



INTERNAL AUDIT DIVISION

REPORT 2016/160

Audit of fuel management in the
African Union-United Nations Hybrid
Operation in Darfur

Certain processes were adequately
controlled but there was a need for accurate
records of odometer readings and fuel-tank
capacities, investigation of anomalies in fuel
consumption, and timely inspection of fuel
facilities

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Audit of fuel management in the African Union-United Nations Hybrid Operation in Darfur

EXECUTIVE SUMMARY

The objective of the audit was to assess the adequacy and effectiveness of governance, risk management and control processes over the management of fuel in the African Union-United Nations Hybrid Operation in Darfur (UNAMID). The audit covered the period from 1 July 2014 to 30 June 2016 and included a review of: the use of duty-free privileges for fuel importation; fuel consumption monitoring and accounting; fuel facility and quality inspections; maintenance of fuel-consuming equipment; invoice processing; and fuel emergency response planning.

UNAMID implemented adequate controls over the use of duty-free privileges for the importation of fuel, payment of contractors and fuel emergency response planning. However, UNAMID needed to: maintain accurate records of odometer readings and tank capacities of fuel-consuming equipment; investigate identified anomalies in fuel consumption patterns, and timely inspect fuel facilities and fuel quality at all locations.

OIOS made four important recommendations. To address issues identified in the audit, UNAMID needed to:

- Correct odometer readings of 456 items of equipment and 134 cases of incorrect tank capacities in the electronic fuel management system and ensure accurate recording of odometer readings and tank capacities of fuel-consuming equipment;
- Ensure the Fuel Fraud and Loss Prevention Cell timely investigates anomalies identified during its fuel fraud analysis;
- Implement a plan to ensure timely inspection of fuel facility and quality at all locations; and
- Ensure faulty odometers and hour meters of fuel-consuming equipment are promptly repaired.

UNAMID accepted the recommendations, implemented one and has initiated steps to implement the other recommendations.

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Audit of fuel management in the African Union-United Nations Hybrid Operation in Darfur

I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of fuel management in the African Union-United Nations Hybrid Operation in Darfur (UNAMID).
2. UNAMID has a fuel contract with a not-to-exceed amount of \$410.5 million, which requires the contractor to: (a) deliver fuel to distribution points in Khartoum, Port Sudan, five sector headquarters in Darfur, and 30 team sites; (b) transport, store and dispense fuel to UNAMID-designated equipment; and (c) maintain fuel operating stocks and local and strategic reserves.
3. The Fuel Unit is responsible for: (a) managing the fuel contract; (b) monitoring and analyzing fuel consumption and initiating investigations of suspected fuel fraud; (c) inspecting fuel facilities; and (d) ensuring accurate accounting and reporting of fuel distribution and consumption.
4. Comments provided by UNAMID are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

5. The objective of the audit was to assess the adequacy and effectiveness of governance, risk management and control processes over the management of fuel in UNAMID.
6. This audit was included in the 2016 risk-based work plan of OIOS due to the financial, operational and safety risks associated with the supply of fuel.
7. OIOS conducted this audit from August to November 2016. The audit covered the period from 1 July 2014 to 30 June 2016. Based on an activity-level risk assessment, the audit covered higher and medium risks in the management of fuel in UNAMID, which included: control of duty-free privileges for fuel importation; fuel consumption, monitoring and accounting; fuel facility and quality inspections; maintenance of fuel-consuming equipment; invoice processing; and fuel emergency response planning.
8. The audit methodology included: (a) interviews of key personnel; (b) review of relevant documentation; (c) analytical reviews of data; (d) sampling and analysis of data; and (e) inspection of physical inventory of fuel at El Fasher, El Geneina and Nyala.

III. OVERALL CONCLUSION

9. UNAMID implemented adequate controls over: (a) use of duty-free privileges for the importation of fuel; (b) processing and payment of contractor's invoices; and (c) fuel emergency response planning. However, the Mission needed to: take steps to ensure accurate records of odometer readings and tank capacities of fuel-consuming equipment; investigate anomalies in fuel consumption; and establish and timely inspect fuel facilities and fuel quality at all locations.

IV. AUDIT RESULTS

A. Control of duty-free privileges for fuel importation

There were adequate controls over the use of the Mission's duty-free privileges for the importation of fuel

10. The Status of Forces Agreement between the United Nations and the Government of Sudan exempts all articles imported or exported by UNAMID for its official use from direct taxes and charges of similar nature. Best practice requires the Mission to implement appropriate procedures and controls to ensure duty-free privileges were used for its exclusive purposes.

