



Memorandum from the Office of the Inspector General

September 24, 2013

Charles G. Pardee, WT 7B-K

FINAL REPORT – EVALUATION 2012-14845 – REVIEW OF TVA'S NUCLEAR POWER GROUP PREVENTIVE MAINTENANCE

Attached is the subject final evaluation report for your review and action. Your informal written comments, which addressed your management decision and final action for one of the recommendations, have been incorporated in the report. Please advise us of your planned actions in response to the remaining five recommendations within 60 days from the date from this report.

Information contained in this report may be subject to public disclosure. Please advise us of any sensitive information in this report that you recommend be withheld.

If you have any questions or wish to discuss our findings, please contact me at (865) 633-7450 or Gregory R. Stinson, Director, Evaluations, (865) 633-7367. We appreciate the courtesy and cooperation received from your staff during the audit.

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OIG File No. 2012-14845



Office of the Inspector General

Evaluation Report

To the Executive Vice President
and Chief Operating Officer,
Operations

REVIEW OF TVA'S NUCLEAR POWER GROUP PREVENTITIVE MAINTENANCE

Audit Team

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Evaluation 2012-14845
September 24, 2013

ABBREVIATIONS

BFN	Browns Ferry Nuclear Plant
CY	Calendar Year
EFOR	Equipment Forced Outage Rate
EMPAC	Enterprise Maintenance Planning and Control
ERI	Equipment Reliability Index
FY	Fiscal Year
INPO	Institute of Nuclear Power Operations
NPG	Nuclear Power Group
OIG	Office of the Inspector General
PER	Problem Evaluation Report
PM	Preventive Maintenance
PMO	Preventive Maintenance Optimization
SQN	Sequoyah Nuclear Plant
TVA	Tennessee Valley Authority
WBN	Watts Bar Nuclear Plant

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Evaluation 2012-14845 – Review of TVA’s Nuclear Power Group Preventive Maintenance

EXECUTIVE SUMMARY

Why the OIG Did This Evaluation

Preventive Maintenance (PM) is predictive, repetitive, and planned maintenance actions taken to maintain a piece of equipment and extend its life. PM is important to the reliable operation of assets. As a result of recent issues with nuclear performance, we conducted a review of Nuclear Power Group’s (NPG) PM program. The objective of our review was to determine if nuclear plant PM has been performed in accordance with established schedules and, if not, what effect the deviations are having.

What the OIG Found

We found that reported PM metrics may not be accurate. We were unable to determine the actual number of Late PMs and PM Deferrals for Tennessee Valley Authority’s (TVA) three nuclear plants. During our review, we identified several concerns that raised questions about the validity of the reported PM metrics. For calendar year 2012, we were provided two sets of PM metrics for each site. There were differences in the data sets, and some of the differences were significant. TVA personnel were unable to reconcile the two sets of metric numbers. This made it impossible to determine the actual PM performance and what should have been reported.

Additionally, the three plants were not consistently using the “Counts as Deferral” flag in Maximo, thus preventing certain deferrals from being identified and considered for the deferral count. Also, we found there was inconsistency in how the Late PM metric was reported. These issues will impact the value of the NPG Equipment Reliability Index that is part of NPG’s Winning Performance Scorecard for fiscal year 2013.

We also found the deviations from PM schedules are negatively affecting system and component health. Sixteen of 34 system health reports and four of eight component health reports we reviewed listed PM as an issue. While PM Program Health has historically been rated poorly, there has been improvement recently.

TVA started a Preventive Maintenance Optimization (PMO) program to bring its PM program in line with industry standards. Due to slow progress at all three plants, escalations were filed to raise the concern to a higher level. NPG-SPP-01.4, Governance, Oversight, Execution, and Support Program, provides an escalation process to address performance weaknesses where sites are not implementing timely actions to improve performance.



Evaluation 2012-14845 – Review of TVA’s Nuclear Power Group Preventive Maintenance

EXECUTIVE SUMMARY

What the OIG Recommends

We recommend the Executive Vice President and Chief Operating Officer, Operations, take steps to (1) define methods for consistent and accurate reporting of PM metrics across the nuclear fleet, including a step for verification and retention of documentation for items manually excluded; (2) address issue with the “Counts as Deferral” flag used in PM tracking; (3) perform an analysis to determine what impact inaccurate PM data could have on the Equipment Reliability Index calculation for fiscal year 2013 Winning Performance; (4) reduce deviations from PM schedules; (5) take necessary actions to prevent reoccurring PMO implementation problems resulting from lack of site support; and (6) expedite PMO efforts.

