



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

September 26, 2018

David W. Sorrick, LP 3K-C

**REQUEST FOR FINAL ACTION – EVALUATION 2017-15511 – COAL CONDITION REPORTS**

Attached is the subject final report for your review and final action. Your written comments, which addressed your management decision and actions planned or taken, have been included in the report. Please notify us when final action is complete. 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 Lucas W. Cotter, Auditor, at (423) 785-4826 or E. David Willis, Director, Evaluations, at (865) 633-7376. We appreciate the courtesy and cooperation received from your staff during the evaluation.

David P. Wheeler  
Assistant Inspector General  
(Audits and Evaluations)  
WT 2C-K

LWC:FAJ  
Attachment

cc (Attachment):

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OIG File No. 2017-15511



Office of the Inspector General

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# *Evaluation Report*

To the Senior Vice President,  
Power Operations

## **COAL CONDITION REPORTS**

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Evaluation Team  
Lucas W. Cotter  
Deana D. Scoggins

Evaluation 2017-15511  
September 26, 2018

## **ABBREVIATIONS**

CAP	Corrective Action Program
CR	Condition Report
COO	Chief Operating Officer
PO	Power Operations
REE	Reportable Environmental Event
SPP	Standard Programs and Processes
TVA	Tennessee Valley Authority
WO	Work Order

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# Evaluation 2017-15511 – Coal Condition Reports

## EXECUTIVE SUMMARY

### Why the OIG Did This Evaluation

Tennessee Valley Authority (TVA) business units are expected to find, analyze, and fix conditions that affect personnel safety, asset reliability, adverse trends, or other conditions that do not meet expectations. Condition reports (CR) are created to record how problems are found, analyzed, and solved. CRs address a range of conditions, including safety, environmental, and operational incidents. Actions taken to address a CR can include corrective action plans, work orders, or both. If an issue does not warrant an action, the CR is closed.

Due to the importance of finding, analyzing, and resolving concerns identified at coal plants, we conducted an evaluation of CRs at TVA coal plants to determine if (1) Coal Operations generated CRs for reported safety, environmental, and operational incidents; and (2) actions taken to address coal CRs were timely and effective.

### What the OIG Found

We found that CRs were originated for all environmental incidents; however, some safety and operational incidents did not result in CRs being originated as required by the procedure. Of the 83 safety incidents we reviewed, 24 did not have a CR, and of the 220 operational incidents we reviewed, 8 did not have a CR. Without originating CRs for these incidents, TVA faces increased risk of failure to resolve issues.

We also found that not all actions taken to address CRs were timely, and some CR originators perceived that actions taken were not effective. A review of Maximo<sup>i</sup> records found that 2 of 38 CRs with significance levels<sup>ii</sup> we reviewed were not completed in a timely manner. In addition, 7 of the 75 CR originators (both with and without significance levels) we interviewed did not consider the actions effective. Failure to timely and effectively address issues raised in CRs increases the risk that concerns could further degrade prior to resolution or go unaddressed.

In addition, we found opportunities for improvement related to (1) classification of CRs by significance level, (2) documentation of actions taken to address CRs, and (3) discrepancies in the Standard Programs and Processes that govern this process. These issues could have impacted the timeliness and effectiveness of actions taken to address CRs.

<sup>i</sup> Maximo is TVA's work management system.

<sup>ii</sup> CRs are screened to determine the significance classification level; A, B, or C, depending on the severity of the incident. Not all CRs meet the threshold to be given significance classification.



## Evaluation 2017-15511 – Coal Condition Reports

### EXECUTIVE SUMMARY

#### What the OIG Recommends

We made recommendations regarding (1) generation of CRs and timeliness of actions, (2) reinforcing CR closure requirements, (3) communicating the importance of documenting actions taken to address CRs, and (4) aligning the procedures which govern CRs.

#### TVA Management's Comments

In response to our draft report, TVA management generally agreed with our recommendations. However, regarding the fourth recommendation, management's response did not indicate they plan to align procedures for which incidents require CRs to be generated. See Appendix C for TVA's complete response.

#### Auditor's Response

We generally concur with TVA management's planned actions for the recommendations. However, it is our opinion that aligning the requirements in the procedures would provide more consistency in the criteria for generating CRs.