11. UNAMID received five shipments of diesel totaling 62.8 million litres and four shipments of jet A-1 totaling 12 million litres during the audit period. A review of shipping documents, the contractor's invoices and fuel tracking reconciliations performed by the Fuel Unit indicated that UNAMID reviewed all shipping and customs clearing documents related to tax exemption. The Fuel Unit periodically reconciled the volume of fuel imported by the contractor duty-free with the volume of fuel issued by the contractor to UNAMID. The Fuel Unit tracked fuel shipments including vessel name, fuel supplier, and volume shipped as per certificate of quantities, and reconciled actual fuel consumed by the Mission to the volume received.

12. OIOS concluded that UNAMID had implemented adequate controls to ensure that the Mission's duty-free privileges for importation of fuel were used for its exclusive purposes.

B. Fuel consumption monitoring and accounting

Need to enhance the reliability of the electronic fuel management system

13. The Departments of Peacekeeping Operations and Field Support (DPKO/DFS) Fuel Operations Manual (the Fuel Manual) requires UNAMID to maintain accurate and complete accounting of fuel deliveries and consumption using a reliable electronic management system.

14. UNAMID implemented the electronic fuel management system 2 (eFMS2) in February 2016. A review of 500 of the 57,014 fuel transactions recorded in eFMS2 showed that the volume of fuel recorded matched the volume stated in relevant supporting documents such as pictures of the pump meter readings. Prior to the implementation of eFMS2, the Mission used fuel issue slips and Excel spreadsheets to account for fuel. A review of 2,613 of 208,288 fuel issue slips for the audit period indicated that these were duly signed by individuals that received the fuel, and was accurately recorded in the relevant spreadsheets. When required, the slips also included details of the fuel consuming equipment.

15. However, OIOS review of the analysis conducted by the Fuel Cell indicated that the Cell had identified: 456 items of equipment in eFMS2 with incorrect odometer readings; and 134 cases of wrong tank capacities in the system. This resulted, as the Mission had not taken action to address inaccuracies in recording of odometer readings and tank capacities in eFMS2, increasing the risk of financial loss. OIOS noted that the volume of fuel issued for March, May and June 2016 to certain equipment exceeded the tank capacity.

<p>(1) UNAMID should take steps to up-date inaccurate odometer readings of the: 456 items of equipment identified during the audit; and 134 cases of wrong tank capacities in the electronic fuel management system, and consistently enforce accurate recording of</p>
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odometer readings and tank capacities of fuel-consuming equipment.

UNAMID accepted recommendation 1 and stated that it was providing continuous training to the contractor personnel on how to record odometer readings in eFMS and the Fuel Unit staff would review reports of faulty readings on a weekly basis and initiate necessary corrective action. It was also in the process of correcting fuel tank capacities, which were initially recorded as estimates due to the absence of manufacturers' specifications at the time. The Mission had already rectified 134 cases identified by OIOS. Recommendation 1 remains open pending receipt of evidence that UNAMID has taken action on inaccurate odometer readings and has corrected fuel tank capacities in eFMS2.

Need to follow up and investigate identified fuel consumption anomalies

16. The Fuel Manual requires UNAMID to monitor and analyze fuel distribution and consumption and investigate unreasonable fuel consumption patterns.

17. UNAMID had a Fuel Fraud and Loss Prevention Cell to analyze fuel consumption and investigate anomalies. A review of the activities of the Fuel Cell showed that it: (i) performed monthly trend analysis, identified and investigated unusual patterns; (ii) carried out monthly fuel efficiency tests by comparing litres per kilometer/hour with the standard for each fuel consuming asset; (iii) analyzed duplicate transactions on a monthly basis using the time and date of transaction, volume, equipment identification numbers and odometer reading to identify anomalies in fuel issuance; and (iv) compared the volume of fuel issued in each transaction with the actual tank capacity of each fuel consuming asset. Also, OIOS analyses of 265,302 fuel transactions processed during the audit period using a data analytics tool did not identify any anomaly.

18. However, the Fuel Cell did not timely investigate instances in which the volume of fuel issued exceeded tank capacity of the respective equipment for March, May and June 2016. For example, in February 2016 there were 226 cases in which the volume of fuel issued exceeded the tank capacity of the respective equipment. The Fuel Cell investigated and resolved 134 of these cases, which were attributed to entering of wrong tank capacities in the eFMS2 system and the remaining 92 cases were still being investigated. This occurred because the Fuel Unit did not implement effective supervisory procedures to consistently ensure that anomalies in fuel consumption are investigated in a timely manner. As a result, cases of fuel fraud may go undetected.

(2) UNAMID should implement effective supervisory procedures to ensure the Fuel Fraud and Loss Prevention Cell timely investigates anomalies identified during its fuel fraud analysis.

UNAMID accepted recommendation 2 and stated that it had developed guidelines for managing abnormal fuel consumption, and put in place supervisory procedures to ensure anomalies are investigated monthly. Based on the action taken by UNAMID and OIOS verification of the work being done, recommendation 2 has been closed.

