

SUBMITTAL TO THE BOARD OF SUPERVISORS  
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA



ITEM: 2.15  
(ID # 20761)

**MEETING DATE:**

Tuesday, December 13, 2022

**FROM :** AUDITOR CONTROLLER:

**SUBJECT:** AUDITOR-CONTROLLER: Internal Audit Report 2023-001: Riverside County  
Emergency Management Department Audit

**RECOMMENDED MOTION:** That the Board of Supervisors:

1. Receive and file Internal Audit Report 2023-001: Riverside County Emergency  
Management Department Audit.

**ACTION:Consent**

  
Tanya Harris, Assistant Auditor Controller 12/7/2022

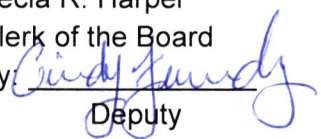
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**MINUTES OF THE BOARD OF SUPERVISORS**

On motion of Supervisor Washington, seconded by Supervisor Spiegel and duly carried, IT  
WAS ORDERED that the above matter is received and filed as recommended.

Ayes: Jeffries, Spiegel, Washington, and Hewitt  
Nays: None  
Absent: Perez  
Date: December 13, 2022  
xc: Auditor

Kecia R. Harper  
Clerk of the Board

By:   
Deputy

**SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE,  
STATE OF CALIFORNIA**

<b>FINANCIAL DATA</b>	<b>Current Fiscal Year:</b>	<b>Next Fiscal Year:</b>	<b>Total Cost:</b>	<b>Ongoing Cost</b>
<b>COST</b>	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
<b>NET COUNTY COST</b>	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
<b>SOURCE OF FUNDS: N/A</b>			<b>Budget Adjustment: No</b>	
			<b>For Fiscal Year: n/a</b>	

**C.E.O. RECOMMENDATION:** Approve

**BACKGROUND:**

**Summary**

In accordance with Board of Supervisors Resolution 83-338, we audited the Riverside County Emergency Management Department. This audit is conducted to provide management and the Board of Supervisors with an independent assessment of internal controls over system access controls.

Based upon the results of our audit, we identified opportunities for improvement of internal controls relating to system access controls.

We will follow-up in one year to determine if actions were taken to correct the findings noted.

**Impact on Citizens and Businesses**

Provide an assessment of internal controls over the audited areas.

**SUPPLEMENTAL:**

**Additional Fiscal Information**

Not applicable

**ATTACHMENTS:**

A: Riverside County Auditor-Controller's Office - Internal Audit Report 2023-001: Riverside County Emergency Management Department Audit

  
 Stephanie P., Principal Management Analyst 12/8/2022

**Internal Audit Report 2023-001**

**Riverside County Emergency  
Management Department  
Audit**

**Report Date: December 13, 2022**



**Office of Paul Angulo, CPA, MA  
Riverside County Auditor-Controller  
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**COUNTY OF RIVERSIDE**  
**OFFICE OF THE**  
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**ACC** | **AUDITOR**  
**CONTROLLER**  
**COUNTY OF RIVERSIDE**

**Paul Angulo, CPA, M.A.**  
**Riverside County Auditor-Controller**

**Tanya S. Harris, DPA, CPA**  
**Assistant Auditor-Controller**

December 13, 2022

Bruce Barton  
Director of Emergency Management  
Riverside County Emergency Management Department  
450 E. Alessandro  
Riverside, CA 92508

**Subject: Internal Audit Report 2023-001: Riverside County Emergency Management  
Department Audit**

Dear Mr. Barton:

In accordance with Board of Supervisors Resolution 83-338, we audited the Riverside County Emergency Management Department to provide management and the Board of Supervisors with an independent assessment of internal controls over system access controls.

We conducted our audit in accordance with the International Standards for the Professional Practice of Internal Auditing. These standards require that we plan and perform the audit to obtain sufficient, reliable, relevant and useful information to provide reasonable assurance that our objective as described above is achieved. An internal audit includes the systematic analysis of information to evaluate and improve the effectiveness of internal controls. We believe this audit provides a reasonable basis for our conclusion.

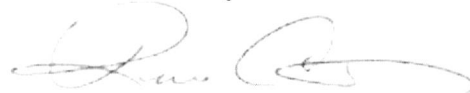
Internal controls are processes designed to provide management reasonable assurance of achieving efficiency of operations, compliance with laws and regulations, and reliability of financial and non-financial information. Management is responsible for establishing and maintaining adequate internal controls. Our responsibility is to evaluate the internal controls.

Our conclusion and details of our audit are documented in the body of this audit report.

**Internal Audit Report 2023-001: Riverside County Emergency Management  
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As requested, in accordance with paragraph III.C of the Board of Supervisors Resolution 83-338, management responded to each reported condition and recommendation contained in our report. Management's responses are included in the report. We will follow-up to verify that management implemented the corrective actions.