TVA Management’s Comments

TVA management agreed with the findings and recommendations in this report.

Auditor’s Response

The OIG concurs with TVA management’s comments.

BACKGROUND

Tennessee Valley Authority's (TVA) nuclear plants contribute approximately 6,600 megawatts of electricity to the power grid, which is about 30 percent of TVA's power supply, making the Nuclear Power Group (NPG) an integral part of the seven-state power system. TVA's three nuclear power plants—Browns Ferry Nuclear Plant (BFN), Sequoyah Nuclear Plant (SQN), and Watts Bar Nuclear Plant (WBN)—make enough electricity to power more than three million homes in the Tennessee Valley. According to TVA, Nuclear's challenge is to continue its mission to ensure safe plant operations and achieve its vision of being the best multi-site nuclear power operator in the world.

Preventive Maintenance (PM) is predictive, repetitive, and planned maintenance actions taken to maintain a piece of equipment and extend its life. NPG-SPP-06.2, Preventive Maintenance, describes the process and related requirements for controlling PM activities at the sites. This procedure applies to all groups involved in establishing, executing, revising, and monitoring the effectiveness of nuclear plant PM programs. Also, this procedure is a key part of the implementation of the NPG's Equipment Reliability program and endorses the key attributes of PM in the Institute of Nuclear Power Operations' (INPO) AP-913, Equipment Reliability Process Description. The purpose of TVA's PM program is to maintain a reliability-centered balance of predictive and other preplanned maintenance activities which reduces the need for corrective maintenance efforts.

OBJECTIVE, SCOPE, AND METHODOLOGY

PM is important to the reliable operation of assets. As a result of recent issues with nuclear performance, we conducted a review of NPG's PM program. The objective of our review was to determine if nuclear plant PM has been performed in accordance with established schedules and, if not, what effect the deviations are having. The scope of our review included calendar year (CY) 2010-2012.

To achieve our objective, we reviewed:

- Policies and procedures and interviewed key personnel to determine PM requirements.
- INPO AP-913, Equipment Reliability Process Description, to determine the industry standard for PM.
- PM metrics from CY2010-2012 to identify historical status of NPG PM.
- Supporting documentation for the PM metrics for CY2012.
- PM Program Health Reports for CY2011-2012 to determine program health.
- A random sample of Nuclear system and component health reports from CY2011-2012 to determine if PM effects system health.

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

FINDINGS AND RECOMMENDATIONS

We found that the reported PM metrics¹ may not be accurate. During our review, we identified several concerns that raised questions about the validity of the reported PM metrics. For CY2012, we were provided two sets of PM metrics for each site. There were differences in the data sets and some of the differences were significant. TVA personnel were unable to reconcile the two sets of metric numbers. This made it impossible to determine the actual PM performance and what should have been reported. Additionally, the three plants were not consistently using the "Counts as Deferral" flag in Maximo,² thus preventing certain deferrals from being identified and considered for the deferral count. Also, we found there was inconsistency in how the Late PM metric was reported. These issues will impact the value of the NPG Equipment Reliability Index (ERI), which is part of NPG's Winning Performance Scorecard for fiscal year (FY) 2013. We also found that the deviations from PM schedules are negatively affecting system and component health. Sixteen of 34 system health reports and four of eight component health reports we reviewed listed PM as an issue. While PM Program Health has historically been rated poorly, there has been improvement recently. TVA started a PM Optimization (PMO) program to bring its PM program in line with industry standards. Due to slow progress at all three plants, escalations³ were filed to raise the concern to a higher level.

PM METRICS REPORTED MAY NOT BE ACCURATE

We found that reported PM metrics may not be accurate. We were unable to determine the actual number of Late PMs and PM Deferrals for TVA's three nuclear plants. During our review, we identified several concerns that raised questions about the validity of the reported PM metrics. For CY2012, we were provided two sets of PM metrics for each site. There were differences in the data sets and some of the differences were significant. TVA personnel were unable to reconcile the two sets of metric numbers. This made it impossible to determine the actual PM performance and what should have been reported. Additionally, the three plants were not consistently using the "Counts as Deferral" flag in

¹ PM metrics are used internally by management and reported to INPO. INPO was established to specify appropriate safety standards including those for management, quality assurance, and operating procedures and practices and conduct independent evaluations. INPO works to help the nuclear power industry achieve the highest levels of safety and reliability—excellence—through plant evaluations, training and accreditation, event analysis and information exchange, and assistance.

