



**Memorandum from the Office of the Inspector General**

March 31, 2023

Jodie A. Birdwell

**REQUEST FOR MANAGEMENT DECISION – EVALUATION 2022-17381 –  
IDENTIFICATION OF TVA'S ENTERPRISE RISKS**

Attached is the subject final report for your review and management decision. Your written comments, which addressed your management decision and actions for 2 of the 3 recommendations, have been incorporated into the report. 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 evaluations 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 Heather R. Kulisek, Manager, at (423) 785-4815 or Lindsay J. Denny, Director, Evaluations, at (865) 633-7349. We appreciate the courtesy and cooperation received from your staff during the evaluation.

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

HRK: FAJ

Attachment

cc (Attachment):

TVA Board of Directors

Buddy Eller

David B. Fountain

Jeffrey J. Lyash

Jill M. Matthews

John M. Thomas III

Tammy W. Wilson

Ben R. Wagner

OIG File No. 2022-17381



Office of the Inspector General

# *Evaluation Report*

To the Director, Enterprise  
Risk and Assurance

## **IDENTIFICATION OF TVA'S ENTERPRISE RISKS**

---

Evaluation Auditor  
Heather R. Kulisek  
Kenneth H. (Trey) Sims

Evaluation 2022-17381  
March 31, 2023

## **ABBREVIATIONS**

Board	Board of Directors
BU	Business Unit
ERC	Enterprise Risk Council
ELT	Executive Leadership Team
ERM	Enterprise Risk Management
FY	Fiscal Year
ISO	International Organization for Standardization
OMB	Office of Management and Budget
SBU	Strategic Business Unit
SPP	Standard Programs and Processes
TVA	Tennessee Valley Authority

## **TABLE OF CONTENTS**

EXECUTIVE SUMMARY .....	i
BACKGROUND.....	1
OBJECTIVE, SCOPE, AND METHODOLOGY .....	2
FINDINGS .....	3
EFFECTIVE IDENTIFICATION AND ASSESSMENT OF RISK.....	3
OPPORTUNITIES FOR IMPROVEMENT .....	4
ADDITIONAL INFORMATION.....	5
RECOMMENDATIONS .....	5

## **APPENDIX**

MEMORANDUM DATED MARCH 17, 2023, FROM JODIE BIRDWELL TO  
DAVID P. WHEELER



# Evaluation 2022-17381 – Identification of TVA’s Enterprise Risks

## EXECUTIVE SUMMARY

### Why the OIG Did This Evaluation

Enterprise Risk Management (ERM) provides an enterprise-wide, strategically aligned portfolio view of organizational challenges that provides improved insight about how to more effectively prioritize and manage risks. The Tennessee Valley Authority (TVA) Board of Directors established a formalized ERM program in 1999 to (1) develop a standard framework and (2) promote risk management awareness and techniques to manage risks throughout the company. Due to the importance of TVA identifying and assessing risks, we evaluated (1) the process used by TVA business units (BU) to identify risks and (2) how BU risks were used to comprise TVA's enterprise risk levels.

### What the OIG Found

We determined the processes used by TVA were generally effective for identifying strategic business unit (SBU)/BU risks and assessing those risks to determine enterprise level risks. Specifically, we determined (1) the process used by SBUs/BUs to identify and assess risks generally aligned with ERM guidance, (2) TVA’s risks generally aligned with risks identified by industry peers, and (3) changes to Enterprise Risk Category rankings and significant changes to SBU/BU risk assessments were reasonable.

While the processes used by TVA for identifying and assessing risk were generally effective, we identified some opportunities for improvement related to documentation of the ERM process and defining and documenting TVA’s risk appetite.<sup>i</sup> Fully documenting TVA’s ERM process and formally defining its risk appetite could help ensure that TVA’s framework for managing risk is clearly understood and implemented.

Additionally, we could not determine if the risks in the 2022 Enterprise Level Risk Portfolio adequately addressed the rolling blackouts that occurred on December 23 and 24, 2022. ERM personnel indicated the risk coverage will be evaluated after TVA has completed its assessment of the causes of the event.

---

<sup>i</sup> The risk appetite is the broad-based amount of risk an organization is willing to accept in pursuit of its mission/vision.



# Evaluation 2022-17381 – Identification of TVA’s Enterprise Risks

## EXECUTIVE SUMMARY

### What the OIG Recommends

We recommend TVA management (1) fully document the process used to identify and assess risks, (2) formally define and document TVA’s risk appetite, and (3) evaluate whether the inability to meet demand were adequately covered in the Enterprise Level Risk Portfolio.

