



Memorandum from the Office of the Inspector General

April 10, 2024

Tammy W. Wilson

REQUEST FOR MANAGEMENT DECISION – AUDIT 2023-17444 – BUSINESS  
APPLICATION RETIREMENT PROCESS

Attached is the subject final report for your review and management decision. You are responsible for determining the necessary actions to take in response to our findings. Please advise us of your management decision within 60 days from the date of this report. In accordance with the Inspector General Act of 1978, as amended, the Office of the Inspector General is required to report to Congress semiannually regarding audits that remain unresolved after 6 months from the date of report issuance.

If you have any questions or wish to discuss our findings, please contact Megan E. Spitzer, Senior Auditor, at (865) 633-7394 or Sarah E. Huffman, Director, Information Technology Audits, at (865) 633-7345. We appreciate the courtesy and cooperation received from your staff during the audit.

David P. Wheeler  
Assistant Inspector General  
(Audits and Evaluations)

MES:KDS  
Attachment

cc: TVA Board of Directors  
Brett A. Atkins  
Kenneth C. Carnes II  
Tammy C. Bramlett  
Jan E. Brown  
Sherri R. Collins  
Buddy Eller  
David B. Fountain  
David M. Harrison

Gregory G. Jackson  
Jeffrey J. Lyash  
Jill M. Matthews  
Todd E. McCarter  
Dustin C. Pate  
John M. Thomas III  
Josh Thomas  
Ben R. Wagner  
OIG File No. 2023-17444



Office of the Inspector General

---

# *Audit Report*

To the Vice President, Chief  
Information and Digital Officer,  
Technology and Innovation

# **BUSINESS APPLICATION RETIREMENT PROCESS**

---

Audit Team  
Megan E. Spitzer  
Melissa L. Conforti  
Scott A. Marler

Audit 2023-17444  
April 10, 2024

## **TABLE OF CONTENTS**

EXECUTIVE SUMMARY ..... i

BACKGROUND ..... 1

OBJECTIVE, SCOPE, AND METHODOLOGY ..... 2

FINDINGS ..... 3

    CLEAR OWNERSHIP AND ACCOUNTABILITY DID NOT EXIST ..... 3

    CONTROLS WERE NOT EFFECTIVE ..... 4

    PROCESS DID NOT ALIGN WITH BEST PRACTICES ..... 4

RECOMMENDATIONS ..... 4

## **APPENDIX**

MEMORANDUM DATED APRIL 5, 2024, FROM TAMMY WILSON TO DAVID P. WHEELER



# Audit 2023-17444 – Business Application Retirement Process

## EXECUTIVE SUMMARY

### Why the OIG Did This Audit

Application retirement plays a crucial role in enabling organizations to consolidate and modernize application portfolios. Sensitive data may be more easily obtainable by people without a need to know when it is in an application that has not been supported and/or maintained. An exploited application could result in data leaks that could harm an organization's reputation and has potential for data loss. Benefits of having an effective application retirement strategy include cost reduction, application consolidation, and risk reduction.

Due to risks associated with not properly retiring applications, we performed an audit to determine the effectiveness of the Tennessee Valley Authority's (TVA) business application retirement process. Our scope included application retirement requests in TVA's ticketing system as of December 6, 2023.

### What the OIG Found

We determined TVA's business application retirement process was ineffective. Specifically, the application retirement process did not (1) have clear ownership and accountability, (2) have effective controls to prevent duplicate requests and incomplete data, and (3) align with best practices. As a result of the ineffective process, only one application had been retired since September 28, 2022, and 631 business application retirement requests were between 1 and 434 days outstanding.

### What the OIG Recommends

We recommend the Vice President and Chief Information and Digital Officer, Technology and Innovation:

1. Implement clear ownership and accountability for the application retirement process by monitoring and managing the process to ensure applications are retired in a timely manner.
2. Update process documentation and implement effective controls to prevent duplicate requests and automatically require field completion.
3. Update policies to incorporate best practice considerations based on risk.
4. Prioritize and process the business application retirement request backlog.



## Audit 2023-17444 – Business Application Retirement Process

### EXECUTIVE SUMMARY

#### TVA Management's Comments

In response to our draft audit report, TVA management agreed with our recommendations. See the Appendix for TVA management's complete response.