## **BACKGROUND**

Tennessee Valley Authority (TVA) business units are expected to find, analyze, and fix conditions that affect personnel safety, asset reliability, adverse trends, or other conditions that do not meet expectations. Condition reports (CR) are created to record how problems were found, analyzed and resolved. Some examples of incidents that are tracked through CRs include recordable injuries,<sup>1</sup> first-aid injuries,<sup>2</sup> reportable environmental events<sup>3</sup> (REE), and conditions that threaten plant operations, including certain near misses.<sup>4</sup> CRs are entered into Maximo,<sup>5</sup> where they are reviewed by management to determine actions needed to address the identified issues. Actions taken to address a CR could include a corrective action plan, work order (WO), or both. If an issue does not warrant an action, the CR is closed.

TVA's Chief Operating Officer (COO), Standard Programs and Processes (SPP) 22.300, Corrective Action Program, establishes measures to provide reasonable assurance that the cause of the condition is determined, corrective action precludes repetition and corrective action is taken in a timely and accurate manner. The ownership and closure requirements for CRs and the prioritization of corrective action assignments are also addressed in this procedure. Additionally, Power Operations (PO), SPP-22.000, Power Operations Performance Improvement Program, describes the requirements and expectations for the Power Operations Performance Improvement Program, Corrective Action Program (CAP), Human Performance, and Operating Experience.

COO-SPP-22.300 (see excerpt in Appendix A) and PO-SPP-22.000 (see excerpt criteria in Appendix B) dictate the criteria for assigning significance levels for CRs. CRs that meet the threshold criteria for a significance level designation undergo review where further actions are determined, if necessary. CRs are screened to determine the significance classification level; A, B, or C, depending on the severity of the incident, with Level A being the most significant. Typically these CRs are addressed through corrective action plans. Corrective action plan development should be within 30 calendar days of management approval of the CR details and requirements, with extensions allowed for the most significant issues.

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<sup>1</sup> Occupational Safety and Health Administration considers an injury or illness to be recordable if it results in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness.

<sup>2</sup> Occupational Safety and Health Administration defines first aid as medical attention that is usually administered immediately after the injury occurs and at the location where it occurred.

<sup>3</sup> An REE is an environmental event at a TVA facility or elsewhere caused by TVA or TVA contractors that (1) should have been subject to an environmental permit or regulatory notification, but TVA failed to obtain the appropriate permit or make required notification; (2) violates permit conditions or other regulatory requirements and triggers regulatory required oral or written notification to a regulatory agency; (3) triggers enforcement action by a regulatory agency; or (4) could have a significant impact on the environment or the public's confidence in TVA.

<sup>4</sup> A near miss is an incident that did not result in injury or illness, but had the potential to do so under slightly different conditions.

<sup>5</sup> Maximo is TVA's work management system.

CRs that do not meet the threshold for a significance level are generally addressed through WOs. A WO is the method for resolving equipment deficiencies and is considered a better approach for troubleshooting equipment. WOs are also generated for situations where there is low significance or impact (e.g., no impact to generation), normal degradation for which there is planned preventive or corrective maintenance, routine or minor breakage that needs repair (e.g., broke/fix), or trends in routine breakage and/or normal wear are within expected acceptable levels. WOs are broken down by the following priority codes:

- Priority 1 – “Emergency” incident requiring maintenance to begin immediately.
- Priority 2 – “Urgent” incident requiring maintenance to correct problems with structures, systems, or components that seriously jeopardize safety, environmental compliance or plant availability and should be started within 24 hours with allowance for planning the scope.
- Priority Codes 3 through 5, which apply to less urgent conditions, are added to the backlog, to be worked when time and resources are available, with no explicit time requirements.

Due to the importance of finding, analyzing, and resolving concerns identified at coal plants, we conducted an evaluation of CRs at TVA coal plants.