### TVA Management’s Comments

In response to the draft report, TVA management agreed with two of the three recommendations and provided ongoing or planned actions to address the recommendations. In addition, TVA indicated their opinion there was not a procedural requirement to formally define and document TVA’s risk appetite. See the Appendix for management’s complete response.

### Auditor’s Response

We agree with TVA management’s ongoing and planned actions in response to our recommendations to (1) document the process used to identify and assess risks and (2) evaluate whether the inability to meet demand were adequately covered in the Enterprise Level Risk Portfolio. However, we recommend TVA management reconsider the planned action in regard to the recommendation on TVA’s risk appetite. See the attached report for our complete response.

## **BACKGROUND**

Enterprise Risk Management (ERM) provides an enterprise-wide, strategically aligned portfolio view of organizational challenges that provides insight about how to more effectively prioritize and manage risks. The Tennessee Valley Authority (TVA) Board of Directors (Board) established a formalized ERM program in 1999 to (1) develop a standard framework and (2) promote risk management awareness and techniques to manage risks throughout the company.

TVA Standard Programs and Processes (SPP) 13.017, *Enterprise Risk Management*, describes the approach for managing risks that affect the achievement of TVA's mission and strategic priorities. The SPP defines the following roles and responsibilities related to identification and assessment of risk:

- The Enterprise Risk Council (ERC) provides guidance and support for identification and prioritization of enterprise risks.
- The Risk Management Steering Committee is a cross-functional subcommittee of the ERC that provides guidance and support for TVA's ERM processes by identifying and elevating risks.
- The ERM organization administers TVA's ERM including:
  - Facilitating the identification of risks that may affect the organization's ability to achieve its strategy and business objectives.
  - Developing and providing templates and guidelines to business units (BU) to aid in their effort to better identify and manage their specific business and enterprise level risks.
  - Facilitating the assessment of identified risks and utilizing the assessment data to prioritize the portfolio based on severity.
- Risk and Performance Assurance collaborates with ERM to analyze the Enterprise Level Risk Portfolio and other risk inputs to verify the completeness of identified risks.
- Strategic business units (SBU)/BUs identify risks and provide subject matter expertise to assess the identified risks.

According to a 2022 TVA Whitepaper on ERM, TVA ERM utilizes a top-down and bottom-up perspective when developing TVA's Enterprise Level Risk Portfolio each year. Both assessments rate the probability and impact of the current residual risk.<sup>1</sup> The top-down assessment includes gathering executive perspective on the Enterprise Risk Categories that could shape TVA's performance outcomes over the planning horizon (typically the next 5 years) through surveys. Executive Leadership Team (ELT) members rate the residual

---

<sup>1</sup> Residual risk is TVA's remaining exposure after associated mitigations are fully implemented.

risk of TVA's 24 Enterprise Risk Categories.<sup>2</sup> The bottom-up assessment includes reviewing current SBU/BU risk portfolios to ensure completeness and accuracy of risk information as well as a probability and impact rating for each identified risk using TVA's risk rating scale. All identified risks are aligned to one or more of TVA's 24 Enterprise Risk Categories. The categories are ranked based on total risk exposure using the top-down/bottom-up analysis.

Several governance organizations have issued guidance related to risk management including:

- International Organization for Standardization (ISO) 31000, *Risk Management Guidelines*, provides a common approach to managing any type of risk and is not industry or sector specific.
- Office of Management and Budget (OMB) Circular No. A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control*, defines management's responsibilities for ERM and internal control.
- *Assessing the Risk Management Process*, issued by the Institute of Internal Auditors, provides examples of risk management maturity models and a basic methodology internal auditors may use to provide independent assurance that the organization's risk management process is effective.

Due to the importance of TVA identifying and assessing risks, we performed an evaluation of TVA's ERM Program.

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

Our objective was to evaluate (1) the process used by TVA BUs to identify risks and (2) how BU risks were used to comprise TVA's enterprise risk levels. The scope of our evaluation included fiscal years (FY) 2021 and 2022. To achieve our objective, we:

- Reviewed documentation to determine the requirements and practices for ERM including:
  - TVA-SPP-13.017, *Enterprise Risk Management*
  - 2022 TVA Whitepaper on ERM
  - ERM guidance from:
    - Government Accountability Office
    - Committee of Sponsoring Organizations of the Treadway Commission
    - Institute of Internal Auditors
    - ISO
    - OMB

---

<sup>2</sup> According to ERM personnel, Enterprise Risk Categories are determined through benchmarking, and executive leadership has an opportunity to propose new categories for consideration during the yearly assessment.



