

Memorandum from the Office of the Inspector General

September 24, 2020

Kris G. Edmondson Preston P. Pratt

REQUEST FOR FINAL ACTION – EVALUATION 2019-15686 – COAL PLANT OVERTIME

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 John Anthony H. Jacosalem, Auditor, Evaluations, at (423) 785-4821 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

aid P. Whelm

(Audits and Evaluations)

JAJ:FAJ Attachment

cc (Attachment):
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Office of the Inspector General

Evaluation Report

To the Vice President, Power Operations, Coal; and the Director, Safety and Enterprise Improvement

COAL PLANT OVERTIME

ABBREVIATIONS

FTE Full-Time Equivalent

FY Fiscal Year

OSHA Occupational Safety and Health Administration

SPP Standard Programs and Processes

TVA Tennessee Valley Authority

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MEMORANDUM DATED SEPTEMBER 22, 2020, FROM KRIS G. EDMONDSON AND PRESTON P. PRATT TO DAVID P. WHEELER



Evaluation 2019-15686 - Coal Plant Overtime

EXECUTIVE SUMMARY

Why the OIG Did This Evaluation

As of September 30, 2019, the Tennessee Valley Authority (TVA) had sixⁱ operational coal plants. In fiscal years (FY) 2018 and 2019, 1,082 employees at TVA's coal plants worked 698,493 hours of overtime and were paid over \$45 million.ⁱⁱ

TVA Standard Programs and Processes 18.018, *Fatigue Management*, outlines established ". . . controls to provide reasonable assurance that the effects of fatigue and degraded alertness do not impact an individual's ability to safely and competently perform their duties." Due to the high number of overtime hours worked, we conducted an evaluation to assess TVA's management of overtime at coal plants.

What the OIG Found

We determined significant amounts of overtime were worked by employees at all six of TVA's coal plants. Specifically, the overtime worked at these plants was the equivalent of 165^{iii} full-time employees. In addition, we determined some individual employees worked significant amounts of overtime. For example, we found 37 instances during FYs 2018 and 2019 where employees worked over 1,000 hours of overtime and 1 employee who worked over 2,300 hours of overtime in a single year. We also determined TVA may not be accurately capturing the effects of fatigue because (1) fatigue assessments are no longer required when significant overtime is worked, and (2) fatigue data is not trended with health and safety data in TVA's medical case management system. Additionally, employees expressed concerns regarding the adverse impact of understaffing on safe operation of coal plants.

What the OIG Recommends

We recommend TVA management take action to address the amount of overtime performed at TVA's coal plants, capture the effects of fatigue on employees working significant amounts of overtime, and reevaluate the staffing plan at coal plants.

Paradise Fossil Plant was retired during the course of our evaluation in February 2020.

We calculated overtime hours and payments based on the FY in which the overtime was paid.

Overtime worked at Paradise Fossil Plant was the equivalent of 26 full-time employees.



Evaluation 2019-15686 - Coal Plant Overtime

EXECUTIVE SUMMARY

TVA Management's Comments

In response to our draft report, TVA management agreed with our recommendations. However, regarding limiting the amount of hours employees can work, management stated overtime policies are dictated by the General Agreement and any change to the overtime procedure, including a cap on hours worked, would require TVA and union renegotiation of the existing contract. See the Appendix for TVA's complete response.

Auditor's Response

While we agree the efforts to adjust the overtime policies that are dictated by the General Agreement could be difficult, TVA management must take great care to ensure personnel safety is not compromised due to fatigue caused by excessive overtime.

BACKGROUND

As of September 30, 2019, the Tennessee Valley Authority (TVA) had six operational coal plants – Bull Run, Cumberland, Gallatin, Kingston, Paradise, and Shawnee Fossil Plants. During fiscal years (FY) 2018 and 2019, 1,082 TVA employees at the six coal plants worked 698,493 hours of overtime and were paid over \$45 million.

In accordance with the Department of Labor's Fair Labor Standards Act, TVA incurs overtime expenses when eligible employees perform work in excess of 40 hours per week.² Collective bargaining agreements define TVA's overtime payment obligations as well as a process for distributing overtime fairly. Some employees at coal plants, primarily operations personnel, typically work an alternating schedule (48-hour workweek followed by a 36-hour workweek), which automatically creates 16 hours of built-in³ overtime each month.

