Memorandum from the Office of the Inspector General

October 30, 2018

James R. Dalrymple, MR 3H-C

REQUEST FOR FINAL ACTION – AUDIT 2018-15556 – TVA'S HELICOPTER FLEET

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 audits 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 Melissa M. Neusel, Audit Manager, at (865) 633-7357 or Rick C. Underwood, Director, Financial and Operational Audits, at (423) 785-4824. We appreciate the courtesy and cooperation received from your staff during the audit.

David P. Wheeler

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

MMN:KDS
Attachment
cc (Attachment):
TVA Board of Directors
Janet J. Brewer, WT 7C-K
Robertson D. Dickens, WT 9C-K
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OIG File No. 2018-15556

Office of the Inspector General

Audit Report

To the Senior Vice President, Transmission and Power Supply

TVA'S HELICOPTER FLEET

Audit Team
Melissa M. Neusel
Stephanie L. Simmons
Ala H. Young

Audit 2018-15556
October 30, 2018

ABBREVIATIONS

CEO	Chief Executive Officer
CFR	Code of Federal Regulations
FTR	Federal Travel Regulation
SPP	Standard Programs and Processes
SVP	Senior Vice President
TVA	Tennessee Valley Authority

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Audit 2018-15556 – TVA's Helicopter Fleet

EXECUTIVE SUMMARY

Why the OIG Did This Audit

A recent Office of the Inspector General audit[i] of fixed-wing aircraft noted the Tennessee Valley Authority (TVA) (1) may not have complied with Title 31, United States Code, Section 1344 (a)(1), Passenger Carrier Use, requirements for documentation and (2) did not comply with various federal regulations and TVA policies and procedures regarding use of the aircraft. As a result of the audit findings and public interest, we initiated an audit to determine if similar issues existed with TVA's helicopter usage. Our audit objective was to determine whether TVA's use of its helicopter fleet is consistent with TVA policies and any applicable federal laws and regulations. Our audit scope included all helicopter flights from October 1, 2014, through December 31, 2017.

What the OIG Found

We found TVA did not comply with the Federal Travel Regulation (FTR) and TVA policies and procedures regarding use of TVA helicopters for passenger transportation flights. Specifically:

- Cost comparison analyses prior to use of the helicopters were not documented.
- Business justifications prior to use of the helicopters were not documented.
- Authorizations prior to use of the helicopters were not documented.

Failure to follow the FTR and TVA policy (1) prevents TVA from ensuring travel costs are managed effectively and (2) may cause reputational risks for TVA with regard to wasteful use (or perceived wasteful use) of the TVA helicopters.

Additionally, TVA's applicable Standard Programs and Processes, TRANS-SPP-32.001, *Use of TVA Helicopters*, does not address (1) documentation requirements for the various types of helicopter flights, (2) procedures necessary to evidence compliance with the FTR, and (3) the organization responsible for documenting the flights for audit purposes. We also noted passenger names are typically listed on flight sheets for passenger transportation flights but are not listed on flight sheets for transmission line or right-of-way work, aerial photography, and other similar jobs. Finally, all flight sheets listed the times of arrival and departure for multiple landings but it was unclear which passengers, if any, boarded and exited the helicopter at each location.

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[i] Audit Report 2017-15470, *TVA's Fixed-Wing Aircraft*, March 29, 2018.

What the OIG Recommends

We recommend TVA's Senior Vice President, Transmission and Power Supply:

1. Require the following be performed and documented by organizations/individuals requesting passenger transportation flights to ensure compliance with the FTR requirements and maintain this documentation in accordance with the FTR and TVA's record retention policy:

    a. Business justifications prior to scheduling each flight.

    b. Cost comparison analysis prior to scheduling each fight.

    c. Appropriate authorization prior to each flight.

2. Update the *Use of TVA Helicopters* policy to include:

    a. Specific procedures and documentation requirements to be followed for passenger transportation and nontravel governmental function flights.

    b. FTR documentation requirements for cost comparisons and authorizations associated with passenger transportation flights, including emergency flights, and retention of the required documentation.

    c. Language to specify the organization responsible for documenting the flights for audit purposes.

    d. A requirement that all passenger names (TVA and non-TVA), locations/landings, and corresponding departure and arrival times be recorded for every helicopter flight, regardless of the purpose of the flight.