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

The objective of our evaluation was to determine if (1) Coal Operations generated CRs for reported safety, environmental, and operational incidents; and (2) actions taken to address coal CRs were timely and effective. Our scope included safety, environmental, and operational incidents and closed or archived<sup>6</sup> CRs generated between January 1, 2016, and September 30, 2017, at the six TVA coal plants planned for continued operation (Bull Run, Cumberland, Gallatin, Kingston, Paradise, and Shawnee Fossil Plants). To achieve our objective we:

- Reviewed the following SPPs and other relevant documentation to gain an understanding of the CR process and requirements:
  - COO-SPP-22.300, Corrective Action Program.
  - PO-SPP-22.000, Power Operations Performance Improvement Program.
  - TVA-SPP-18.004, Contractor Safety Management.
  - TVA-SPP-05.019, REE Determination.
  - TVA-SPP-11.250, Medical Case Management.
- Interviewed PO personnel to gain an understanding of the CR processes.
- Compared a listing of safety, environmental, and operational incidents to CRs to determine if CRs were generated when necessary. Specific sources of incidents were:

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<sup>6</sup> CRs transition from “closed” to “archived” status automatically after all actions are complete.



- Safety – TVA employee recordable injuries and first aid injuries in Medgate<sup>7</sup> and contractor recordable injuries.
- Environmental – REEs in TVA Environmental Operations records.
- Operational – Incidents identified in the monthly Morning Call Issues Reports.<sup>8</sup>
- Obtained and verified a total population of 41,270 closed or archived CRs. We stratified the population of CRs into 2 strata; CRs with a significance level (927) and CRs with no significance level (40,343). We stratified the population this way because CRs with significance levels are generally addressed with corrective action plans, while CRs with no significance levels are generally addressed through WOs. We then selected samples from our 2 strata to determine timeliness and effectiveness of CRs using the following methodology:
  - Judgmentally selected the 2 “A” Significance CRs.
  - Judgmentally selected 5 CRs that have been open the longest from both strata (CRs with significance levels and without significance levels).
  - Statistically selected 31 of the remaining 920 CRs with significance levels using rate of occurrence sampling with a 90 percent confidence level.
  - Statistically selected 32 of the remaining 40,338 CRs with no significance level using rate of occurrence sampling with a 90 percent confidence level.
- Interviewed the originators of each CR in our samples to determine whether originators felt that actions taken were effective in resolving their concerns.
- Reviewed CR fields in Maximo to determine if actions taken to address CRs were timely. For the CRs with significance levels,<sup>9</sup> we (1) reviewed the corrective action plan development dates to determine that action plan development was completed within the 30-day time frame established by procedure,<sup>10</sup> and (2) compared planned CR action completion dates to actual completion dates to determine timeliness. We could not determine the timeliness of actions taken to address all CRs in our sample because CRs with no significance levels fell outside the SPP criteria establishing firm time constraints. We also could not determine the effectiveness of actions taken for CRs whose originators did not provide positive or negative confirmations; therefore, we do not project our results onto the entire population of CRs.

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

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<sup>7</sup> Medgate is the TVA medical and safety software utilized to track safety incidents and medical case management.

<sup>8</sup> The sites develop event reports, which are sent to the PO fleet for review, sharing, and learning.

<sup>9</sup> We reviewed CR actions, when available, for the 31 CRs in our sample, and as for the 2 “A” significance CRs and 5 longest outstanding CRs with significance levels from our judgmental CR sample.

<sup>10</sup> Twenty-five of the 38 CRs with significance levels had corrective action plans.

## **FINDINGS**

Coal Operations generated CRs for all environmental incidents we identified; however, we determined CRs were not generated for some safety and operational incidents at coal plants as required by procedure. Additionally, not all actions taken to address CRs were timely and some CR originators perceived that actions taken were not effective. We also found opportunities for improvement related to (1) classification of CRs by significance level, (2) documentation of actions taken to address CRs, and (3) discrepancies with the SPPs that govern this process.

### **CRs WERE NOT GENERATED FOR SOME INCIDENTS**

We reviewed 4 REEs and determined that each was addressed by a CR as required by the procedure. We also reviewed 83 recordable and first aid injuries and 220 operational incidents and found several did not have CRs generated as required by the procedure. Specifically, we determined 24 safety incidents and 8 operational incidents did not have required CRs. Without generating a CR for these incidents, TVA faces increased risk of failure to resolve issues.