² Maximo is the TVA system of record for Asset and Location information.

³ NPG-SPP-01.4, Governance, Oversight, Execution, and Support Program, provides an escalation process to address performance weaknesses where sites are not implementing timely actions to improve performance. The escalation process directs and documents the formal notification of corporate officers, vice presidents, and site leadership of issues identified during the corporate oversight function that are not being adequately addressed by the site's line organization.

Maximo, and we found inconsistency in how the Late PM metric was reported. These issues will impact the value of the NPG ERI calculation, which is part of NPG's Winning Performance Scorecard for FY2013.

We reviewed PM metrics for CY2010-2012, including metrics for critical PMs deferred,⁴ total PMs deferred,⁵ critical PMs in second half grace,⁶ total PMs in second half grace,⁷ and Late PMs⁸ reported by each site. We also reviewed additional documentation for those metrics for CY2012 provided by NPG Corporate.

For CY2012, there were differences in the data sets and some of the differences were significant. TVA personnel were unable to reconcile the two sets of metric numbers. This made it impossible to determine the actual PM performance and what should have been reported. According to TVA, the site PM metrics are reported to INPO and used internally by management.

While they were unable to reconcile the numbers, plant and NPG Corporate personnel provided some possible explanations for what may have caused the differences. One explanation for the differences is the timing of when the reports used for calculating the metric were pulled. According to TVA, a matter of a few hours could make a difference. Another reason provided was that PMs are not required for out-of-service equipment until the equipment is back in service. Personnel from one plant mentioned they did not manually adjust the late date for out-of-service items to when the item was estimated to be back in service but marked off those items from the reported metrics at the end of the month.

At BFN, it was discovered the report query used was insufficient to identify all PM Deferrals within a current month. That error resulted in BFN providing inaccurate data to populate the indicators for critical PMs Deferred and total PMs Deferred. According to NPG Corporate personnel, this issue potentially affected the PM deferral metrics by not counting some PM Deferrals that should have been counted. This issue was not limited to BFN, as some instances were also identified at SQN and WBN. A Problem Evaluation Report (PER) was created and a Service Request was initiated to address this issue, which was marked complete as of June 27, 2013, indicating the issue was resolved.

⁴ Critical PMs are those that have been coded Critical or High Critical as per INPO AP-913, Equipment Reliability Process Description.

⁵ Total PMs are indicative of the organizations ability to handle existing PM work load.

⁶ Critical PMs in second half grace reflect the ability of the organization to maintain their most critical PMs on or near their due dates. The grace period is defined as a time after the scheduled due date in which the activity may be completed without being considered late and is normally 25 percent beyond the due date. Other percentages may be used for the grace period at the PM Coordinator's discretion.

⁷ Total PMs in second half grace reflect the ability of the organization to handle the overall workload with given resources. This is more of a leading indicator compared to deferrals or Late PMs.

⁸ Late PMs are the number of PM tasks that exceeded their original late dates without an approved extension or deferral.

Another issue with the PM reporting was also identified. All three plants were not consistently using the “Counts as Deferral” flag in Maximo, which prevented certain deferrals from being identified and considered for the deferral count. This issue applies to both critical and noncritical PM Deferrals. All deferrals should have been evaluated and marked either “Yes” or “No.” Since all deferrals were not dispositioned, there is the potential that deferrals might not have been counted. BFN had a significant amount of deferrals not flagged, while WBN and SQN had fewer instances.

Also, we found there was inconsistency in how the Late PM metric was reported. In discussions with TVA personnel, it was determined that in some months, the Late PM metric was divided by the number of units,⁹ while in other months they were not divided by unit. Reporting the metric in two different manners reduces the ability to historically trend the metric. TVA issued a Service Request for a PER on July 10, 2013, to address the confusion on reporting Late PMs, immediately after discussions about the issue.

In FY2013, one of Corporate NPG’s Winning Performance Scorecard measures is NPG ERI. The NPG ERI has a 15 percent weight on Corporate NPG’s Performance Scorecard in the Reliability category. Deferral of critical PMs and timely completion of critical PMs are two factors in the ERI, which together account for 10 percent of the total score. The issues identified will impact the value of the NPG ERI. While our scope only covered 3 months of FY2013 data, some of the problems identified have not been resolved and could impact additional 2013 data.