Paul Angulo, CPA, MA  
Riverside County Auditor-Controller



By: René Casillas, CPA, CRMA  
Deputy Auditor-Controller

cc: Board of Supervisors  
Jeff A. Van Wagenen, Jr., County Executive Officer  
Dave Rogers, Chief Administrative Officer  
Grand Jury

**Internal Audit Report 2023-001: Riverside County Emergency Management  
Department Audit**

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**Internal Audit Report 2023-001: Riverside County Emergency Management  
Department Audit**

## **Executive Summary**

### **Overview**

Riverside County Emergency Management Department (Emergency Management) was established July 2015 and consists of four divisions: Business and Finance, Operations, Preparedness, and Riverside County Medical Services Agency. Emergency Management provides coordination and oversight of emergency management and disaster response services for the residents of Riverside County. Additionally, Emergency Management supports the Riverside County Operational Area and the Regional Disaster Medical Health Coordination for California Region VI.

Emergency Management has an adopted budget of \$24.3 million for FY 2022-23 and 87 adopted positions. *County of Riverside, Fiscal Year 2022-23 Adopted Budget Volume 1, 243.*

### **Audit Objective**

Our objective is to provide management and the Board of Supervisors with an independent assessment about the adequacy and effectiveness of internal controls over system access controls. Internal controls are processes designed to provide management reasonable assurance of achieving efficiency of operations, compliance with laws and regulations, and reliability of financial and non-financial information. Reasonable assurance recognizes internal controls have inherent limitations, including cost, mistakes, and intentional efforts to bypass internal controls.

### **Audit Scope and Methodology**

We conducted the audit from May 23, 2022, through August 29, 2022, for operations from July 1, 2020, through August 11, 2022. Following a risk-based approach, our scope initially included the following:

- County-wide Disaster Preparedness Plan
- Disposal of Perishable Supplies
- Inventory Monitoring Relating to Business Continuity
- System Access Controls

Through inquiry, observations, and limited examination of relevant documentation, it was determined through a risk assessment of the county-wide disaster preparedness plan, disposal of perishable supplies, and inventory monitoring relating to business



## Internal Audit Report 2023-001: Riverside County Emergency Management Department Audit

continuity, that the risk exposure to Emergency Management associated with these processes are well mitigated with internal controls and are functioning as designed. Therefore, our audit scope focused on internal controls over system access controls.

### **Audit Highlights**

#### *Summary of Existing Conditions*

- For the system applications not linked to Active Directory, we were unable to determine whether access rights were terminated in a timely manner as Emergency Management does not track the date and time in which an employee's access was terminated. Monitoring account terminations helps ensure that account deactivations are carried out properly and in a timely manner and assists management in identifying areas where additional training is needed.
- Terminated employees did not have their Active Directory account termination requests created and approved in a timely manner (within 24 hours). Allowing active directory accounts to remain open after employment has ended exposes the department to risk where information maintained in department systems can be continuously accessed by individuals who no longer have a right or need to know.

#### *Summary of Improvement Opportunities*

- Develop policies and procedures to document the date in which user access rights are terminated within system applications not linked to Active Directory.
- Develop a process to monitor account deactivation dates to ensure compliance with County of Riverside Information Security Standard v1.0, Section 4.1, *Account and Access Management*.
- Ensure compliance with County of Riverside Information Security Standard v1.0, Section 4.1, *Account and Access Management*, by disabling Active Directory accounts on the day of an employee's termination or transfer from the department.
- Develop policies and procedures to ensure the disabling of Active Directory accounts are requested and approved within 24 hours of an employee's termination or transfer from the department.



**Internal Audit Report 2023-001: Riverside County Emergency Management  
Department Audit**

**Audit Conclusion**

Based upon the results of our audit, we identified opportunities for improvement of internal controls relating to system access controls.

**System Access Controls**

**Background**

System access controls within information systems ensure proper confidentiality, integrity, and availability to the data stored within the system. Authentication is a control which confirms a user's identity to provide access to a systems sensitive information. Sensitive information is any information that must be protected from unauthorized access to maintain the information security of an organization or an individual. Authentication is often achieved by using login credentials such as a username and password. Authentication relies on the presumption that the user is authorized to use the system and that only the user knows the login credentials to gain access.

Active Directory is a directory service which allows Emergency Management to manage permissions and access to network resources, and linked data applications utilized by the department. When a user ends employment with Emergency Management, it is the department's responsibility to create and approve a help desk ticket to request the removal of the terminated employee's access rights to their Active Directory account. Once the ticket is approved by Emergency Management personnel, Riverside County Information Technology is notified to disable Active Directory to remove permissions and network access. These help desk tickets contain various workflow tasks such as disabling e-mail accounts, Active Directory, data/application systems access, badge access, reclaiming software licenses, and reclaiming any equipment that may have been issued to an employee. A help desk ticket is not closed until all tasks within have been completed by Riverside County Information Technology personnel.