#### **Environmental Incidents**

PO-SPP-22.000 requires CRs to be generated to address all REEs. We found that TVA reported 4 REEs during the time period we reviewed and that each of the 4 REEs had a corresponding CR in Maximo.

#### **Safety Incidents**

PO-SPP-22.000 requires CRs to be generated for recordable and first aid injuries. Additionally, TVA-SPP-18.004, Contractor Safety Management, requires CRs to be generated for a recordable injury sustained by a TVA contractor, but does not address a requirement for first aid injuries. However, based on our review of 83 recordable and first aid injuries, we determined that 24 incidents did not have a CR generated. See Figure 1 below for a breakdown of injuries and CR information by classification.

<b>Medgate Safety Incidents With Corresponding CRs</b>			
<b>Category</b>	<b>Total Incidents</b>	<b>Number of Incidents Without CRs</b>	<b>Percentage With No CRs</b>
<b>Recordable Injury</b>	46	10	21.7%
<b>First aid</b>	37	14	37.8%
<b>Total Incidents</b>	83	24	28.9%

**Figure 1**

### **Operational Incidents**

COO-SPP-22.300 requires CRs to be generated for certain incidents that can impact plant operations. We reviewed 220 operational incidents identified at coal plants and found 8 incidents which met the established criteria that did not have CRs. Four of the incidents resulted in unit shutdowns, and 4 of the incidents resulted in significant derates.

### **SOME ACTIONS TAKEN TO ADDRESS CRs WERE NOT TIMELY AND WERE PERCEIVED AS INEFFECTIVE**

We reviewed available documentation for a sample of CRs with significance levels to determine if actions taken to address the CRs were timely. We also interviewed the originators of each CR, with and without significance levels, in our samples to determine whether originators felt that actions were effective. Based on our review of supporting documentation, we determined actions taken to address 2 of the 38 CRs with significance levels were not timely; however we could not determine if CRs with no significance levels were completed timely because the SPP does not specify the timeframe WOs should be completed. Additionally, our interviews indicated 7 of the 75 CR originators did not consider the actions taken to be effective at resolving their issues.

#### **CR Timeliness**

All corrective action plans we reviewed for CRs with significance levels were developed in a timely manner; however, actions taken to address 2 of 38 CRs with significance levels did not meet scheduled finish dates. We assessed CRs with significance levels for timeliness by reviewing scheduled and actual finish dates for corrective actions. One of the CRs had a corrective action which was late by 41 days and 1 CR had 2 CR actions which were late by 2 and 4 days.

For CRs with no significance levels, we were unable to determine timeliness of actions taken. Our sample of 37 CRs with no significance levels included no Priority 1 WOs, 9 Priority 2 WOs, 16 Priority 3 WOs, 8 Priority 5 WOs, and 4 closed with no work needed. Priority 2 WOs require maintenance to begin within 24 hours; however, PO-SPP-07.001, Work Management, provides an allowance for planning the scope of work. The SPP does not specify what an appropriate amount of time is for the planning to be completed which could account for delays in the start of Priority 2 WOs. The SPP also does not specify a time frame for Priority 3 through 5 WOs to be completed. We were informed by PO personnel that these WOs were typically designated for less urgent work and that work was often scheduled to be performed during outages, which could take time. The lack of clarity related to timeliness in PO-SPP-07.001 for planning Priority 2 WOs and for starting Priority 3 through 5 WOs prevented us from determining if the actions were timely to address the 37 CRs with no significance levels.

## CR Effectiveness

To determine if actions taken to address CRs were effective, we interviewed the originators of each CR, both with and without significance levels, in our samples to see if the actions taken addressed their concern. Originators of 7 of the 75 CRs we reviewed felt the actions taken to address their concern were ineffective.

Figure 2 below describes results of the interviews.

<b>CR Originator Responses Regarding CR Action Effectiveness</b>			
	<b>Total Reviewed</b>	<b>Ineffective</b>	<b>Nonresponse</b>
<b>CRs With Significance Levels</b>	38	4	3
<b>CRs With no Significance Levels</b>	37	3	7

Figure 2

Several originators noted that the action involved a temporary repair, or had not entirely resolved the issue. Some originators also acknowledged that funding constraints and budget priorities may have contributed to the actions taken. Additionally, originators cited concerns regarding Maximo documentation and WO closure to the backlog as impacts to effective incident resolution.