TVA Management's Comments

TVA management stated they had significant disagreements with several of the audit findings and recommendations. Specifically, TVA management stated several of the recommendations exceed the requirements of the FTR and are not supported by industry analysis or benchmarking to indicate that the recommendations are either the norm or best practices for aviation in the utility industry. TVA management provided actions they plan to take to address all but one of our recommendations. See Appendix C for TVA management's response.

Auditor's Response

As discussed in detail in the attached report, TVA management's explanations for why they disagreed with some of our findings and recommendations did not change our conclusions on the specific findings. However, TVA management's stated plans for addressing our recommendations should improve TVA's compliance with federal laws and regulations in the future.

BACKGROUND

A recent Office of the Inspector General audit[1] of fixed-wing aircraft noted the Tennessee Valley Authority (TVA) (1) may not have complied with Title 31, United States Code, Section 1344 (a)(1), Passenger Carrier Use, requirements for documentation and (2) did not comply with various federal regulations and TVA policies and procedures regarding use of the aircraft. As a result of the audit findings and public interest, we initiated an audit to determine if similar issues existed with TVA's helicopter usage.

Applicable Law and Regulations
According to TVA's Office of the General Counsel, TVA is subject to the following federal law and regulations:

- Title 31, United States Code, Section 1344, Passenger Carrier Use, allows federal agencies to use funds for the maintenance, operation, or repair of aircraft when "used to provide transportation for official purposes."
- Federal Travel Regulation (FTR), Title 41 Code of Federal Regulations (CFR), Chapters 300 through 304 (41 CFR § 300-304), implements statutory requirements and executive branch policies for travel by federal civilian employees and others authorized to travel at government expense.

Applicable TVA Policy
TVA's Standard Programs and Processes (SPP), TRANS-SPP-32.001, *Use of TVA Helicopters*,[2] documents the processes for using helicopters. According to the Helicopter Policy, TVA helicopters are used in furtherance of TVA's mission and to accommodate the business transportation needs of TVA. Additionally, the Helicopter Policy states:

> TVA provides helicopter services with the highest level of safety, quality, efficiency, and availability to aid in the completion of TVA's missions in the most cost-efficient means possible. TVA also documents all flights for audit purposes and prepares any required reports.
>
> Routine audits may be conducted and used as a check and balance for effective and efficient use of TVA helicopters or chartered helicopters. The requesting organization is responsible for documenting the business purpose of any flights. Helicopter Services maintains a record of the business purpose for all flights, as provided by the requesting organization.

1 Audit Report 2017-15470, *TVA's Fixed Wing Aircraft*, March 29, 2018.
2 TRANS-SPP-32.001, *Use of TVA Helicopters*, is referred to as the Helicopter Policy.

Helicopter Fleet and Usage
TVA's helicopter fleet operates for a variety of purposes, including transmission line inspections, maintenance, construction, and repairs. TVA also uses helicopters to support its statutory mission of economic development. Passenger transportation for official business is also allowed, and TVA provides this service when helicopters are not flying to support TVA's transmission system. Currently, TVA's fleet consists of seven helicopters. TVA has contracted to purchase a 2018 Bell 407GXP for $3,855,917 to replace the 2012 Bell 407, which is no longer in service as of July 2016. As of the date of this report, TVA had paid a $578,388 deposit, and the remaining $3,277,529 will be paid when TVA takes delivery of the helicopter, which is expected in December 2018. See Table 1 for information regarding TVA's helicopters:

Tail Number	Helicopter	Purchase Year	Purchase Price
N40TV	1996 Bell 206-L4	Not Available	
N45TV	1998 Bell 407	Not Available	
N161TV	2009 McDonnell Douglas 530F	2009	$1,641,096
N530TV	2009 McDonnell Douglas 530F	2009	1,641,096
N124TV	2012 Airbus EC120B	2014	1,982,673
N126TV	2012 Airbus EC120B	2014	1,935,938
N427TV *	2012 Bell 407	2012	3,102,358
N482AE	2013 Airbus EC145MB	2015	6,950,000
Contracted to Purchase – Delivery in December 2018:			
	Bell 407GXP		$3,855,917
* Helicopter is no longer in service as of July 2016.			