- Interviewed TVA's ERM personnel and SBU/BU risk coordinators<sup>3</sup> and reviewed available documentation to gain an understanding of the current ERM process and determine if the process aligns with guidance.
- Reviewed 32 significant changes<sup>4</sup> in the FYs 2021 and 2022 Enterprise Level Risk Portfolios to determine if the changes were reasonable. We considered a change significant if (1) the ranking for impact or probability changed more than one level, such as "low" to "high" or "medium" to "very low," or (2) risks were removed.
- Reviewed available benchmark data on top risks internationally and ELT survey data to determine if applicable risks were included in TVA's Enterprise Level Risk Portfolio.
- Compared risks identified in TVA's FY 2021 Form 10-K to:
  - The Form 10-K of 4 industry peers in FY 2021 to determine if TVA risk areas align with those of other utilities.
  - FY 2021 Enterprise Level Risk Portfolio to determine if all the risks in TVA's Form 10-K were addressed in the portfolio.

This evaluation was conducted in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*.

## **FINDINGS**

We determined the processes used by TVA were generally effective for identifying SBU/BU risks and assessing those risks to determine enterprise level risks. However, we identified some opportunities for improvement related to documentation of the ERM process and defining and documenting TVA's risk appetite.<sup>5</sup> Additionally, we could not determine if the risks in the 2022 Enterprise Level Risk Portfolio adequately addressed the rolling blackouts that occurred on December 23 and 24, 2022. ERM personnel indicated the risk coverage will be evaluated after TVA has completed its assessment of the causes of the event.

### **EFFECTIVE IDENTIFICATION AND ASSESSMENT OF RISK**

We determined the processes used by TVA were generally effective for identifying and assessing risks. Specifically, we determined (1) the process used by TVA SBUs/BUs to identify and assess risks generally aligned with ERM guidance, (2) TVA's risks generally aligned with risks identified by industry peers,

---

<sup>3</sup> Risk coordinators ensure risk information is up to date and collaborate cross-functionally with other SBUs/BUs on risks. Risk coordinators actively engage the SBUs/BUs on emerging issues/risks, risk strategy effectiveness, issues for escalation, and risk reporting requirements that arise throughout the year.

<sup>4</sup> There were 114 changes including changes to probability and/or impact and the addition or deletion of risks.

<sup>5</sup> The risk appetite is the broad-based amount of risk an organization is willing to accept in pursuit of its mission/vision.

and (3) changes to Enterprise Risk Category rankings and significant changes to SBU/BU risk assessments were reasonable.

Based on interviews and/or available documentation, we determined ERM aligned with guidance by:

- Providing insight into areas of organizational exposure to risk (such as reputational, financial, and safety).
- Utilizing managers and subject matter experts, closest to the programs and functions and most knowledgeable about the risks faced, to identify risks.
- Describing risks using a common language that resonates within TVA regardless of program office or individual expertise.
- Developing reporting systems and analysis that incorporate quantitative and qualitative information.
- Using a structured and systematic approach to determine enterprise level risks.

Additionally, we determined TVA's risks generally aligned with risks identified by industry peers. In 2021, TVA compared its Enterprise Risk Categories to the risks identified by 32 industry peers and found they aligned. We found that risks identified in the FY 2021 Form 10-Ks for 4 industry peers aligned with the risks identified in TVA's FY 2021 Form 10-K which aligned to TVA's Enterprise Level Risk Portfolio. In addition, we found that risks identified in FY 2022 benchmark data and ELT survey results were addressed in TVA's FY 2022 Enterprise Level Risk Portfolio. Lastly, the justifications for FY's 2021 and 2022 SBU/BU risk changes were reasonable.

## **OPPORTUNITIES FOR IMPROVEMENT**

While the processes used by TVA for identifying and assessing risk were generally effective, we identified some opportunities for improvement related to documentation of the ERM process and defining and documenting TVA's risk appetite. Fully documenting TVA's ERM process and formally defining its risk appetite could help ensure that TVA's framework for managing risk is clearly understood and implemented.

### **TVA's Processes**

According to ISO guidance, "The organization should implement the risk management framework by: developing an appropriate plan including time and resources; identifying where, when and how different types of decisions are made across the organization and by whom." On an annual basis, ERM performed workshops to identify and assess risks; however, these workshops, including what should be discussed during these workshops and the expected outcomes from these workshops, are not documented in TVA-SPP-13.017. Documenting TVA's ERM processes in its SPP could help ensure that TVA's framework for managing risk is clearly understood and practiced.

