



Memorandum from the Office of the Inspector General

March 28, 2014

James R. Dalrymple, LP 3K-C

**FINAL REPORT – AUDIT 2012-14744 – AUDIT OF ASSET PERFORMANCE
VULNERABILITY RISK – EQUIPMENT**

We reviewed Coal Operations' (CO) 4th quarter fiscal year (FY) 2012, 2nd quarter FY2013, and 4th quarter FY2013 enterprise risk maps for asset performance vulnerability to assess whether risk mitigation plans and actions were established and properly designed to manage risks. We determined the 4th quarter FY2013 mitigation plans and actions were adequately designed to manage risks; however, the risk rating and trend¹ had increased over the past 2 years. We also identified an opportunity to improve risk mitigation strategy documentation.

BACKGROUND

In July 2010, the Tennessee Valley Authority (TVA) signed into effect an Enterprise Risk Management (ERM) Policy,² which provides requirements and guidance on risk management activities within TVA. The policy states strategic business units within TVA are responsible for managing risks within their business operations and should (1) identify and assess risks associated with achieving their business objectives and (2) develop risk management plans that mitigate risk based on TVA's ERM Guidelines.³ One such strategic business unit within TVA is the CO organization.⁴ In support of TVA's vision, which includes an aspiration to be one of the nation's leaders in customer reliability, CO's mission is "to provide low-cost, reliable generation while keeping [TVA] people safe and ensuring compliance with environmental regulations."

As required by the ERM Policy, CO identified several risks associated with achieving its business objective and developed mitigation plans for those risks. These risks and mitigation plans are captured on risk maps. One such risk identified by CO is asset performance vulnerability which the organization defined as: (1) asset performance risks affecting CO's ability to be available to provide reliable generation when called on to meet

¹ The trend shows how the risk assessment is expected to change in some future update absent any additional mitigations.

² The ERM Policy refers to TVA-SPP-13.17.

³ The ERM Guidelines refers to TVA-SPP-13.17.1.

⁴ Coal Operations currently operates under the name Power Operations.

TVA system demands and (2) unit availability risk driven by equipment-failure-related forced/maintenance outage events and planned outage extension of significant durations. The risk is included in TVA's Asset Performance and Operations enterprise risk category. That category focuses on assets performing reliably and constantly as required by the power supply plan.

The ERM Guidelines provide a scale for rating the probability and consequence⁵ of identified risks. The scale for probability includes remote, unlikely, even odds, very likely, and virtually certain. The scale for consequence includes minor, moderate, major, severe, and worst case. Additionally, the consequence scale is divided into four subcategories to indicate the strategic objective most likely impacted by a risk occurrence: public image, safety, financial, and environmental. As of 4th quarter FY2013, CO rated the risk of asset performance vulnerability as a very likely probability having moderate⁶ financial consequence.

According to a version of the 4th quarter FY2013 risk map, CO has four mitigation plans and six mitigating actions, or projects, for the risk of asset performance vulnerability. Three of CO's mitigation plans focused on reducing the probability of occurrence, while the other mitigation plan concentrated on reducing the consequences. The risk map includes continuing plants and those scheduled to be idled.

OBJECTIVE, SCOPE AND METHODOLOGY

Due to the importance of reliable energy production at TVA, we chose to audit the risk of asset performance vulnerability in CO. The audit objective was to assess whether risk mitigation plans and actions were established and properly designed to manage the risk. We did not assess the operating effectiveness of the mitigation plans and actions.

To achieve our objective, we:

- Obtained and reviewed relevant Standard Programs and Processes for information on policies, procedures, and control activities related to TVA's ERM to gain an understanding of the risk management procedures. We did not perform testing of internal controls; our intent was to simply gain an understanding of those activities within the ERM process.
- Obtained and reviewed the 4th quarter FY2012, 2nd quarter FY2013, and 4th quarter FY2013 enterprise risk maps to acquire the definition of the risk, the rating of the risk, the mitigation strategy, and the mitigating actions. We reviewed the definition of the risk and used professional judgment to determine if the mitigation strategy and mitigating actions address the risk as it is defined. We also obtained other past versions of the risk map to note if the risk rating changed (i.e., increased or decreased) over time.

⁵ The ERM Guidelines define probability as the likelihood or frequency of a risk occurring, while consequence is defined as the outcome of an event.

⁶ The ERM Guidelines define very likely as a 75-percent probability that the event will occur in the next 36-60 months, while a moderate financial consequence is defined as a \$25-\$100 million impact.

- Interviewed CO personnel to obtain information and documentation related to the risk and the design of the risk map and to determine if additional actions were being taken that were not documented on the risk map. We used this information and documentation in conjunction with professional judgment to identify an opportunity to improve the mitigation strategy documentation.

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

FINDINGS

We determined the 4th quarter FY2013 mitigation plans and actions were adequately designed to manage the risks. Although the risk rating and trend had increased from 2 years ago,⁷ in our opinion, mitigation plans and actions that consider utilization of assessment tools, replacing components during planned outages, development and implementation of projects and programs to avoid consequences, and reclassification of components to capital from Operations and Maintenance to increase investment in long-term improvements reasonably address the risk of asset performance vulnerability in CO.

During our audit, we identified an opportunity to improve CO's risk mitigation documentation. Specifically, we found that actions included on the 2nd quarter FY2013 risk map lacked detail to allow individuals unfamiliar with CO to determine how those actions could reduce the risk of asset performance vulnerability in CO. The 2nd quarter FY2013 risk map listed one general action and one specific action: (1) implement FY2013 business plan projects and outages and (2) preventative maintenance program. The risk owners stated that when the 2nd quarter FY2013 map was developed, specific actions were not included because those actions contained business sensitive information related to TVA's plans for idling of its coal-fired plants/units, including future staffing needs. At various times during this audit, the Office of the Inspector General discussed this improvement opportunity with the risk owner and suggested adding detail to mitigating actions. The version of the 4th quarter FY2013 risk map contains five specific mitigating actions and one general mitigating action, which addressed our suggestion.

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⁷ According to TVA, the increase in risk rating and trend from 2 years ago is due to decreased funding in general in conjunction with a minimal funding strategy for units scheduled to be idled. TVA has made the decision to accept some risks and stop long-term investment in the units that are scheduled to be idled, with the exception of safety and regulatory concerns.

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This report is for your review and information. No response to this report is necessary. Information contained in this report may be subject to public disclosure. Please advise us of any sensitive information that you recommend be withheld.

If you have any questions, please contact Jamie M. Wykle, Auditor, at (865) 633-7382 or Lisa H. Hammer, Director, Operational Audits, at (865) 633-7342. We appreciate the courtesy and cooperation received from your staff during the audit.

A handwritten signature in black ink that reads "Robert E. Martin". The signature is written in a cursive, slightly slanted style.

Robert E. Martin
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