Failure to timely and effectively address issues raised in CRs increases the risk to TVA that concerns could further degrade prior to resolution or go unaddressed.

## ADDITIONAL OPPORTUNITIES FOR IMPROVEMENT

During our evaluation, we found opportunities for improvement related to (1) classification of CRs by significance level, (2) documentation of actions taken to address CRs, and (3) discrepancies in the SPPs which govern this process. These issues could have impacted the timeliness and effectiveness of actions taken to address CRs.

### Some CRs Were Misclassified

As discussed in the Background section of this report, CRs are prioritized as significance levels “A”, “B”, or “C”, depending on the severity of the incident, with Level “A” being the most significant. During our review of sampled CRs, we found that 15 incidents were misclassified:

- Eleven safety CRs either had (1) significance levels lower than required by procedure or (2) no significance level stated.
- Two operational CRs were classified as significance level “A”; however, TVA confirmed that both were misclassified and should not have had a significance classification.
- Two environmental CRs were misclassified; one with significance lower than required by procedure and one with significance higher than required by procedure.

### **Lack of Documentation for CR Action Resolution**

We found several CRs which lacked documentation of actions taken in Maximo. Examples of documentation issues we identified are:

- Three CRs were closed to WOs which were left open in Maximo despite originators informing us that WOs should have been closed.
- Two CR originators disagreed with date fields entered in corresponding WOs, one of whom stated work had not been completed for a WO listed as closed. The CRs and WOs lacked feedback in the “Work Performed” sections in Maximo.
- Four CRs were closed to WOs which did not have reconciliation codes. WOs are required to note a reconciliation code, in Maximo, upon closure to document how the WOs were resolved.
- We also found instances of insufficient record relation, where CRs closed to duplicates or WOs were not linked to those records. Without properly utilizing the “Related Records” field in Maximo it can be difficult to assess work performed.

### **Inconsistencies Between SPPs**

As discussed previously, COO-SPP-22.300, Corrective Action Plan, and PO-SPP-22.000, Performance Improvement Program, establish the criteria for determining CR significance levels. However, we found several inconsistencies between the procedures. The following are CR requirements stated in PO-SPP-22.000 but not explicitly included in the COO-SPP-22.300:

- Level 1 REE requires a significance classification “A”.
- Forced derates greater than 30 percent of unit generation and lasting longer than 30 minutes require a significance classification “C”.
- First aid injuries require a significance classification “C”.

Additionally, we found that CR requirements for near-miss incidents conflicted between the two procedures. The COO-SPP-22.300 states that “serious” near-miss incidents require a Classification “C”; however, the PO-SPP-22.000 states that all “safety or environmental” near-miss incidents require a Classification “C” CR. This discrepancy ultimately makes the requirement to document near misses in CRs inconsistent.

## **RECOMMENDATIONS**

We recommend the Senior Vice President, PO:

- Reinforce the expectation that CRs are generated for required incidents and that actions are taken in a timely manner.

**TVA Management's Comments** – TVA management stated they will communicate expectations to all managers regarding compliance with CAP procedures. They also stated that PO Coal site leadership will take steps to ensure appropriate CRs have been generated, classified and closed accurately, and completed in a timely manner. In addition, the PO corporate duty office will provide oversight to ensure CRs are written in a timely manner.

**Auditor's Response** – We concur with management's planned actions.

- Reinforce the requirement to document WO status in the Reconciliation Code field and encourage PO personnel to include details of actions taken in the "Work Performed" fields in Maximo.

**TVA Management's Comments** – TVA management informed us they will state expectations to all managers that WO Reconciliation Codes and Work Performed Codes are appropriately completed on each WO and reviewed for consistency across the site

**Auditor's Response** – We concur with management's planned actions.

- Communicate the importance of documenting related records in the "Related Records" section in Maximo.

**TVA Management's Comments** – TVA management informed us they will state expectations to all managers that Related Records Fields are appropriately completed on each WO and reviewed for consistency across the site.