DEVIATIONS FROM PM SCHEDULES ARE NEGATIVELY AFFECTING HEALTH

We found that deviations from PM schedules are negatively affecting system and component health. PM Program Health¹⁰ has historically had poor ratings¹¹ but is improving.

⁹ The metrics are to be reported out on a per unit basis. The number reported should equal the total number of Late, Deferred, or PMs in grace divided by the number of operating units for the plants; with 3 for BFN, 2 for SQN, and 1.4 for WBN.

¹⁰ System, program, and component health monitoring provides a method to improve and maintain equipment performance by identifying shortfalls in equipment or programs, identifying issues from internal or external operating experience, identifying issues that will affect future performance of equipment, and identifying opportunities offered by emerging technologies, benchmarking, or innovations that improve equipment performance.

¹¹ System, program, and component health are assigned a color rating based on a numerical system. A red rating is defined as intolerable and requires excessive monitoring/resources to maintain. A yellow rating is defined as not acceptable and needs additional attention. A white rating is defined as needs improvement and current performance/activities are appropriate.

As part of another review,¹² a random sample of 50 system, component, and program health reports with statuses of red or yellow (indicating poor health) was selected for testing. A review of those 50 reports found that lack of PM activities contributed to declining health for multiple systems and components. Of the 50 reports in the sample, 16 of the 34 system health reports, 4 of the 8 component health reports, and none of the 8 program health reports listed PM as an issue. The 16 system health reports were rated red or yellow for the indicator titled Critical Component Deferred and Late PMs. The following detailed comments were provided in some of the reports reviewed:

- A system health report stated the system was declining partly due to Critical Component Deferred PMs.
- A system health report stated one of the major issues affecting health was four Critical Component Deferred PMs.
- Two system health reports stated the system was red due to maintenance activities not being performed; and one of those stated that aging equipment not being rebuilt along with Deferred PMs was placing the system at risk.
- A system health report stated Critical Component Deferred/ Late PMs continued to negatively impact system health.
- A system health report stated one of the issues that was most challenging to the system's overall health was Critical Component Deferred PMs.
- A component health report rated red stated one of the reasons for the downgrade in color rating was excessive Deferred PMs.

TVA began developing PM program health reports for Nuclear in 2011. We reviewed these reports and found the health was poor but improved from 2011 to 2012. All three plants were rated as red in the first half of 2011. By the second half 2012, BFN and WBN raised their rating to yellow, while SQN raised its rating to white. According to NPG corporate management, more site focus is needed to ensure thoroughness and accuracy in the PM program health reports. Table 1 below details the Program Health ratings for the three plants for 2011 and 2012.

Table 1: PM Program Health Ratings CY2011-2012

PM Program Health Ratings						
Time Frame	BFN		SQN		WBN	
	Color	Rating	Color	Rating	Color	Rating
First Half 2011	Red	63.25	Red	59.25	Red	66.25
Second Half 2011	Red	37.75	Red	61.75	Yellow	79.5
First Half 2012	Yellow	80	Yellow	77	Yellow	79
Second Half 2012	Yellow	82	White	83	Yellow	80

Source: Table developed from TVA data on nuclear plant PM program health.

¹² Evaluation 2012-14842 – Actions to Address Nuclear Plant Systems, Components, and Programs.

The initial PM program health report, prepared for the first half of CY2011, for all three plants stated the PM program processes had not been effective in optimizing PM program execution. This had resulted in maintenance resource requirements exceeding resource availability and had adversely impacted the ability to address corrective maintenance issues and implement plant improvements.

The next PM program health reports, completed for the second half of CY2011, issued for all three plants stated:

- All three sites questioned the current PM organization structure, fractured nature of PM ownership, loss of expertise to deal with technical justifications of deferrals, and resources applied to the maintaining of the PM program.
- Established roles were not consistently performed the same across the fleet.
- Evidence of a number of systems being chronically red or yellow in system health color for several years and the excessively high number of PM backlog served as touch points to illustrate tolerance of precursors to equipment failures and degraded conditions.
- The PM program had not been implemented effectively as evidenced by a high number of PM Deferrals, Late PMs, and equipment failures due to lack of PMs.
- The fractured nature of PM ownership magnified departmental concept differences; these conceptual differences were not always aligned and tend to work against a cohesive program.