## **BACKGROUND**

Application retirement plays a crucial role in enabling organizations to consolidate and modernize application portfolios. Data remains in applications unless an effective application retirement process is implemented. Sensitive data may be more easily obtainable by people without a need to know when it is in an application that has not been supported and/or maintained. An exploited application could result in data leaks that could harm an organization's reputation and has potential for data loss. Benefits of having an effective application retirement strategy include:

- **Cost Reduction** – Retiring applications eliminates recurring costs such as licensing, maintenance, and application administration costs, representing potentially significant savings.
- **Application Consolidation** – Removing redundant applications streamlines reporting across systems and ensures unsupported applications are not running on the network.
- **Risk Reduction** – Retiring outdated applications reduces the risk of not having personnel, consultants, or vendors with the skills to administer and support them.<sup>1</sup>

According to Tennessee Valley Authority (TVA) Technology and Innovation (T&I) personnel, TVA is continuously improving business operations by modernizing foundational technology and core processes, focusing on foundational systems, and delivering business value. To reduce cyber risk and manage future innovations, TVA invests in new and innovative applications. When replacing applications with new technology, there are agency-wide and business unit specific policies, procedures, and documents that define the process to retire old business applications. The application retirement process allows individuals to request retirement of an application. Once requested, the process includes phases for preapproval, approval, initialization, retirement, and finalization. These phases consist of tasks that are distributed among several organizations and tracked in the ticketing system, where controls for inventory, approval, data retention, and access removal occur.

Due to risks associated with not properly retiring applications, we performed an audit to determine the effectiveness of the TVA's business application retirement process.

---

<sup>1</sup> A Practical Guide to Legacy Application Retirement: Archiving Data with the Informatica® Solution for Application Retirement, September 2013.

## **OBJECTIVE, SCOPE, AND METHODOLOGY**

Our objective was to determine the effectiveness of TVA's business application retirement process. Our scope included application retirement requests in TVA's ticketing system as of December 6, 2023. To achieve our objective, we:

- Reviewed relevant TVA agency-wide and business unit specific policies, procedures, and documents, including TVA Standard Programs and Processes 12.405, *Information Technology [IT] Asset Procurement & Management*, and inquired with TVA T&I personnel to gain an understanding of and corroborate the current state of the application retirement process.
- Assessed internal controls to the extent necessary to address the audit objectives, including:
  - Identified and assessed design of controls associated with TVA's business application retirement process, such as inventory, approval, litigation, code backup, and access removal.
  - Performed a gap analysis of TVA's application retirement procedure against identified best practices.<sup>2</sup>
  - Obtained and reviewed the population of business application retirement requests as of December 6, 2023.

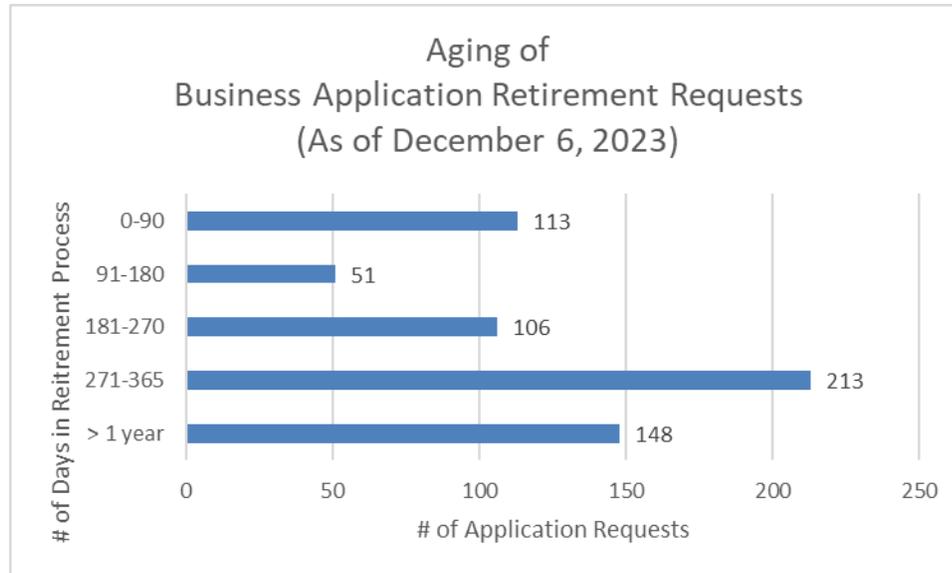
We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

---

<sup>2</sup> General Services Administration, *Decommission Plan*, <<https://ussm.gsa.gov/2.8>>, accessed on December 18, 2023, and Chief Information Officers Council, *Decommissioning checklist* <<https://www.cio.gov/policies-and-priorities/application-lifecycle/>>, accessed on July 26, 2023.