**Auditor's Response** – We concur with management's planned actions.

- Align CR requirements in PO-SPP-22.000, Performance Improvement Program, and COO-SPP-22.300, Corrective Action Program, and clarify requirements for which incidents need CRs.

**TVA Management's Comments** – TVA management stated Power Operations Generation Services will verify CR requirements in PO-SPP-22.000 and COO-SPP-22.300. For those instances where the PO requirements are more stringent, the Generation Services CAP senior program manager will communicate the higher requirements and CR expectation to all managers.

**Auditor's Response** – We generally concur with management's planned actions; however, it is our opinion that aligning the requirements in the procedures would provide more consistency in the criteria for generating CRs.

See Appendix C for TVA's complete response.

**COO-SPP-22.300 - Criteria for Assigning CR Significance Levels**

**SIGNIFICANCE LEVEL A**

- A. Conditions with potentially significant regulatory (e.g., Nuclear Regulatory Commission (NRC); Occupational Safety and Health Administration (OSHA); North American Electric Reliability Corporation (NERC); United States Environmental Protection Agency (EPA); Federal; State) impact as defined in those specific programs.
- B. A significant industrial safety event, including a fatality or serious accident/injury.
- C. Extensive equipment damage that has a direct cost to TVA of more than \$500,000.
- D. A condition that represents the highest risk to personnel safety or safe, reliable operation.
- E. A Load Not Served (LNS) event 300 MWH or a significant Sensitive Consumer Voltage Sag (SCVS) event.
- F. A power source interruption that causes a Disturbance Control Standard (DCS) event recovery with exacerbating circumstances (as determined by the MRC or equivalent).
- G. Fire that results in personal injury, causes loss of generation or has damage greater than or equal to \$250,000.

**SIGNIFICANCE LEVEL B**

- A. Human errors that could have, under different circumstances, caused a significant plant event or serious personnel injury.
- B. Issues that do not qualify as Level A, but that do require formal written responses to a regulatory body.
- C. Recurring events, not classified as significant adverse conditions, with the potential to cause a plant/facility event or personnel injury.
- D. Discovery of a deficiency in an area such as design or analysis, operation, maintenance, testing, procedures, or training that is likely to cause a significant event.
- E. A significant or repeat audit nonconformance/finding.
- F. A Reportable Environmental Event (Level 2) as defined in TVA-SPP-05.019, Reportable Environmental Event (REE) Determination.



- G. A potential NERC compliance violation as defined in TVA-SPP-30.005 or a relay misoperation as defined in Attachment 4, Analysis and Mitigation of Transmission and Generation Protection System Misoperations.
- H. A condition that represents a significant risk to personnel safety or safe, reliable operation as determined by the MRC or equivalent.
- I. Any finding identified from the issuance of a safety Regulatory Compliance Inspection (RCI) report not corrected or included in an abatement plan within the time frames of TVA-TSP-18.012, Conduct Workplace Regulatory Compliance Inspections.
- J. A switching/tagging/wrong component error that results in one of the following:
  - 1. The discovery of a tagged or locked component in the wrong position
  - 2. A clearance tag placed on a wrong component during the time a clearance is in place.
  - 3. Work performed without adequate equipment protection or personnel protection.
- K. A Load Not Served (LNS) event greater than or equal to 150 MWH but less than 300MWH or a Sensitive Consumer Voltage Sag (SCVS) event where the severity warrants apparent cause analysis.
- L. A power source interruption that causes a Disturbance Control Standard (DCS) event recovery.
- M. Fire damage greater than or equal to \$50,000 but less than \$250,000
- N. Recordable Injury
- O. Non-nuclear unit trips for units greater than 100 MW

**SIGNIFICANCE LEVEL C**

- A. Routine problems or adverse conditions that require documentation of corrective actions.
- B. Conditions that represent minimal risk significance to personnel safety or safe, reliable operation.
- C. Conditions that identify a problem that warrants tracking to closure.