TVA-SPP-18.018, Fatigue Management, outlines established ". . . controls to provide reasonable assurance that the effects of fatigue and degraded alertness do not impact an individual's ability to safely and competently perform their duties." Additionally, the Occupational Safety and Health Administration (OSHA) has an "Extended Unusual Work Shifts" guide that recommends limiting the use of extended work shifts,⁴ especially if involvement of heavy physical or mental exertion is required. OSHA, as well as several other organizations, provide overtime-related best practices that highlight numerous adverse effects of excessive work hours including:

- Personal health risks for employees involved.
- Counter-productive results due to increased absenteeism and turnover.
- Decreased overall productivity due to stress and fatigue.
- Increased overall safety/accident risk.

Due to the high number of overtime hours worked, we conducted an evaluation to assess the management of overtime at coal plants.

Paradise Fossil Plant was retired during the course of our evaluation in February 2020.

According to TVA Standard Programs and Processes (SPP) 13.029, Pay, paid absences, such as Sick Leave and Annual Leave, are counted the same as work time in determining eligibility for overtime pay.

Built-in overtime worked by 463 of the 1,082 employees accounted for about 19 percent (131,571 of 698,493 overtime hours) of the overtime worked and 17 percent (\$7.8 million of the \$45.4 million) of overtime paid during FYs 2018 and 2019.

⁴ OSHA considers extended and unusual work shifts as any shift that (1) has more continuous hours or consecutive days of work beyond a normal work shift of no more than 8 consecutive hours during the day, 5 days a week, with at least an 8-hour rest; or (2) requires work during the evening.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this evaluation was to assess TVA's management of overtime at coal plants. The scope of the evaluation was overtime payments during FYs 2018 and 2019 to employees for overtime hours worked⁵ at operational coal plants. To achieve our objective, we:

- Reviewed (1) relevant regulations and (2) TVA overtime-related and procedures⁶ to gain a better understanding of coal plant overtime.
- Interviewed TVA personnel to better understand the process of how overtime is managed at the different plants.
- Obtained overtime hours worked at operating coal plants for FYs 2018 and 2019 and performed various analyses (e.g., summarizing total overtime hours/costs incurred by plant, individual, overtime codes) to assess any areas with increased risks.
- Selected a sample of 109 of 1,082 employees who worked overtime by identifying the 25 employees with the most overtime hours in each of the following pay periods: (1) annually, (2) semiannually, (3) quarterly, and (4) biweekly. We interviewed 41 of the employees and 29 of their responsible managers/supervisors to determine how overtime and effects of fatigue are managed at coal plants.⁷
- Identified 48 employees whose overtime was approved by someone who (1) was not their supervisor and (2) had a different work location, in order to assess the internal controls around these types of approvals.
- Identified 89 employees involved in 97 safety-related incidents and reviewed overtime hours worked prior to the incident to determine if a correlation existed between incidents and overtime.⁸
- Reviewed best practices⁹ for managing overtime at coal plants.
- Obtained overtime-related grievances filed with TVA's Labor Relations department during FYs 2018 and 2019 to asses areas of employee concerns related to overtime.

We calculated overtime hours and payments based on the FY in which the overtime was paid.

One of the procedures, TVA-SPP-18.018, *Fatigue Management*, initially required fatigue evaluations to be performed when an employee worked more than 72 hours in any given week. However, the SPP was later revised in 2018 and the 72-hour threshold trigger was removed.

We did not interview individuals who were not available or on duty during our site visits at each coal plant between February 3 and February 25, 2020. Some employees were also either deceased, no longer employed at TVA, or had since started working in a different area within TVA.

Eight of the 89 employees were in our sample of 109; we interviewed the responsible supervisors of these employees to further assess if these incidents were overtime or fatigue related.

Our review of best practices included materials from the Harvard Business Review, Circadian, Workforce, and the Society of Human Resources Management, as well as government organizations such as the Department of Health and Human Services, an audit performed by the City of Los Angeles, and a research study funded by the Department of Justice.

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

FINDINGS

We determined significant amounts of overtime were worked by employees at all six of TVA's coal plants, and some individual employees were working significant amounts of the overtime. We also determined TVA may not be accurately capturing the effects of fatigue because (1) fatigue assessments are no longer required when significant overtime is worked, and (2) fatigue data is not trended with health and safety data in TVA's medical case management system. Additionally, employees expressed concerns regarding the adverse impact of understaffing on safe operation of coal plants.