## Risk Appetite

According to OMB guidance, a risk appetite is the broad-based amount of risk an organization is willing to accept in pursuit of its mission/vision and serves as the guidepost to set strategy and select objectives. TVA-SPP-13.017 assigns the responsibility to coordinate the development and approval of the risk appetite to the ERC. According to the SPP, the risk appetite would then be used by the:

- Board-designated Audit, Risk, and Regulation Committee (currently referred to as the Audit, Finance, Risk, and Cybersecurity Committee) to guide and challenge the organization to manage enterprise risks within the risk appetite and tolerance to achieve the mission and strategic priorities.
- ERM to (1) provide SBUs/BUs with risk perspective to align business actions to enterprise risk tolerances and appetites in support of achieving TVA's mission and strategic priorities and (2) facilitate the development of SBU/BU level risk tolerances and risk appetites.
- SBUs/BUs to develop a mitigation strategy and plan to manage the risks within the agreed-upon appetite and tolerance level to support the achievement of TVA's mission and strategic priorities.

According to ERM management, TVA's risk appetite has not been formally defined and documented. However, defining and documenting its risk appetite should be an integral part of TVA's overall ERM process.

## ADDITIONAL INFORMATION

TVA had to limit its power delivery and impose rolling blackouts for some of its customers on December 23 through December 24, 2022, when several coal and natural gas power generating units did not operate as planned and adequate generation could not be purchased from neighboring markets due to high demand. While there were risks related to maintaining adequate capacity in the 2022 Enterprise Level Risk Portfolio, we could not determine if the risks sufficiently addressed the inability to meet demand. According to ERM personnel, the risk coverage will be evaluated when TVA has completed its assessment of the causes of the event.

## RECOMMENDATIONS

We recommend the Director, Enterprise Risk and Assurance:

- Revise TVA-SPP-13.017 to fully document the process used to identify and assess risks.

**TVA Management's Comments** – TVA management agreed with our recommendation and drafted language to include in TVA-SPP-13.017.

**Auditor's Response** – We concur with TVA's action.

- Formally define and document TVA’s risk appetite to comply with TVA-SPP-13.017.

**TVA Management’s Comments** – TVA management responded that its current process does comply with TVA-SPP-13.017. The response continued, TVA-SPP-13.017 does not state TVA has or should create a formal risk appetite statement. They also stated, in the area of risk appetite, ERM avoids jargon by meeting with TVA leaders and risk owners and asking whether they are “comfortable with” the risks on their portfolios. When a leader is not comfortable, TVA may be above its risk appetite.

While management believes they are in compliance with the SPP, they indicated they will adjust the procedure to include that risk appetite is “informally” discussed with risk owners by ensuring they are comfortable with current risk levels and are tracking thresholds for their top risks.

**Auditor’s Response** – We recommend TVA management reconsider the planned action. Updating TVA-SPP-13.017 to indicate the risk appetite is informally discussed does not align with other areas of the SPP. While TVA-SPP-13.017 does not specifically state TVA should formally define and document a risk appetite, it does assign responsibility to the ERC to coordinate the development and approval of TVA’s risk appetite. In addition, TVA-SPP-13.017 states (1) the Board-designated Audit, Finance, Risk, and Cybersecurity Committee “guides and challenges the organization to manage enterprise risks within the risk appetite and tolerance to achieve the mission and strategic priorities,” and (2) ERM “provides SBU/BU with risk perspective to align business actions to enterprise risk tolerances and appetites in support of achieving TVA’s mission and strategic priorities.” Informal conversations with TVA leaders and risk owners might not provide adequate information to fulfill the responsibilities defined in the SPP. In addition, the risk owners’ comfort with their individual risks would not address the cumulative effect those SBU/BU risks would have on TVA’s overall enterprise-level risk appetite that is referred to in the responsibilities mentioned above.

- Evaluate whether TVA’s inability to meet demand is adequately covered in the Enterprise Level Risk Portfolio.

**TVA Management’s Comments** – TVA management agreed with our recommendation. ERM is working with business partners to incorporate into the ERM process any gaps or lessons learned that will improve TVA’s risk portfolio.