In 2012, the PM program health reports started to show some improvements. According to TVA, actions taken as part of the PMO helped improve the PM program health rating. The reports for all three plants stated:

- There are many processes in place to help identify and mitigate the PM long-standing weaknesses; PMO is being used to upgrade BFN, SQN, and WBN PMs to the Electric Power Research Institute templates and ensure the right PM is performed on the right components.
- The PM program procedure was revised to incorporate over 300 comments to strengthen fleet standardization.
- The backlog of PM change requests continued to challenge the plants and changes due to PMO, and additional PMs from the corrective actions process continued to place a high demand on the PM program.
- The number of Deep in Grace¹³ PMs and critical deferrals remained a concern, but the improving trend appeared consistent and sustainable.

¹³ Deep in Grace is the second half of the grace period.

The initial PM program health report, completed for the first half of CY2011 for WBN, stated that PM activities were being rescheduled at a high rate and could ultimately challenge the sites' efforts to maintain a high standard of equipment reliability. A later PM program health report for WBN, completed for the second half of 2011, stated that there was continued resistance to the current PM organization structure, as work management thought PMs should be in Maintenance, and Maintenance thought PMs should be in Engineering. The report also stated that central focus on PMs was lacking due to a fractured structure for implementation and maintenance of the PM program.

A 2011 PM program health report for BFN stated that PM backlog continues to be a problem for all three sites. The same report stated that system engineers did not believe they were in the loop, and the plant needed to figure out how to make this a team effort. A 2012 PM program health report for BFN stated that PM backlog continued to be a concern, but a sustained work-off curve is being maintained by all three sites. The last PM program health report for BFN in 2012 stated that Critical PMs Deep in Grace had been a chronic problem and outside of industry norms, which was possibly contributing to reduced equipment reliability. However, the same report stated that the site has made good progress on Critical Component Deferred PMs. The last PM program health report for BFN also stated that significant improvement has been achieved in Late PMs, with none since July 2011.

Table 2 below shows TVA's Equipment Forced Outage Rate (EFOR) for FY2010-2012.

Table 2: TVA Nuclear EFOR FY2010-2012

TVA Nuclear EFOR		
FY2010	FY2011	FY2012
4.9%	2.7%	1.7%

The EFOR reflects the percentage of hours within the period that the asset was not available to operate due to an unplanned (forced outage or derating) event. TVA's PM Program Health improved from CY2011 to CY2012 and also TVA Nuclear's EFOR improved, which can be seen in the table above.

PMO DELAYS AND ESCALATION

In early 2009, TVA began to implement a PMO program. Due to slow progress and limited buy in at the sites, multiple escalations have been filed to raise the concern to higher levels within the organization. Each plant received at least one escalation related to delays in the PMO progress. NPG-SPP-01.4, Governance, Oversight, Execution, and Support Program, provides an escalation process to address performance weaknesses where sites are not implementing timely actions to improve performance. The escalation process directs and documents the formal notification of corporate officers, vice presidents, and site leadership of

issues identified during the corporate oversight function that are not being adequately addressed by the site's line organization.

In 2000, TVA started a PM program, preventive maintenance management process (PMM 2000), where they scoped all PM tasks in a months' time at each site. The program was not successful as it saw failures going forward. In 2004, the industry released INPO AP-913 Equipment Reliability Process Description for equipment reliability guidelines, which includes activities normally associated with preventive maintenance. The intent of INPO AP-913 is to identify, organize, and integrate equipment reliability activities into a single efficient and effective process. In 2004, TVA did not adopt these standards.

In early FY2009, TVA brought in a contractor to start a PMO program at BFN to develop a PM program with the industry standards and create industry templates that would be used to convert to Enterprise Maintenance Planning and Control (EMPAC).¹⁴ BFN delayed entering the industry templates, and they were not entered into EMPAC before TVA switched over to Maximo, so the templates could not be installed. Also, plant personnel had instructed the contractors to make exceptions to the templates when they were created. An example of an exception would be changing the PM template from a 7-year replacement to a 5-year inspection. According to NPG Corporate management, contractors were being pulled off the PMO to do other non-PMO work. At this point, another contract was issued to create new templates to work with Maximo. BFN delayed uploading the templates again, so the Corporate Functional Area Manager wrote an escalation. TVA made the PMO a fleet project and added WBN and SQN to the PMO. Corporate had similar challenges with the other sites and had to go to escalations on them as well. Details of the challenges and escalations can be seen in Table 3 below and continuing on the following page.