SIGNIFICANT AMOUNTS OF OVERTIME WERE WORKED AT COAL PLANTS

We determined significant amounts of overtime were worked by employees at each of TVA's coal plants. Specifically, we determined (1) overtime hours worked at the six coal plants was equivalent to 165 full-time employees, and (2) some individual employees worked significant amounts of overtime based on the hours worked over annual, semiannual, quarterly, and weekly time frames. Potential causes for the significant overtime included (1) inadequate staffing levels and (2) the lack of a policy limiting overtime.

Overtime Worked Was Equivalent to 165 Full-Time Employees

During FYs 2018 and 2019, employees at coal plants worked 698,493 hours of overtime. The collective amount of overtime worked by employees at TVA's coal plants was equivalent to 165¹⁰ additional full-time employees (assuming employees work 40 hours per week). Figure 1 on the following page shows the amount of overtime hours and the comparable annual full-time equivalents (FTE) that could be hired to decrease the amounts of overtime worked at each plant. As shown in Figure 1 on the following page, employees worked enough overtime hours at each plant for an additional 13 to 41 FTEs.

Overtime worked would be equivalent to 157 additional full-time employees if calculated assuming all employees worked the alternating 48- and 36-hour workweek schedule with built-in overtime (as described previously).

Overtime Hours for FYs 2018 and 2019 and Potential FTEs

Coal Plant	2-Year Total Overtime Hours	Employees Onsite at End of FY 2019	Potential FTEs That Could Be Hired
Bull Run	54,502	85	13
Cumberland	173,514	267	41
Gallatin	85,243	134	20
Kingston	130,366	202	31
Shawnee	145,421	<u>203</u>	<u>34</u>
Subtotal	589,046	891	139
Paradise (retired)	109,447	<u>117</u>	<u>26</u>
Total	698,493	1,008	165

Figure 1

In addition, we analyzed the overtime by quarter for each plant to determine if overtime was being consistently utilized or if it was occurring erratically. Figure 2 below shows that while there were some variations throughout the quarters, there was a consistent, high level of overtime worked each quarter that could indicate additional staffing is needed.

FYs 2018 and 2019 Hours by Quarter

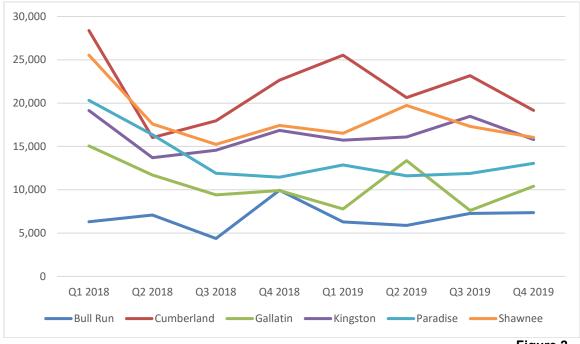


Figure 2

Built-in overtime accounted for about 19 percent (131,571 of the 698,493 overtime hours) of overtime worked. Built-in overtime is included in Figures 1 through 3; however, based on our analysis, we determined (1) substantial overtime was worked at coal plants and (2) additional personnel could reduce the amounts of overtime worked.

Some Individual Employees Worked Significant Amounts of Overtime

Based on the amounts of overtime hours worked 11 during annual, semiannual, quarterly, and weekly time frames, we determined some individual employees at coal plants worked significant amounts of overtime. We identified 37 instances (20 and 17 instances during FYs 2018 and 2019, respectively) where employees worked over 1,000 hours of overtime during a single year. In addition, 1 employee worked over 2,300 hours of overtime in 2018 (that equates to about 45 hours of overtime per week). Furthermore, our review of overtime data found that on average, the 20 employees who worked the most overtime over the 2 FYs worked almost 2,400 hours of overtime and earned about \$153,590 in overtime pay, as shown in Figure 3 below.

