipped with security systems that effectively restrict public access. Specifically, the SCADA system location is safeguarded by guard-gated security, ensuring that only authorized individuals can access the CRC's area. Beyond the gate, there are multiple layers of security, including additional authorization requirements to enter the building, and further on into the IT area. Notably, even senior staff of the CRC are required to provide advanced notice for access to the facility, underscoring the stringent security measures in place.

The main office of the CRC has enhanced security measures, including a locked entrance with a camera system installed and maintained by the CRC's IT staff. This camera enables administrative staff to screen visitors before granting them access. Moreover, the CRC's IT equipment benefits from these additional layers of security, ensuring the protection of both personnel as well as technological assets.

These measures illustrate the agency's commitment to maintaining a secure environment. The CRC recognizes the importance of continuous improvement in security protocols and appreciates the insights provided by the audit report. The CRC is dedicated to advancing security measures and will strongly consider recommendations to further strengthen security processes.

### **3. Performance Measure**

The introduction of the "Competitive Comparison of Electric Resources" as a new performance measure in the 2021-2023 Biennium Budget was an initiative to update our metrics, replacing the previous measure that focused on annual customer cost reconciliations. This change was in line with the Commission's updated billing procedures, which now include monthly power cost reconciliations instead of annual ones. However, the CRC has encountered challenges with this new measure, particularly in projecting future power costs and clarifying its intended interpretation.

The measure is designed to compare the agency's average cost of power with estimated market costs, calculated by dividing the CRC's average annual cost by an estimated market cost for the same power level in that year. The CRC acknowledges an error in one year's calculation, where the numerator and denominator were unintentionally inverted.

The data for this performance measure is generated by program staff and communicated to administrative staff via email. Due to computer replacements and email system updates, some historical data were not accessible to the auditors, as indicated in the report.

While preparing for the 2023-2025 Biennium Budget, the complexities of estimating market power costs became increasingly evident. Additionally, it is important to note that the measure may inadvertently suggest the CRC's primary objective with its electric power resources is cost minimization. While we diligently collaborate with federal agencies to manage costs associated with hydropower, the CRC's primary goal is to protect the State's interests in this resource and ensure the safe and efficient operation of the generating facilities. Given that the CRC does not control these facilities, dictating operational costs and guaranteeing that hydropower is the least expensive option is beyond the agency's purview. Considering these insights, the agency has decided to discontinue this measure in future budgets.

## Colorado River Commission's Response to Audit Recommendations

<u>Recommendations</u>	<u>Accepted</u>	<u>Rejected</u>
1. Enhance procedures and controls to ensure management verifies individuals involved in shutting off electrical systems comply with required procedures; and if noncompliance is identified, corrective action is completed timely .....	<u>    X    </u>	<u>          </u>
2. Develop procedures and controls to ensure substation inspections are performed, documented, and reviewed by management .....	<u>    X    </u>	<u>          </u>
3. Implement a process to document corrective action plans that prioritize and describe expected timelines to correct issues identified during electrical substation inspections when repairs are needed .....	<u>    X    </u>	<u>          </u>
4. Develop policies and procedures for water usage tracking which define the responsibilities, technical processes, and quality reviews of reporting .....	<u>    X    </u>	<u>          </u>
5. Crosstrain other employee(s) in Colorado River water usage reporting to provide for a knowledgeable reviewer to ensure accurate information is given to state and federal officials.....	<u>    X    </u>	<u>          </u>
6. Develop procedures for calculating, reviewing, and reporting performance measures, including retaining documentation for reported results .....	<u>    X    </u>	<u>          </u>
7. Routinely review state IT security standards to ensure CRC's IT policies and procedures comply with these standards.....	<u>    X    </u>	<u>          </u>
8. Perform and document a formal IT risk assessment covering the main CRC network and Power Delivery Project IT operations, and ensure sensitive IT systems are identified .....	<u>    X    </u>	<u>          </u>
9. Develop and document continuity of operations, disaster recovery, and incident response plans for all CRC IT systems .....	<u>    X    </u>	<u>          </u>
10. Develop standard operating procedures related to the SCADA system that outline the operational processes and emergency-related procedures in compliance with state IT security standards .....	<u>    X    </u>	<u>          </u>
11. Establish procedures and controls to ensure regular testing of manual electrical operating systems is completed and documented .....	<u>    X    </u>	<u>          </u>

## Colorado River Commission's Response to Audit Recommendations (continued)

<u>Recommendations</u>	<u>Accepted</u>	<u>Rejected</u>
12. Develop policies and procedures that define physical access controls and processes that monitor access to sensitive IT resources, including a requirement for a visitor log to be maintained and monitored for areas with sensitive IT resources .....	<u>X</u>	<u>          </u>
13. Determine positions that need background checks and document and implement controls to ensure they are completed timely .....	<u>X</u>	<u>          </u>
TOTALS	<u>13</u>	<u>          </u>