- D. Conditions where structures, systems, and components are degraded to the point they cannot meet design intent on systems that are not classified as run-to-failure.
- E. Conditions that identify a problem that requires issuance of a special report, outside normal communications, to an agency external to TVA.
- F. Human performance or other problem trends with minor consequence and low potential to cause a plant event.
- G. A serious near miss. The MRC uses the potential consequences and potential for recurrence of the near miss to assign the required level of causal analysis.
- H. A Reportable Environmental Event with Little or No Impact on the Environment (Level 3) as defined in TVA-SPP-05.019, Reportable Environmental Event (REE) Determination.
- I. Serious and greater finding identified in a safety Regulatory Compliance Inspection report, reference TVA-TSP-18.012, Conduct Workplace Regulatory Compliance Inspections
- J. Finding identified in safety program assessment report.
- K. A non-nuclear unit unplanned event or loss of transmission equipment (excluding those caused by storms). The MRC uses the consequences and potential for recurrence of the incident to assign the required level of causal analysis. A non-nuclear unplanned event includes the following:
  - 1. Unit trip for units less than or equal to 100 MW
  - 2. Unscheduled loss of fire
  - 3. Turbine trip
  - 4. Forced outage
  - 5. Outage extension
- L. Fire damage less than \$50,000.
- M. A generation interruption below the threshold of a Disturbance Control Standard (DCS) event for units greater than 50MW where human error is not suspected.
- N. Any NERC violation, self report, finding, or relay misoperation that does not meet the criteria in Significance Level A or B.

**PO-SPP-22.000 – Condition Report Criteria**

**CLASSIFICATION A**

- A. Conditions with potentially significant regulatory (NRC; OSHA; NERC; EPA; Federal; or State) impact.
- B. A Significant Adverse Environmental Event or Incident (Level 1) as defined in TVA-SPP-05.019, Reportable Environmental Event (REE) Determination.
- C. A significant industrial safety event, including a fatality or serious accident/injury.
- D. Extensive equipment damage that has a direct cost to TVA of more than \$500,000.
- E. A condition that represents the highest risk to safe, reliable operation, or personnel safety.
- F. A Repeat Level 1 Finding from an Environmental Assessment conducted by the Environmental Operations Compliance staff where the original corrective action plan has been completed.
- G. Fire that results in personal injury, causes loss of generation, or has damage greater than \$250,000.

**CLASSIFICATION B**

- A. Human errors (inappropriate actions) that could have, under different circumstances, caused a significant plant event or serious personnel injury.
- B. Issues that do not qualify as Level A, but that do require formal written responses to a regulatory body.
- C. Recurring events, not classified as significant adverse conditions, with the potential to cause a plant/facility event or personnel injury.
- D. Discovery of a deficiency in an area such as design, analysis, operation, maintenance, testing, procedures, or training that is likely to cause a significant event.
- E. A significant or repeat audit nonconformance/finding.
- F. An Adverse Environmental Event (Level 2) as defined in TVA-SPP-05.019, Reportable Environmental Event (REE) Determination.

- G. A condition that represents a significant risk to safe, reliable operation, or personnel safety as determined by the MRC or equivalent.
- H. Any finding identified from the issuance of a safety Regulatory Compliance Inspection (RCI) report not corrected or included in an abatement plan within the time frames of the RCI procedure.
- I. A Level 1 Finding from an Environmental Assessment conducted by the Environmental Permitting and Compliance staff.
- J. A Repeat Level 2 Finding from an Environmental Assessment conducted by the Environmental Permitting and Compliance staff where original corrective action plan has been completed.
- K. A switching/tagging/wrong component error that results in one of the following:
  - 1. The discovery of a tagged or locked component in the wrong position
  - 2. A clearance tag placed on a wrong component
  - 3. Work performed without adequate equipment protection or personnel protection
- L. A power source interruption that causes a Disturbance Control Standard (DCS) event recovery.
- M. Fire damage greater than \$50,000 but less than \$250,000.
- N. A recordable injury.
- O. Non-nuclear unit trips for units greater than 100 MW

### **CLASSIFICATION C**

- A. Routine problems or adverse conditions that require documentation of corrective actions.
- B. Conditions that represent minimal risk significance to safe, reliable operation, or to personnel safety.
- C. Conditions that identify a problem that warrants tracking to closure.
- D. Conditions where structures, systems, and components are degraded to the point they cannot meet design intent on systems that are not classified as run-to-failure.
- E. Conditions that identify a problem that requires issuance of a special report, outside normal communications, to an agency external to TVA.