Overtime Hours Worked and Overtime Earnings for FYs 2018 and 2019

	Overtime Hours			Total Overtime
Employee #	2018	2019	2-Year Total	Earnings
1	2,341	1,544	3,885	\$257,221
2	1,378	1,615	2,993	\$153,569
3	1,534	1,262	2,796	\$146,903
4	1,324	1,453	2,777	\$142,855
5	1,089	1,516	2,605	\$191,392
6	1,480	1,119	2,599	\$171,549
7	1,202	1,333	2,535	\$143,534
8	1,701	823	2,524	\$166,744
9	1,138	1,349	2,487	\$128,490
10	1,304	1,103	2,407	\$158,834
11	1,461	726	2,187	\$157,266
12	1,187	992	2,179	\$157,420
13	884	1,211	2,095	\$137,612
14	1,151	866	2,017	\$150,626
15	1,269	716	1,985	\$127,765
16	1,140	833	1,973	\$149,524
17	1,003	968	1,971	\$132,374
18	1,332	638	1,970	\$129,329
19	683	1,273	1,956	\$127,315
20	1,177	751	1,928	\$141,481
2-Year	Average Hours an	d Earnings	2,393	\$153,590

Figure 3

We also determined some employees worked significant amounts of overtime on a semiannual and quarterly basis. For example, we found that during FYs 2018 and 2019, there were 5 instances where employees worked more than 1,000 hours of overtime in a semiannual period, and 13 instances where employees worked more than 500 hours of overtime during a quarterly period. Both equate to an average of almost 40 hours of overtime each week over the respective period.

In addition, TVA-SPP-18.018, *Fatigue Management*, initially required, among other things, fatigue evaluations to be performed when an employee worked

Built-in overtime was included in calculations used for this finding.

more than 72 hours in any given week. We performed an analysis to determine the number of instances in which an employee worked at least 32 hours of overtime per week. Based on our analysis of biweekly pay period data, we determined during FYs 2018 and 2019, there were at least 891 instances when an employee worked at least 32 hours of overtime in a week.

Potential Causes for the Significant Overtime

The potential causes for the significant overtime included (1) inadequate staffing levels and (2) the lack of a policy limiting overtime.

Inadequate Staffing Levels

During interviews, 17 of 41 (41 percent) employees and 18 of 29 (62 percent) supervisors indicated that overtime is worked to cover unfilled gaps in the regular schedule because staffing was not adequate to support a schedule without the use of overtime. According to identified best practices, effective management of overtime involves having sufficient staffing levels to meet expected workload or demand. However, TVA's current staffing levels at coal plants do not allow this.

According to Coal Operations management, the coal industry's future is uncertain and employees have left TVA coal plants to work in other areas within TVA or left TVA altogether; this has resulted in reduced staffing levels, even after reassignment of employees from retired coal plants to operating coal plants. In addition to using employee overtime to mitigate understaffing at coal plants, TVA has used staff-augmentation contractors¹² and is currently in the process of hiring approximately 44 additional employees (most of which will require at least a year of training). However, while this could reduce the number of overtime hours worked by employees at coal plants, it falls short of the 139 equivalent FTEs of overtime worked as indicated in Figure 1 above (after considering the retirement of Paradise Fossil Plant).

During a recent organizational effectiveness evaluation¹³ at Gallatin Fossil Plant, Operations personnel also expressed concerns regarding excessive overtime and the resulting increase of safety risk. Employees working substantial amounts of overtime at coal plants could increase operational risks, through potential human performance errors, as well as safety risks to the employee, other coal plant personnel, and potentially the general public.

Lack of Policy Limiting Overtime

Another potential reason for the amount of overtime being worked by some employees is TVA does not currently have a policy that limits the amount of overtime nonnuclear employees can work in any given period. While OSHA currently has no standard to regulate extended and unusual shifts in the workplace, we identified federally agency recommendations that indicate policies should be established to limit the amount of overtime worked by employees in varying periods (e.g., daily, weekly, monthly). Additionally, best practices

¹² Staff-augmentation contractors refers to workers who supplement the TVA employee workforce.

¹³ Evaluation 2018-15535, Organizational Effectiveness, Gallatin Fossil Plant, October 15, 2018.

indicate overtime work assignments should be planned and managed in a way that reduces overtime.