## **FINDINGS**

In summary, we determined TVA's business application retirement process was ineffective. Specifically, the application retirement process did not (1) have clear ownership and accountability, (2) have effective controls, and (3) align with best practices. As a result of the ineffective process, only one application had been retired since September 28, 2022, and 631 business application retirement requests were between 1 and 434 days outstanding as shown in the Table 1 below.



**Table 1**

### **CLEAR OWNERSHIP AND ACCOUNTABILITY DID NOT EXIST**

Clear ownership and accountability help ensure each retirement application moves through the process in a timely manner to reduce the potential for cyber exploit. TVA-SPP-12.405, *IT Asset Procurement & Management*, states T&I's Service Delivery group has governance over application retirement as part of the application lifecycle process. T&I Enterprise Architecture personnel stated they have governance over application retirement and created a dashboard to visualize the status of application retirement requests. However, as previously mentioned, only one application had been retired since September 28, 2022, and 631 business application retirement requests were outstanding. No clear ownership or accountability for the backlog could be identified. Potential contributing factors included separate reporting chains within T&I for Service Delivery and Enterprise Architecture, personnel turnover, and implementation of a new ticketing system in October 2022. Without clear governance and oversight, appropriate management ownership and accountability did not exist.

## CONTROLS WERE NOT EFFECTIVE

We determined the controls implemented to prevent duplicate requests and incomplete data were not effective. Our review of 631 business application retirement requests revealed 101 duplicate retirement requests for 49 unique applications. According to TVA personnel, a control was implemented to prevent duplicate requests on July 25, 2023; however, the control was not documented or working as intended. Additionally, we determined the control to prevent incomplete data is not operating effectively because 22 percent of requests had missing information in required fields. Controls to prevent, detect, and correct duplicate and blank records may result in more accurate records and reporting, informed decisions, and efficient processes.

## PROCESS DID NOT ALIGN WITH BEST PRACTICES

We compared TVA's application retirement process to best practices and identified gaps. Specifically, we determined TVA did not use timelines/milestones or prioritize applications to be retired. Milestones are scheduling tools that allow visibility to keep everyone on task and informed. The utilization and enforcement of milestones assigned to individuals can prevent backlogs and allow for timely retirement of business applications. Additionally, prioritization should take into account the risk of the application to be retired based on whether their business application includes (1) vulnerabilities, (2) data, (3) intellectual property, (4) protected information, and (5) cost savings. Overall, effective prioritization reduces cyber risk.

## RECOMMENDATIONS

We recommend the Vice President and Chief Information and Digital Officer, T&I:

1. Implement clear ownership and accountability for the application retirement process by monitoring and managing the process to ensure applications are retired in a timely manner.
2. Update process documentation and implement effective controls to prevent duplicate requests and automatically require field completion.
3. Update policies to incorporate best practice considerations based on risk.
4. Prioritize and process the business application retirement request backlog.

**TVA Management's Comments** – In response to our draft audit report, TVA management agreed with our recommendations. See the Appendix for TVA management's complete response.

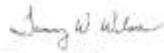
April 05, 2024

David P. Wheeler, WT 2C-K

RESPONSE TO REQUEST FOR COMMENTS – AUDIT 2023-17444 – BUSINESS  
APPLICATION RETIREMENT PROCESS

Our response to your request for comments regarding the subject draft report is attached. Please let us know if your staff has any concerns with TVA's comments.

We would like to thank Sarah Huffman, Megan Spitzer, and the audit team for their professionalism and cooperation in conducting this audit. If you have any questions, please contact Brett Atkins.



Tammy Wilson  
Vice President and Chief Information & Digital Officer  
Technology and Innovation

KCC:BAA  
cc (Attachment): Response to Request

Kenneth C. Carnes  
Dustin C. Pate  
Brett A. Atkins  
Sherri R. Collins  
Bradley E. Bennett  
Scott Davison  
Darren Debaillon

David B. Fountain  
Gregory G. Jackson  
Tammy C. Bramlett  
David M. Harrison  
Todd E. McCarter  
John M. Thomas III  
Greg Browning  
OIG File No. 2023-17444

Audit 2023-17444 Business Application Retirement Process

ATTACHMENT A

Page 1 of 1

Response to Request for Comments

Recommendation		Comments
1	We recommend the Vice President and Chief Information and Digital Officer, T&I: Implement clear ownership and accountability for the application retirement process by monitoring and managing the process to ensure applications are retired in a timely manner.	Management agrees.
2	Update process documentation and implement effective controls to prevent duplicate requests and automatically require field completion.	Management agrees.
3	Update policies to incorporate best practice considerations based on risk.	Management agrees.
4	Prioritize and process the business application retirement request backlog.	Management agrees.