Table 1

The 2013 Airbus EC145, which is referred to as the "black helicopter," operates with two pilots, and all of the other helicopters operate with one pilot. TVA's Helicopter Services group currently has five pilots and three mechanics, and helicopter maintenance is performed in the TVA hangar in Muscle Shoals, Alabama. According to the General Manager of Aircraft Services, the majority of the helicopter fleet is stationed in Muscle Shoals, Alabama, with one helicopter stationed in Chattanooga, Tennessee, and one helicopter stationed in Jackson, Tennessee. When TVA takes delivery of the replacement helicopter, another helicopter may be stationed in Knoxville, Tennessee.

TVA utilizes FlightWatch software to record limited flight information from the flight sheets manually prepared by the pilots.[3] As shown in Table 2 on the following page, during the audit period October 1, 2014, through December 31, 2017, TVA operated eight helicopters for a total of 2,138 flights.

[3] A flight sheet was prepared by the pilot(s) for each flight and includes the following information: aircraft number, flight date, flight number, reason code, landings/airports, departure time, arrival time, and flying time. Passenger information was sometimes recorded for flights coded as economic development or passenger transportation but was generally not recorded for other flights. Often, lists of passengers on economic development flights were not provided to Aviation Services, but a passenger list was maintained by Economic Development.

TVA Helicopter Flights October 1, 2014 – December 31, 2017				
Tail Number	**Helicopter**	**Flights**	**Days Flown**	**Percentage of Total Flights**
N126TV	2012 Airbus EC120B	398	380	18.6%
N530TV	2009 McDonnell Douglas 530F	366	353	17.1%
N124TV	2012 Airbus EC120B	340	338	15.9%
N40TV	1996 Bell 206-L4	277	271	13.0%
N161TV	2009 McDonnell Douglas 530F	258	248	12.1%
N427TV*	2012 Bell 407	195	192	9.1%
N45TV	1998 Bell 407	173	173	8.1%
N482AE	2013 Airbus EC145MB	131	131	6.1%
Total		**2,138**	**2,086**	**100.0%**

* Helicopter N427TV is no longer in service as of July 2016.

Table 2

Reason codes indicating the purpose(s) for each flight (e.g., transmission line patrol, economic development, and passenger transportation) are written on the flight sheets and entered into FlightWatch. A single flight may have multiple purposes, which requires additional flight records be entered in FlightWatch to record each reason code. Therefore, the 2,138 flights correspond to 2,265 flight records. We summarized the reason codes into four categories as shown in Table 3 and noted the majority of the flights were related to transmission line, right-of-way, and/or aerial photography and survey work (i.e., transmission system).

Reason Code Category	Number of Flight Records	Percentage of Flight Records
Transmission Line/Right-of-Way/Aerial Work	1,533	67.7%
Other (Standby, Ferry, Training, etc.)	290	12.8%
Passenger Transportation	239	10.5%
Economic Development	203	9.0%
Total	**2,265**	**100.0%**

Table 3

According to TVA's President and Chief Executive Officer (CEO), the black helicopter was purchased because it has more safety features (i.e., two pilots and two engines), which is preferable for economic development flights. The black helicopter was flown for economic development and passenger transportation flights but not for transmission system work. Five of the other helicopters continued to be used for economic development flights when the black helicopter appeared to be available. The number of flights by each helicopter in the categories listed above is included in Appendix B. As shown in Table 4 on the following page, the helicopters' flight sheets showed 120 different individuals flew on 161 passenger transportation flights.

Passenger	Number
TVA Board Member	1
CEO Direct Report	8
Senior Vice President (SVP)	4
Vice President	11
TVA Employees	68
TVA Police	2
Other Passengers	26
Total	**120**

Table 4

One SVP was listed as a passenger on 69 flights, which was the highest number of flights recorded for an individual. The next highest number of flights taken was 18 by an SVP and a former CEO direct report, and the remainder of the passengers took 10 or fewer flights. Individual passenger names were not always recorded on the flight sheets. In some cases, the flight sheets contained only notations such as “1 passenger” or “on file.”

OBJECTIVE, SCOPE, AND METHODOLOGY

Our audit objective was to determine whether TVA’s use of its helicopter fleet is consistent with TVA policies and any applicable federal laws and regulations. Our audit scope included all helicopter flights from October 1, 2014, through December 31, 2017. A complete discussion of our audit objective, scope, and methodology is included in Appendix A.