C. Fuel quality and facility inspections and maintenance of equipment

Need to strengthen inspections of fuel quality and fuel facilities

19. The UNAMID fuel quality assurance and surveillance programme requires the Fuel Unit to inspect the quality of fuel at all distribution sites at least once a month, regularly inspect fuel facilities and assess the condition of fuel handling equipment and ensure that the contractor has put in place safety measures at all fuel facilities.

20. A review of fuel facility and quality inspection reports for three out of five sector headquarters and 17 out of 30 team sites indicated that the Fuel Unit conducted only 72 of the required 408 inspections for the 17 team sites. This occurred because the Fuel Unit did not have a quality assurance plan to guide regular inspections. As a result, there was the risk that quality of fuel and equipment may not meet established standards.

(3) UNAMID should establish and implement a plan to ensure timely inspection of fuel facilities and fuel quality at all locations.

UNAMID accepted recommendation 3 and stated that it had developed a fuel facility inspection and quality assurance surveillance plan for all sectors and would ensure that inspection records and action plans are maintained. Recommendation 3 remains open pending receipt of evidence that all inspections have been conducted as planned.

Need to repair faulty odometers of fuel-consuming equipment

21. The Fuel Manual requires UNAMID to issue fuel to vehicles and generators with properly functioning odometers and hour meters.

22. A review of a report of fuel consumption of equipment generated from eFMS2 for the period from February to June 2016 showed that the Mission issued fuel to 109 items of equipment with faulty odometers. This occurred because self-accounting units such as the transport and engineering sections, and the Contingent-owned Equipment (COE) Unit did not take action in a timely manner to identify and repair faulty odometers and hour meters and the Fuel Unit was not enforcing the requirement to not dispense fuel into equipment with faulty meters. As a result, there was an unmitigated risk of fraud and financial loss from the Mission issuing more fuel than required to the respective equipment.

(4) UNAMID should implement a mechanism that ensures faulty odometers and hour meters of fuel-consuming equipment are promptly identified and repaired and to discontinue dispensing fuel to equipment with faulty meters, unless exceptionally approved for operational reasons.

UNAMID accepted recommendation 4 and stated that it had identified equipment with faulty odometers and hour meters and informed relevant self-accounting units to repair or replace faulty meters. UNAMID also advised that it had put in place a trip ticket system to enable continuous monitoring of fuel efficiency in the absence of functioning odometers or hour meters. Recommendation 4 remains open pending receipt of evidence and OIOS verification that faulty odometers and hour meters of all 109 fuel-consuming equipment identified by the audit have been repaired.

E. Invoice processing

There were adequate controls over the processing and payment of invoices

23. The UNAMID Fuel Unit standard operating procedures and the fuel contract require the Mission to properly vet all invoices and pay the contractor within 30 working days from the dates of receipt of applicable invoices and take advantage of a prompt payment discount of 0.5 per cent.

24. During the audit period, the contractor issued 261 invoices amounting to \$144.7 million. A review of: (a) 54 invoices totaling \$79.8 million; (b) 2,613 of 208,288 fuel slips; and (c) 500 of 57,014 fuel transactions from eFMS2 indicated that UNAMID applied the correct prices and adequately verified the volume of fuel invoiced by the contractor. The Mission took advantage of \$680,000 in prompt payment discounts. OIOS concluded that UNAMID implemented adequate controls over invoice processing and payments of the contractor.

F. Emergency response planning

Fuel contractor had an updated emergency response plan

25. The UNAMID Fuel Unit standard operating procedures requires the Fuel Unit to ensure that the contractor has a fuel emergency response plan that: (a) identifies potential emergencies; (b) includes pre-planned procedures to address emergencies; and (c) is reviewed at least once every six months or following any change that may impact on the effectiveness of emergency response arrangements.

26. A review of the contractor's emergency response plan showed that the original plan was approved in November 2012 and updated in May 2016 and was regularly reviewed by the Fuel Unit. OIOS concluded that UNAMID had adequate controls in place to ensure that the fuel contractor has an updated emergency response plan in place.

V. ACKNOWLEDGEMENT

27. OIOS wishes to express its appreciation to the management and staff of UNAMID for the assistance and cooperation extended to the auditors during this assignment.