Table 3: TVA Nuclear PMO Escalations

PMO Escalations				
Plant	Date of Escalation	Level of Escalation	Details	Escalation Response
BFN	September 2012	1	<ul style="list-style-type: none"> BFN PMO was completed in the 2009 time frame; however, a significant number of Maintenance Strategies for electrical components had not been approved in IQReview,¹⁵ resulting in potential impact to the reliability of the affected equipment. Some PMs submitted in support of Maintenance Strategies have been rejected 	PMO Recovery Plan on December 2012

¹⁴ EMPAC is a Work Management System.

¹⁵ IQReview provides standardization and automation of the Maintenance Strategy implementation process.

PMO Escalations				
Plant	Date of Escalation	Level of Escalation	Details	Escalation Response
			<p>by site organizations.</p> <ul style="list-style-type: none"> Failure to complete implementation of PMO for electrical components represented a substantial threat to generation. 	
BFN	June 2013	2	<ul style="list-style-type: none"> The PMO recovery plan schedule was not met, and the July 2013 finish date was no longer possible. 	BFN responded to the escalation in August 2013. The response detailed the actions to be taken to address the escalated issue.
WBN and SQN	April 2012	1	<ul style="list-style-type: none"> The PMO project at WBN/SQN had been repeatedly delayed from the original schedule due to insufficient allocation of site resources to complete the project. The delay had also resulted in significant additional cost to TVA for vendor support. The original schedule for the PMO project that was agreed to by WBN/SQN and developed with input from the site was to be completed by the end of FY2011. The schedule was revised three times. 	PMO Recovery Plan on May 2012
SQN	January 2013	2	<ul style="list-style-type: none"> The recovery plan developed in response to a Level 1 escalation in April 2012 was not completed by its target date, and an additional extension was requested, bumping the date from September 2012 to January 2013. The extension required an additional short-term extension of contract resources for support and additional expenses. The January 2013 revised date was not met resulting in the fifth schedule change. 	<p>PMO Recovery Plan on January 2013</p> <p>(The new recovery plan had the latest action due date set for February 2013. SQN completed their plans for that phase but not on time.)</p>

According to NPG corporate management, PERs were created for each escalation, which included a root cause analysis. The root cause analyses showed that they have a lack of site support due to emergent issues.

RECOMMENDATIONS

We recommend the Executive Vice President and Chief Operating Officer, Operations, take steps to:

- Define methods for consistent and accurate reporting of PM metrics across the nuclear fleet, including a step for verification and retention of documentation for items manually excluded.
- Address issue with the “Counts as Deferral” flag used in PM tracking.
- Perform an analysis to determine what impact inaccurate PM data could have on the ERI calculation for FY2013 Winning Performance.
- Reduce deviations from PM schedules.
- Take necessary actions to prevent reoccurring PMO implementation problems resulting from lack of site support.
- Expedite PMO efforts.

TVA Management’s Comments – The General Manager, Equipment Reliability and Components, provided a written response to a draft of this report. TVA management agreed with the findings and recommendations in this report.

TVA management has through their own reviews identified some similar issues identified by the Office of the Inspector General. The number of late PMs and PM Deferrals is one area where they identified a similar concern. TVA completed an independent review of a 3-month period which determined the confusion appears to mainly be focused on the BFN site where the “Counts as Deferral” MAXIMO flag and the number of Late and Deferred PMs lacked reporting consistency. Using the data from the independent review, in response to the third recommendation, TVA management performed an analysis to determine what impact inaccurate PM data could have on the ERI calculation for FY2013 Winning Performance. TVA management’s analysis showed that inaccurate PM data would not affect the Winning Performance payout, based on the category thresholds. Prior to the final report being issued for NPG performance of ERI for FY2013, an independent check will be performed by the Corporate Functional Area Managers in their areas to ensure that all values reported are verified for the Winning Performance report.

TVA management concurs with the finding that deviations from PM schedules are negatively affecting system and component health and identified it through fleet metric trend and two PERs. TVA is developing an action plan to redress this performance issue. Additional training and necessary procedural clarifications for

PM tracking are already under review to ensure consistency of the data reporting for this program.

Delays in the results from the PMO implementation has been discussed with the plant manager peer team and has been brought to the attention of the Senior Vice President of Nuclear Operations. A discussion is being scheduled to review all the data and issues associated with the PMO with the Senior Vice President of Nuclear Operations including the escalations that have occurred at each site to garner support for focused attention across the fleet for this critical issue.

In addition, management is determining the appropriate actions to address the remaining five recommendations.

Auditor's Response – The Office of the Inspector General concurs with TVA management's comments.