FINDINGS

We found TVA did not comply with the FTR and TVA’s Helicopter Policy for passenger transportation flights. Additionally, TVA’s Helicopter Policy does not address (1) documentation requirements for the various types of flights, (2) procedures necessary to evidence compliance with the FTR, and (3) the organization responsible for documenting the flights for audit purposes. The Helicopter Policy also does not specifically require passenger names and related details be documented and maintained for each flight.

NONCOMPLIANCE WITH FTR AND TVA POLICIES AND PROCEDURES

We tested TVA's compliance with FTR and requirements in its Helicopter Policy by performing analytical reviews of flight data and selecting a sample of passenger transportation flights to review supporting documentation. We selected a random sample of 22 passenger transportation flights and requested documentation showing compliance with FTR requirements and the Helicopter Policy.[4] Based on this analysis, we determined TVA did not comply with the FTR and the TVA Helicopter Policy when the helicopter fleet was used for passenger transportation. Specifically:

- Cost comparison analyses prior to use of the helicopters were not documented.
- Business justifications prior to use of the helicopters were not documented.
- Authorizations prior to use of the helicopters were not documented.

As discussed in detail below, failure to follow the federal regulations and TVA policy (1) prevents TVA from ensuring travel costs are managed effectively and (2) may cause reputational risks for TVA with regard to wasteful use (or perceived wasteful use) of the TVA helicopters.

Cost Comparison Analyses for Use of TVA Helicopters Were Not Documented

The FTR states generally passengers may travel on government aircraft for official travel only when a government aircraft is the most cost-effective mode of travel.[5] Specifically, FTR § 301-10.4 states "your agency must select the method most advantageous to the government, when cost and other factors[6] are considered." The TVA Helicopter Policy states approved users of TVA helicopter services are responsible for determining whether business considerations (such as time efficiencies, ability to conduct more business, etc.) outweigh the cost differential when commercial travel costs or ground transportation are lower than

[4] TVA's General Counsel informed us TVA's helicopter fleet is often used for nontravel governmental functions that are excepted from coverage of the FTR. According to the General Counsel, TVA's helicopters, flight crews, and mission personnel are performing nontravel governmental functions when the helicopters are used to conduct training, aerial surveys and patrols, site inspections, power line surveillance, construction and repairs, environmental monitoring, retrieval or delivery of cargo, support disaster relief, firefighting, or similar activities. We initially selected a random sample of 50 flights for review, which included 28 economic development flights. However, because the economic development flights appeared to meet the definition of nontravel governmental functions, they would not be subject to the requirements of the FTR and were not included in our testing.

[5] 41 CFR § 301-70.801 states the criteria a traveler must meet to use government aircraft for official travel. 41 CFR § 301-70.802 states the agency must ensure that travel on a government aircraft is the most cost-effective alternative that will meet the travel requirement, and the designated travel approving official must compare the cost of all travel alternatives. In addition, 41 CFR § 301-70.805-806 states cost comparison documentation must be retained for 2 years.

[6] Other factors identified in 41 CFR § 301-10.4 were energy conservation, total cost to the government (including costs of per diem, overtime, lost worktime, and actual transportation costs), total distance traveled, number of points visited, and number of travelers.

use of the TVA helicopters. To determine if the required cost comparisons were performed, we requested documentation for the 22 passenger transportation flights from Helicopter Services as well as the individual passengers. Neither Helicopter Services nor the individual passengers provided documentation of cost comparisons for the passenger transportation flights.

In addition, our analysis of the 161 passenger transportation flights noted 19 flights that did not appear to be cost beneficial due to the short distances of the flights. For example, 5 of these flights were directly between Knoxville, Tennessee, (McGhee Tyson or Knoxville Downtown Island airports) and Chattanooga, Tennessee, (Lovell Field) or vice versa. According to the flight sheets reviewed, the average flight time between McGhee Tyson airport and Chattanooga was 45 minutes, and the average flight time between Knoxville Downtown Island Airport and Chattanooga was 48 minutes. Based on TVA's self-reported chargeback rate[7] for the type of helicopter typically used for passenger flights of $1,450 per flight hour, a one-way trip between McGhee Tyson and Chattanooga resulted in an internal charge of $1,087, and a one-way flight between Knoxville Downtown Island Airport and Chattanooga resulted in an internal charge of $1,160. We also analyzed the potential time savings between flying and driving for the trips between Knoxville's two airports and Chattanooga. When adding the driving time to and from the airports, we determined flying saved a minimal amount of time—from 15 to 24 minutes—compared to driving.