**Auditor’s Response** – We concur with TVA’s action.



400 W. Summit Hill Dr., Knoxville, Tennessee 37902

March 17, 2023

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

Dear Mr. Wheeler:

RESPONSE TO REQUEST FOR COMMENTS – DRAFT EVALUATION 2022-17381 –  
IDENTIFICATION OF TVA'S ENTERPRISE RISKS

Thank you for your letter dated February 17, 2023, and for the opportunity to review the draft evaluation on TVA's Enterprise Risk Management program. We are pleased with your team's conclusion that the ERM process is "generally effective for identifying strategic business unit (SBU)/BU risks and assessing those risks to determine enterprise level risks." We also appreciate your conclusions that ERM (1) provides "insight into areas of organizational exposure to risk"; (2) utilizes managers and subject matter experts closest to the work to identify risks; (3) avoids the use of risk jargon in its communications; (4) utilizes quantitative and qualitative analysis; and (5) applies a "structured and systematic approach" to its work. These are all areas in which we take pride and continuously seek to improve an ongoing process. Thank you for your thoroughness in understanding the process and highlighting these strengths.

Our responses to your recommendations are as follows:

- (1) Recommendation 1: revise TVA Standard Programs and Processes (SPP) 13.017, Enterprise Risk Management, to include the annual workshops that ERM performs with business units to help identify and assess risks.*

We agree with this recommendation and have drafted the following language to include in SPP 13.017:

**Risk Identification and Risk Assessment Processes – Annual Risk Portfolio Workshops**

Risks emerge and evolve constantly; thus, it is important for management to stay informed of risks that could disrupt our ability to achieve stated objectives. ERM discusses emerging and evolving risks on an ongoing basis, but ERM and TVA business partners go through a dedicated process annually to update their risk portfolios, identify any new risks, assess the severity of risks based on probability and impact, and update the actions they utilize to manage the risk. The workshops also provide a forum for assessing risk appetite by

working with leadership and risk owners to understand if they are comfortable with the amount of risk that is currently being taken and determine if existing metrics can be used to monitor risks. The portfolios are then approved by the appropriate leader. ERM then compiles that information at an enterprise level to help TVA stay informed on the universe of risks that might impact the organization. These risk portfolios are used as a repository of potential risk concerns that ERM can monitor and track over time.

Risk updates from workshops are then combined with Executive Leadership Team risk surveys, resulting in an updated enterprise risk portfolio to inform the strategic and business planning processes.

*(2) Recommendation 2: "formally define and document TVA's risk appetite to comply with TVA SPP-13.017."*

TVA respectfully submits that its current process does comply with TVA SPP-13.017. The SPP uses the phrase "risk appetite" generically as "the amount of risk TVA is willing to accept." The SPP nowhere states that TVA has or should create a formal risk appetite *statement*. ERM uses common language to develop and ensure risk understanding across the enterprise. In the area of risk appetite, ERM avoids jargon by meeting with TVA leaders and risk owners and asking whether they are "comfortable with" the risks on their portfolios. When a leader is not comfortable, TVA may be above its risk appetite. The questions then become: (1) Why are we above our risk appetite? (2) How do we get back within our risk appetite? and (3) Does our tolerance need to change due to the current environment?

This process operationalizes risk appetite. ERM has risk appetite conversations, but risk appetite is just not formalized in qualitative statements because the process can be labor intensive and formal statements can be too generic to help the business make decisions and inform personnel. There may be an appropriate time to formalize one or more risk appetite statements in the future on a case-by-case basis.

We will adjust our procedure to include that we "informally" discuss risk appetite with risk owners by ensuring they are comfortable with current risk levels and are tracking thresholds for their top risks.

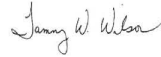
*(3) Recommendation 3: the OIG could not determine whether the rolling blackouts on December 23 and 24 were covered by the risk portfolio; therefore, recommends that TVA evaluate whether TVA's inability to meet demand is covered by the ERM process.*

We will be evaluating this recommendation in the normal course of business. This topic was not originally included in the scope of this audit, but we agree that TVA should and will evaluate it. After major events that challenge TVA's processes or operations, the ERM team works with TVA's business partners to incorporate into the ERM process any gaps or lessons learned that will improve TVA's risk portfolio. We are doing that now and will continue to do so. We will learn as much as we can from the after-action committee's findings to improve the ERM process.

Sincerely,



Jodie Birdwell  
Director  
Officer  
Enterprise Risk & Assurance  
Financial Services



Tammy Wilson  
Vice President, Treasurer, and Chief Risk  
Officer  
Treasury and Risk  
Financial Services