TVA MAY NOT BE ACCURATELY CAPTURING THE EFFECTS OF FATIGUE

Some of the best practices we identified highlight the increased safety risks associated with prolonged use of overtime. Specifically, OSHA's guidance, "Extended Unusual Work Shifts," states extended or unusual work shifts reduces productivity and increases risk of operator error, injuries, and/or accidents. Additionally, some industries, including some federal agencies, have established work-hour limitations for certain employees. Employees who routinely work a significant amount of overtime could further increase the operational and/or safety risks associated with substantial overtime worked at coal plants.

In response to our Audit 2014-15024, *TVA Employee Overtime*, issued on September 9, 2015, TVA implemented TVA-SPP-18.018, *Fatigue Management*, (for nonnuclear employees) in September 2017. According to the procedure, supervisors should ". . . ensure work hours are scheduled and controlled with the objective of preventing impairment from fatigue due to the duration, frequency, or successive shifts or planned and unplanned work periods." However, we determined TVA may not be accurately capturing the effects of fatigue because (1) TVA no longer performs fatigue evaluations when employees work a substantial amount of overtime, and (2) fatigue data is not being trended with health and safety data in Medgate.¹⁴

Fatigue Evaluations Are No Longer Performed When Substantial Overtime Is Worked

The fatigue management procedure initially required performance of fatigue evaluations under three conditions: (1) when an employee worked more than 72 hours in any given week, (2) when an observed condition of impaired alertness created a reasonable suspicion that an employee was inhibited by fatigue, or (3) "self-declaration" of fatigue by the employee. However, the procedure was revised in April 2018 and the 72-hour threshold was removed and replaced with a "follow-up" condition to determine if the employee was permitted to resume working following a break of less than 10 hours after (1) an observed condition of impaired alertness or (2) a self-declaration of fatigue.

Between implementation of the procedure in September 22, 2017, and February 12, 2018, the 72-hour threshold condition triggered performance of 413 fatigue evaluations for employees at coal plants. As we also previously stated, there were at least 891 instances during FYs 2018 and 2019 when an employee worked at least 32 hours of overtime in a week. However, TVA stated that no fatigue evaluations were performed in FYs 2018 and 2019 after the threshold was removed. With the removal of the 72-hour threshold trigger to

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Medgate is the TVA medical and safety software utilized to track safety incidents and medical case management.

perform fatigue evaluations, the method of identifying fatigue issues depends on self-declarations of fatigue or someone reporting a suspicion of fatigue.

Ninety percent of employees indicated they were not aware of any safety issues due to fatigue. However, some employees and supervisors mentioned that overtime or fatigue may have negatively affected coal plant personnel outside of regular work hours. Identified best practices indicated that fatigue from overtime can be long lasting and continue to adversely affect personnel while off duty. Reduced effectiveness of the procedure may not only increase safety risk to on-duty coal plant personnel, but also to off-duty personnel as well other individuals around them.

Fatigue Data Is Not Trended with Health and Safety Data

TVA-SPP-18.018, *Fatigue Management*, indicates that in the management of fatigue data (1) contributing factors to events such as fatigue evaluations and hours worked may be reviewed and (2) the data is trended with other health and safety data in Medgate. However, the TVA Safety employee we interviewed stated fatigue data is not being collected. As a result, we were unable to determine if fatigue was, or was not, a causal factor in 96 of the 97¹⁵ safety incidents in FYs 2018 and 2019.

As previously stated, the procedure's current purpose is to "... establish controls to provide reasonable assurance that the effects of fatigue and degraded alertness do not impact an individual's ability to safely and competently perform their duties." Capturing the effects of fatigue in real time (through fatigue evaluations performed when an employee works a substantial amount of overtime) as well as identifying projected future risks through trending of fatigue data support achievement of this goal. However, the elimination of the 72-hour threshold condition and not performing trending not only removes the advanced warning that an employee has worked substantial overtime, but also increases the risk that negative trends are not identified and remedied before safety incidents occur.