In summary, the internal charge for using the helicopters for these and other short trips is significantly greater than the cost of driving, which may negate any minimal time savings. Completing a cost comparison prior to helicopter use as required by the FTR and TVA's Helicopter Policy would help ensure TVA helicopters are utilized only when it is in the best interest of and advantageous to TVA.

Business Justifications for Passenger Transportation Flights Were Not Documented

The FTR requires several items be documented prior to flying on aircraft when the traveler is a senior federal official or a nonfederal traveler. One of these items is the official purpose of the trip. In addition, TVA's Helicopter Policy states the requesting organization is responsible for documenting the business purpose of any flights, and Helicopter Services is responsible for maintaining a record of the business purpose for all flights, as provided by the requesting organization. Neither the requesting organizations nor Helicopter Services were able to provide documentation of the business purposes prepared prior to helicopter use for the passenger transportation flights.

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[7] TVA's General Manager of Aircraft Services informed us the chargeback rate is an attempt to charge the TVA business organization the direct operation (variable) cost of the helicopter including pilot salaries, fuel, and maintenance. The chargeback rate varies among the helicopters and ranges from $950 per flight hour to $2,000 per flight hour.

Documented Authorizations for Passenger Transportation Prior to Helicopter Flights Were Not Provided

FTR § 301-10.262 requires all federal travelers other than senior federal officials to have (1) authorization for travel on government aircraft, in advance and in writing from their designated travel-approving official, or (2) a blanket travel authorization for official travel that authorizes travel on government aircraft. This blanket authorization must define the circumstances that must be met for using government aircraft and must comply with the FTR and any additional agency policies. Travel on government aircraft that does not meet the circumstances specified in the blanket travel authorization must be authorized on a trip-by-trip basis in accordance with the FTR and other applicable agency policies.

Senior federal officials and nonfederal travelers must receive authorization from the agency's senior legal official or his/her principal deputy for all travel on government aircraft in advance and in writing, except for required use travel. In addition, TVA's Helicopter Policy states "all flights for any TVA organization must be requested by someone in a management position or with the approval of someone in a management position."

When we requested documentation supporting approval for the 22 passenger transportation flights in our sample, no written preauthorizations were provided. We also noted 1 CEO direct report approved their own flights (3 out of 22 flights). Also, 1 flight was identified as an emergency situation in our sample of 22 passenger transportation flights. Although the FTR allows for verbal approval in an emergency situation, after-the-fact written authorization is required. TVA's Helicopter Policy does not address using helicopters for nontransmission emergencies.

HELICOPTER POLICY SHOULD BE REVISED

As previously discussed, TVA helicopters are used for a variety of business purposes. According to Helicopter Services, the documentation requirements for use of the helicopters differ depending on the purpose of the flight. However, the Helicopter Policy does not address the documentation requirements for the various types of flights (passenger transportation and nontravel governmental function). The Helicopter Policy also does not address procedures necessary to evidence compliance with the FTR requirements for cost comparisons and authorizations associated with passenger transportation flights.

In addition, the Helicopter Policy states that "TVA also documents all flights for audit purposes…" However, it does not specify the organization responsible for documenting the flights for audit purposes. The Helicopter Policy also does not specifically require passenger names and related details be documented and maintained for each flight. We noted:

- Passenger names were sometimes listed on the flight sheets for passenger transportation and economic development flights but were not listed on the flight sheets for transmission line or right-of-way work, aerial photography, and other similar jobs.

- All flight sheets listed the times of arrival and departure for multiple landings; however, it was unclear which passengers, if any, boarded and exited the helicopter at each location.

Listing all passenger names and their arrival and departure times and locations on all flights would (1) ensure TVA management has complete and accurate documentation of individuals aboard its helicopters and (2) evidence commitment to TVA's values of safety and accountability.

RECOMMENDATIONS

We recommend TVA's SVP, Transmission and Power Supply:

1. Require the following be performed and documented by organizations/individuals requesting passenger transportation flights to ensure compliance with the FTR requirements and maintain this documentation in accordance with the FTR and TVA's record retention policy:
   a. Business justifications prior to scheduling each flight.
   b. Cost comparison analysis prior to scheduling each fight.
   c. Appropriate authorization prior to each flight.
2. Update the *Use of TVA Helicopters* policy to include:
   a. Specific procedures and documentation requirements to be followed for passenger transportation and nontravel governmental function flights.
   b. FTR documentation requirements (as listed in 41 CFR § 300-304) for cost comparisons and authorizations associated with passenger transportation flights, including emergency flights, and retention of the required documentation.
   c. Language to specify the organization responsible for documenting the flights for audit purposes.
   d. A requirement that all passenger names (TVA and non-TVA), locations/landings, and corresponding departure and arrival times be recorded for every helicopter flight, regardless of the purpose of the flight.