- F. HU or other problem trends with minor consequence and low potential to cause a plant event, but require improvement.
- G. A safety or environmental near miss. The MRC uses the potential consequences and potential for recurrence of the near miss to assign the required level of causal analysis.
- H. An Environmental Event with little or no impact on the Environment (Level 3) as defined in TVA-SPP-05.019, Reportable Environmental Event (REE) Determination.
- I. An audit nonconformance/finding requiring additional evaluation and action.
- J. Serious and greater findings identified in a safety Regulatory Compliance Inspection report.
- K. Finding identified in safety program assessment report.
- L. A Level 2 Finding from an Environmental Assessment conducted by the Environmental Operations Compliance staff.
- M. A Repeat Level 3 Finding from an Environmental Assessment conducted by the Environmental Operations Compliance staff.
- N. A Power Operations unit unplanned event, excluding those caused by storms. The MRC uses the consequences and potential for recurrence of the incident to assign the required level of causal analysis. A Power Operations unplanned event includes the following:
  - 1. Unit trip for units less than or equal to 100 MW
  - 2. Unscheduled loss of fire
  - 3. Turbine trip
  - 4. Forced outage
  - 5. Outage extension
  - 6. Forced derates that are greater than 30% of unit generation and last longer than 30 minutes
- O. Fire damage less than \$50,000.
- P. Any NERC violation, self-report, finding, or relay malfunction that does not meet the criteria in Classification A or B.
- Q. A First Aid injury
- R. Rework with associated costs of \$50,000 or greater

September 19, 2018

David P. Wheeler, WT 2C-K

REQUEST FOR COMMENTS - DRAFT EVALUATION 2017-15511 - COAL CONDITION REPORTS

Thank you for the assessment and evaluation of the Coal fleet Condition Reports (CRs). Your findings and recommendations will help us ensure we are reducing risks, addressing potential safety and environmental related issues at our sites, that we have the correct projects in the queue for implementation across the fleet, and that we are preventing similar failures at other sites across our fleet.

Recommendations:

1. Reinforce the expectation that CRs are generated for required incidents and that actions are taken in a timely manner.

Response: Power Operations shall state expectations to all managers regarding compliance with Corrective Action Program (CAP) procedures, specifically generating CRs, as well as timely and accurate documentation. Further, Power Operations Coal site leadership shall review activities across their respective sites in a Management Review Committee (MRC) meeting to ensure appropriate CRs have been generated, classified and closed accurately, completely and in a timely manner. As part of an oversight function, Power Operations Generation Services CAP senior program manager shall periodically validate the MRC meetings and generate a monthly CAP summary sheet that provides a validation of CAP generation requirements and a summary of CAP timeliness. To help ensure CRs are generated on a real-time basis for required events, the Power Operations corporate duty officer shall provide oversight to ensure CRs are written in a timely manner (CR 1446757).

2. Reinforce the requirement to document WO status in the Reconciliation Code field and encourage PO personnel to include details of actions taken in the "Work Performed" fields in Maximo.

Response: Power Operations shall state expectations to all managers regarding work order Reconciliation Codes, Work Performed Codes, and Related Records fields are appropriately completed on each work order and reviewed for consistency across the site (CR 1446758).

3. Communicate the importance of documenting related records in the "Related Records" section in Maximo.

Response: Power Operations shall state expectations to all managers regarding work order Reconciliation Codes, Work Performed Codes, and Related Records fields are appropriately completed on each work order and reviewed for consistency across the site (CR 1446758).

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4. Align CR requirements in PO-SPP-22.000, Performance Improvement Program, and COO-SPP-22.300, Corrective Action Plan, and clarify requirements for which incidents need CRs.

Response: Power Operations Generation Services will verify CR requirements in PO-SPP-22.000, Performance Improvement Program, and COO-SPP-22.300, Corrective Action Program. For those instances where the Power Operations requirements are more stringent, the Generation Services CAP senior program manager will communicate clearly to all managers the higher requirements and CR expectation (CR 1446759).

Please contact me if you have questions or comments regarding any part of this communication and we will work to further clarify or address as needed.



David Sorrick  
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Power Operations  
LP 2K-C

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