(Signed) Eleanor T. Burns
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Office of Internal Oversight Services

STATUS OF AUDIT RECOMMENDATIONS

Audit of fuel management in the African Union-United Nations Hybrid Operation in Darfur

Rec. no.	Recommendation	Critical ¹ / Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
1	UNAMID should take steps to up-date inaccurate odometer readings of the: 456 items of equipment identified during the audit; and 134 cases of wrong tank capacities in the electronic fuel management system, and consistently enforce accurate recording of odometer readings and tank capacities of fuel-consuming equipment.	Important	O	Receipt of evidence that the Mission has corrected fuel tank capacities in eFMS2.	31 January 2017
2	UNAMID should implement effective supervisory procedures to ensure the Fuel Fraud and Loss Prevention Cell timely investigate anomalies identified during its fuel fraud analyses.	Important	C	Action taken.	Implemented
3	UNAMID should establish and implement a plan to ensure timely inspection of fuel facility and fuel quality at all locations.	Important	O	Receipt of evidence that fuel facility and fuel quality inspections are conducted as planned.	31 March 2017
4	UNAMID should implement a mechanism that ensures faulty odometers and hour meters of fuel-consuming equipment are promptly identified and repaired and to discontinue dispensing fuel to equipment with faulty meters, unless exceptionally approved for operational reasons.	Important	O	Receipt of evidence and OIOS verification that the faulty odometers and hour meters of all 109 fuel-consuming equipment identified by the audit have been identified and repaired.	31 January 2017

¹ Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

² Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

³ C = closed, O = open

⁴ Date provided by UNAMID in response to recommendations.

APPENDIX I

Management Response

Management Response

Audit of fuel management in UNAMID

Rec. no.	Recommendation	Critical ⁵ / Important ⁶	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	UNAMID should take steps to correct inaccurate odometer reading of 456 equipment and 34 cases of wrong tank capacities in the Electronic Fuel Management System and consistently enforce accurate recording of odometer readings and tank capacities of fuel-consuming equipment.	Important	Yes	Chief Fuel Unit	31 January 2017	<p>UNAMID has taken steps to ensure accuracy of odometer readings by providing continuous training to fuel contractor staff mission wide. The errors resulted from fuel contractors' staff scanning trip meters instead of odometer readings. Human errors in data entry are addressed by checking the faulty equipment odometer report from eFMS2 on a weekly basis and corrective actions taken by requesting for adjustments via iNeed service through the Office of the Information Communication Technology (OICT/Bangkok).</p> <p>On the tank capacities of fuel-consuming equipment in eFMS2, the Mission did not have fuel tank capacity specifications of UNOE and COE equipment of different age, brand, and make coming from different parts of the world. So, initially, entry of fuel tank capacities into eFMS2 were estimates which are being verified. Out of 226 cases identified by the OIOS, 134 cases</p>

⁵ Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

⁶ Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

Management Response

Audit of fuel management in UNAMID

Rec. no.	Recommendation	Critical ⁵ / Important ⁶	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
						(60%) were verified and rectified with only 92 pending cases. UNAMID anticipate to address this by 31 January 2017.
2	UNAMID should implement effective supervisory procedures to ensure the Fuel Fraud and Loss Prevention Cell timely investigate anomalies identified during fuel fraud analyses.	Important	Yes	Chief Fuel Unit	7 November 2016	<p>UNAMID has taken measures / steps and put in place effective supervisory procedures, and has developed a guideline, outlining the procedures in managing abnormal fuel consumption. Fuel Consumption Unit (FCU) analysis reports are generated monthly and investigated through eFMS2.</p> <p>UNAMID requests closure of this recommendation.</p>
3	UNAMID should establish and implement a plan to ensure timely inspection of fuel facility and quality at all locations.	Important	Yes	Chief Fuel Unit	31 March 2017	<p>UNAMID has taken measures / stops and put in place fuel facility inspection and Quality Assurance Surveillances Plan (QASP) plan / schedule for all sector fuel staff. Inspection records and action plans are maintained. In addition to the inspection by the sector fuel officers, staff members from HQ fuel unit also participate in site visits in this regard.</p> <p>UNAMID will in future conduct fuel inspections in accordance with the QASP plan/ schedule.</p>

Management Response

Audit of fuel management in UNAMID

Rec. no.	Recommendation	Critical ⁵ / Important ⁶	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
4	UNAMID should implement a mechanism that ensures faulty odometers and hour meters of fuel-consuming equipment are promptly identified and repaired and to discontinue dispensing fuel exceptionally approved for operational reasons.	Important	Yes	Chief Fuel Unit	1 February 2016	<p>UNAMID has taken steps and has implemented eFMS2 as a mechanism for identifying faulty odometer readings. Findings from eFMS2 are communicated to SAUs, Military / Police contingents and COE for repair or replacement of the odometer. In addition, UNAMID has also put in place <i>Trip Ticket</i> system to enable continuous monitoring of fuel efficiency in the absence of a functioning odometer / hour-meter.</p> <p>The correspondence with the SAUs was submitted to the office of the Chief Resident Auditor.</p> <p>UNAMID requests closure of this recommendation.</p>