TVA Management Comments – In response to our draft audit report, TVA management stated they had significant disagreements with several of the audit findings and recommendations. Specifically, TVA management stated several of the recommendations exceed the requirements of the FTR and are not supported by industry analysis or benchmarking to indicate that the recommendations are either the norm or best practices for aviation in the utility industry. In addition, TVA management stated the report emphasizes TVA's noncompliance with the

FTR for passenger flights and does not clarify (1) in the findings that passenger flights represent the minority (~10 percent) of helicopter flights and (2) the FTR is not applicable to the majority (~90 percent) of helicopter flights.

In response to our first recommendation, TVA management stated:

- TVA is currently replacing the flight scheduling software with a software that better meets its justification and documentation needs.
- Replacement software testing is currently in progress, with expected software implementation to be completed by the end of the calendar year.
- Interim measures are in place to ensure business justifications are captured appropriately and to ensure appropriate authorizations and recordkeeping.
- Aviation Services has already implemented cost analysis requirements for applicable travel-related flights.

In response to our second recommendation, TVA management stated it will revise the TVA policy, TRANS-SPP-32.001, *Use of TVA Helicopters*, to provide:

- More detailed guidance regarding flight scheduling, justification, and authorization processes; and passenger transportation flights.
- Cost comparison, documentation, and scheduling guidance for travel-related flights in alignment with the FTR.
- Guidance for emergency authorizations.
- Guidance that specifies Aviation Services will govern flight documentation with support from requesting organizations and records shall be retained in Aviation Services for audit purposes.

In addition, TVA management stated they will document (1) all passengers on travel flights as required by the FTR in a manner that is consistent with the FTR and statutory provisions which protect confidentiality and (2) landings and locations for all flights.

Finally, TVA management stated there is no regulatory driver to record the names of all passengers and associated information for nontravel-related flights and the additional recordkeeping associated with recording all passenger names would add workload without value. See Appendix C for management's complete response.

Auditor's Response – We disagree with TVA management's comment that the report does not clarify (1) in the findings that passenger flights represent the minority (~10 percent) of helicopter flights and (2) the FTR is not applicable to the majority (~90 percent) of helicopter flights. We specifically addressed the percentage of all flight types in Table 3 of the Background section and added additional clarification for flights that are excepted from coverage of the FTR in Footnote 4 of the Findings section.

We also disagree with only recording passenger names for travel flights as required by the FTR. While we acknowledge there is no regulatory driver to record the names of all passengers for nontravel-related flights, we believe two of TVA's five values support our recommendation:

- Safety – We share a professional and personal commitment to protect the safety of our employees, our contractors, our customers, and those in the communities that we serve.
- Accountability – We take personal responsibility for our actions, our decisions, and the effectiveness of our results, which must be achieved in alignment with our company values.

Recording all passenger names on all flights would be in alignment with TVA's safety and accountability values by ensuring all individuals aboard are accounted for and identified at all times. If the new flight scheduling software has the capability to record passenger information, any additional recordkeeping should be minimal.

TVA management's stated plans for addressing our other recommendations should improve TVA's compliance with federal laws and regulations in the future.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our audit objective was to determine whether the Tennessee Valley Authority's (TVA) use of its helicopter fleet is consistent with TVA policies and any applicable federal laws and regulations. Our audit scope included all helicopter flights from October 1, 2014, through December 31, 2017.