**Objective**

To verify the existence and adequacy of internal controls over employee access termination to system applications used by Emergency Management.

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### Audit Methodology

To accomplish these objectives, we:

- Obtained an understanding of County of Riverside Information Security Standard v1.0.
- Interviewed key personnel regarding the department's employee access termination processes.
- Obtained a listing of all critical systems used by Emergency Management and judgmentally selected a sample of systems not linked to Active Directory.
- Obtained listing of employees who had access to the selected system applications not linked to Active Directory during the audit review period.
- Obtained listing of employees whose access to the selected system applications not linked to Active Directory were terminated during the audit review period.
- Obtained report from Riverside County Information Technology that details Emergency Management ticket creation and approval dates for disabling employee access to Active Directory.
- Verified whether access rights to the selected system applications not linked to Active Directory were disabled within 24 hours of an employee's termination from Emergency Management.
- Verified whether requests to disable Active Directory were created and approved by Emergency Management personnel within 24 hours of an employee's termination or transfer from the department.

### Finding 1: Monitoring the Removal of Access Rights to System Applications

For the system applications not linked to Active Directory, we were unable to determine whether access rights were terminated in a timely manner as Emergency Management does not track the date and time in which an employee's access was terminated. County of Riverside Information Security Standard v1.0, Section 4.1, *Account and Access Management*, states, "Accounts for terminated or transferred

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employees shall be disabled or removed on the day of termination or transfer.” The system applications lack the capability to timestamp when account terminations occur. As such, Emergency Management is unable to monitor system applications to ensure user accounts are terminated timely after an employee’s termination or transfer from the department. Monitoring account terminations helps ensure that account deactivations are carried out properly and in a timely manner and assists management in identifying areas where additional improvement and training is needed.

**Recommendation 1.1**

Develop policies and procedures to document the date in which user access rights are terminated within system applications not linked to Active Directory.

**Management’s Response**

“**Concur.** EMD has developed and implemented the System Access Off Boarding Procedure to document the date on which user access rights are terminated within system applications not linked to Active Directory.”

**Actual/Estimated Date of Corrective Action:** July 1, 2022

**Recommendation 1.2**

Develop a process to monitor account deactivation dates to ensure compliance with County of Riverside Information Security Standard v1.0, Section 4.1, *Account and Access Management*.

**Management’s Response**

“**Concur.** EMD has included a procedure in the System Access Offboarding Procedure ensuring when deactivations are requested, a confirmation of deactivation is also requested, and that confirmation is retained in the terminated employee’s personnel file.”

**Actual/Estimated Date of Corrective Action:** July 1, 2022

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**Finding 2: Timely Termination of Active Directory Accounts**

Upon termination or transfer from Emergency Management, 7 (50%) out of a total of 14 employees did not have their Active Directory account termination requests created and approved in a timely manner (within 24 hours). The average time elapsed between employee termination and ticket approval was 83 days, with the longest taking 166 days for approval and the shortest taking 5 days. County of Riverside Information Security Standard v1.0, Section 4.1, *Account and Access Management*, states, "Accounts for terminated or transferred employees shall be disabled or removed on the day of termination or transfer." Requests and approvals to disable Active Directory accounts are not created and approved in a timely manner after employees are terminated or transferred from the department. Emergency Management does not have formal, written policies and procedures that ensure user accounts for terminated or transferred employees are to be disabled or removed on the day of termination or transfer. Allowing active directory accounts to remain open after employment has ended exposes the department to risk where information maintained in department systems can be continuously accessed by individuals who no longer have a right or need to know. Depending on the sensitivity of the information maintained by department systems, it can create administrative issues and have a financial impact if held liable.

**Recommendation 2.1**

Ensure compliance with County of Riverside Information Security Standard v1.0, Section 4.1, *Account and Access Management*, by disabling Active Directory accounts on the day of an employee's termination or transfer from the department.

**Management's Response**

"**Concur.** EMD has included a procedure in the System Access Offboarding Procedure ensuring when deactivations are requested, a confirmation of deactivation is also requested, and that confirmation is retained in the terminated employee's personnel file."

**Actual/Estimated Date of Corrective Action:** July 1, 2022

**Internal Audit Report 2023-001: Riverside County Emergency Management  
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**Recommendation 2.2**

Develop policies and procedures to ensure the disabling of Active Directory accounts are requested and approved within 24 hours of an employee's termination or transfer from the department.

**Management's Response**

"**Concur.** EMD has updated the System Access Offboarding procedure to address requests to deactivate accounts. During offboarding, a confirmation of deactivation is requested, and that confirmation is retained in the terminated employee's personnel file. In the event that supervisor approval is necessary, the Executive Assistant will personally contact the terminated employee's supervisor to ensure that approval is provided immediately as to not delay the disabling of the account."

**Actual/Estimated Date of Corrective Action:** July 1, 2022