ADDITIONAL INFORMATION

During interviews, coal plant personnel expressed concerns regarding the adverse impact reduced staffing levels has on current or future safe operation of coal plants. Specifically, 7 of 41 (17 percent) employees and 6 of 29 (21 percent) supervisors indicated they did not believe staffing was adequate to operate coal plants safely. In addition, several employees indicated safe operation of coal plants could become more difficult because of (1) projected future staffing reductions due to retirements and industry changes and (2) additional staffing requirements to accommodate new equipment currently being installed. Some supervisors indicated staffing was adequate to operate coal plants safely due to

One incident had a contributing condition that was categorized as "illness or fatigue, general health." The incident records do not provide further details; however, our review of payroll data indicated that at the time when the incident occurred, the employee worked 41.50 hours of overtime in the same pay period of the injury.

current reduced operations; however, others indicated reduced staffing could be affecting maintenance of coal plants negatively. Coal plant personnel also expressed understaffing related concerns during two recent organizational effectiveness evaluations:¹⁶

- Paradise Fossil Plant employees indicated there was inadequate staffing to accomplish the plant's responsibilities and speculated that it could be a factor preventing employees from obtaining required training.
- Shawnee Fossil Plant employees indicated preventive maintenance designed to reduce likelihood of equipment failure was not being completed due to understaffing.

Understaffing could not only exacerbate safety risks to employees working significant overtime, but it could also adversely impact safe operation of coal plants.

RECOMMENDATIONS

We recommend the Vice President, Power Operations, Coal:

- Reevaluate the staffing plan to determine if adjustments need to be made in order to address understaffing at coal plants.
- Consider implementing a policy limiting overtime by various periods (e.g., daily, weekly, monthly).

We recommend the Director, Safety and Enterprise Improvement:

- Consider reinstating a threshold triggering performance of fatigue evaluations.
- Reinforce performance of trending of fatigue data with health and safety data as required by the fatigue management procedure.

TVA Management's Comments – TVA management agreed with our recommendations; however, management stated overtime policies are dictated by the General Agreement. According to TVA management, every possible effort will be made to avoid overtime and to conform to bulletined hours of work. However, when overtime is necessary, management shall distribute such overtime among the qualified employees in accordance with the negotiated overtime procedures. Any change to the overtime procedure, including a cap on hours worked, would require TVA and union renegotiation of the existing contract. See the Appendix for TVA management's complete response.

Auditor's Response – While we agree the efforts to adjust the overtime policies that are dictated by the General Agreement could be difficult, TVA management must take great care to ensure personnel safety is not compromised due to fatigue caused by excessive overtime.

Evaluation 2018-15557, Organizational Effectiveness, Paradise Fossil Plant, March 14, 2019, and Evaluation 2019-15571, Organizational Effectiveness, Shawnee Fossil Plant, September 19, 2019.

September 22, 2020

David P. Wheeler, WT 2C-K

REQUEST FOR COMMENTS – DRAFT EVALUATION 2019-15686 – COAL PLANT OVERTIME

This is in response to your memorandum dated August 25, 2020. After review of the draft audit, please see the following response for coal plant overtime.

We would like to thank John Anthony Jacosalem for his diligence in assessing the management of overtime at coal plants.

Recommendations

We recommend the Vice President (VP), Power Operations, Coal:

 Reevaluate the staffing plan to determine if adjustments need to be made in order to address understaffing at coal plants.

Response

Coal Operations agrees with this recommendation.

Consider implementing a policy limiting overtime by various periods (e.g., daily, weekly, monthly).

Response

Coal Operations agrees with this recommendation, however overtime policies are dictated by the General Agreement B-V.E. Use of Overtime. Every possible effort will be made to avoid overtime and to conform to bulletined hours of work. However, when overtime is necessary, management shall distribute such overtime among the qualified employees in accordance with the negotiated overtime procedures. Any change to the overtime procedure, including a cap on hours worked, would require TVA and union re-negotiations of our existing contract.

We recommend the Director, Safety and Enterprise Improvement:

1. Consider reinstating a threshold triggering performance of fatigue evaluations.

Response

Safety agrees with this recommendation.

David P. Wheeler Page 2 September 22, 2020

2. Reinforce performance of trending of fatigue data with health and safety data as required by the fatigue management procedure.

Response

Safety agrees with this recommendation.

Thank you for allowing us to provide these comments. Please contact us if you have any questions.

Kris G. Edmondson Vice President Coal Operations

KGE:PPP:EGV

cc: James R. Dalrymple, MR 3H-C Kelie H. Hammond, WT 10C-K Sherry A. Quirk, WT 3C-K Ronald R. Sanders II, MR 5E-C Emily G. Vastano, LP 2K-C Jacinda B. Woodward, LP 2K-C OIG File No. 2019-15686 Preston P. Pratt

Director

Safety & Enterprise Improvement