To achieve our objective, we:

- Obtained helicopter flight data in the form of reports run by TVA Helicopter Services from the FlightWatch system and converted the reports into electronic data (i.e., Excel spreadsheet). FlightWatch reports included helicopter identification, flight numbers, flight dates, reason codes, flight times, and hourly rates charged for each helicopter.
- Obtained flight sheets for flights that appeared to be for economic development or passenger transportation, and manually entered the information into an electronic format (i.e., Excel spreadsheet). Data entered from the flight sheets included helicopter identification, flight dates, landing locations, flight times, passengers, and reason codes for helicopter flights as recorded by the helicopter pilot.
- Combined FlightWatch data and flight sheets' data and performed data analysis to assess the reliability of FlightWatch data.
- Performed analytical review of all helicopter data during the audit period to identify trends and outliers in helicopter usage (e.g., most frequent traveler on passenger transportation flights, flights by helicopter identification and reason code).
- Reviewed passengers who traveled during the audit period to determine if they were employees or nonemployees (e.g., TVA Board members, executives, nonexecutives).
- Reviewed TVA policies and procedures effective during the audit period for administering, using, and monitoring TVA's helicopters along with any other applicable information.
- Reviewed laws and regulations that pertain to usage of helicopters to determine which were applicable to TVA.
- Identified 320 flights that appeared to be for economic development or passenger transportation and selected a nonstatistical random sample of 50 flights. We obtained and reviewed supporting documentation provided to test compliance with the requirements of the TVA Helicopter Policy and applicable federal law and regulations as well as the accuracy of the FlightWatch data. Because this was intended to be a judgmental sample, we did not project the results to the population.

We did not identify internal controls significant to our audit objective; therefore, internal controls were not tested as part of this audit. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

HELICOPTER FLIGHTS BY CATEGORY

Reason Code Category	Aircraft Identification	Number of Flight Records	Percentage of Flights
Transmission Line or Aerial Work	N40TV	168	7.4%
	N45TV	100	4.4%
	N161TV	232	10.3%
	N427TV	104	4.6%
	N530TV	328	14.5%
	N124TV	279	12.3%
	N126TV	322	14.2%
		1,533	**67.7%**
Other (Standby, Ferry, Training, etc.)	N40TV	42	1.9%
	N45TV	30	1.3%
	N161TV	38	1.7%
	N427TV	13	0.6%
	N530TV	46	2.0%
	N124TV	39	1.7%
	N126TV	52	2.3%
	N482AE	30	1.3%
		290	**12.8%**
Passenger Transportation	N40TV	31	1.4%
	N45TV	34	1.5%
	N161TV	2	0.1%
	N427TV	44	1.9%
	N530TV	1	0.0%
	N124TV	21	0.9%
	N126TV	27	1.2%
	N482AE	79	3.5%
		239	**10.5%**
Economic Development	N40TV	53	2.3%
	N45TV	20	0.9%
	N161TV	1	0.0%
	N427TV	36	1.6%
	N530TV	5	0.2%
	N124TV	13	0.6%
	N126TV	17	0.8%
	N482AE	58	2.6%
		203	**9.0%**
Total		**2,265**	**100.0%**

TVA RESTRICTED INFORMATION

October 19, 2018

David P. Wheeler, ET 3C-K

RESPONSE TO REQUEST FOR COMMENTS – DRAFT AUDIT 2018-15556 – TVA'S HELICOPTER FLEET

Thank you for the opportunity to review and respond to the subject draft report. As previously discussed during the Fixed Wing Audit in January of 2018, TVA has significant disagreements with several of the audit findings and recommendations which are applicable to both the Fixed Wing and Helicopter audit. Most significantly, TVA does not agree that non-travel-related flights should be subject to Federal Travel Regulations.

The OIG's report emphasizes TVA's non-compliance with federal travel regulations for passenger flights without clarifying in the findings that passenger flights represent the minority (~10%) of helicopter flights. The report also fails to clarify that Federal Travel Regulations are not applicable to the majority (~90%) of helicopter flights.

Several of the OIG's recommendations exceed the requirements of the Federal Travel Regulations and are not supported by any industry analysis or benchmarking to indicate that the recommendations are either the norm or best practices for aviation in the utility industry. Additionally, the recommendations to perform cost comparison analysis prior to scheduling each flight is not consistent with the OIG's cost analysis recommendation from the Fixed Wing Audit, which required 'cost comparison analyses to be performed in compliance with FTR prior to scheduling any flights and maintain documentation in accordance with TVA's record retention policy.'

TVA is in agreement that recordkeeping associated with flight authorizations and justifications has been inadequate. As previously discussed during the fixed wing audit in January, benchmarking conducted with our peers identified that the flight software in use did not meet our regulatory or business needs. TVA is currently replacing this software and has revised our recordkeeping processes to improve our recordkeeping and reporting. Many other improvements are also in progress to address issues raised in both the fixed wing and helicopter audit. Please see the attached TVA Action and Comment Table for details.

Aviation Services has recently been realigned as part of a larger effort to better align our functions. Continuous improvement efforts in Aviation Services will remain under David Hill, General Manager, but transition from Jacinda Woodward, Senior Vice President, to the strategic business unit Transmission Power Supply, under the leadership of Senior Vice President James R. Dalrymple.

James R. Dalrymple
Senior Vice President
Transmission Power Supply
MR 3H-C

David S. Hill
General Manager
Aviation Services
BR 4D-C

AHM:EMB
Attachment
cc (Attachment):
- William G. Cronin, BR 4D-C
- Robertson D. Dickens, WT 9C-K
- William D. Johnson, WT 7B-K
- Dwain K. Lanier, MR 6D-C
- Sherry A. Quirk, WT 7C-K
- Michael D. Skaggs, WT 7B-K
- OIG File No. 2018-15556

OIG Recommendation	TVA Action	TVA Comment
Require the following to be performed and documented by organizations/individuals requesting passenger transportation flights to ensure compliance with the FTR and TVA's record retention policy:		
(a) Business justifications prior to scheduling each flight	TVA is currently replacing the flight scheduling software with a software which better meets our justification and documentation needs. Additionally, TVA will revise the TVA policy 'Use of TVA Helicopters,' TRANS-SPP-32.001, to provide more detailed guidance regarding flight scheduling and justification processes.	Replacement software testing is currently in progress, with expected software implementation to be completed by the end of the calendar year. Interim measures are in place to ensure business justifications are captured appropriately.
(b) Cost comparison analysis prior to scheduling each flight	TVA will revise TRANS-SPP-32.001 to provide cost comparison, documentation, and scheduling guidance for travel related flights in alignment with FTR's.	Aviation Services has already implemented cost analysis requirements for applicable travel related flights. Note that this excludes pre-authorized required travel and non travel related flights which is in compliance with Federal Travel Regulations.
(c) Appropriate authorization prior to each flight	TVA is currently replacing the flight scheduling software with a software which better meets our justification and documentation needs. Additionally, TVA will revise the TVA policy 'Use of TVA Helicopters,' TRANS-SPP-32.001, to provide more detailed guidance regarding flight authorization processes.	Replacement software testing is currently in progress, with expected software implementation to be completed by the end of the calendar year. Interim measures are in place to ensure appropriate authorizations and recordkeeping.
Update the Use of TVA Helicopters policy to include:		
(a) Specific procedures and documentation requirement to be followed for passenger transportation and non travel flights	TVA will revise the TVA policy 'Use of TVA Helicopters,' TRANS-SPP-32.001, to provide more detailed guidance regarding passenger transportation flights.	Non travel related flight documentation improvements will be captured through software replacement.

(b) FTR documentation requirement for cost comparisons and authorizations associated with passenger transportation flights, including emergency flights, and retention of required documentation	TVA will revise TRANS-SPP-32.001 to provide cost comparison, documentation, and scheduling guidance for travel related flights in alignment with FTR's. Guidance for emergency authorizations shall be incorporated.	Aviation Services has already implemented cost analysis requirements for applicable travel related flights. Note that this excludes pre-authorized required travel and non travel related flights which is in compliance with Federal Travel Regulations. The OIG did not identify any findings related to emergency flights. Direct reports to the CEO are pre-authorized for travel by Board Policy 10. Additionally written authorization is not needed.
(c) Language to specify the specific organization responsible for documenting the flights for audit purposes	TVA will revise TRANS-SPP-32.001 to specify that Aviation Services will govern flight documentation with support from requesting organizations.	Records shall be retained within the Aviation Software for audit purposes.
(d) A requirement that all passenger names (TVA and non-TVA) locations/landings, and corresponding departure and arrival times be recorded for every helicopter flight, regardless of the purpose of the flight.	TVA will document and passengers on travel flights as required by FTR's in a manner which is consistent with the FIR and statutory provisions which protect confidentiality. TVA will also document landings and locations for all flights.	There is no regulatory driver to record the names of all passengers for non travel related flights. Some non travel flights require numerous crew changes. The additional recordkeeping would add workload without value. The OIG has not provided benchmarking or industry analysis which indicates that the recommendation is a best practice or would improve TVA's service to the Valley. Documentation shall be retained within the Aviation Software for audit purposes.