



INTERNAL AUDIT DIVISION

REPORT 2021/014

Audit of fuel management in the United Nations Mission in the Republic of South Sudan

Controls over fuel management needed to be strengthened, particularly those related to monitoring of fuel consumption

17 May 2021

Assignment No. AP2020-633-02

Audit of fuel management in the United Nations Mission in the Republic of South Sudan

EXECUTIVE SUMMARY

The Office of Internal Oversight Services (OIOS) conducted an audit of fuel management in the United Nations Mission in the Republic of South Sudan (UNMISS). The objective of the audit was to assess the efficiency and effectiveness of the management of fuel operations in UNMISS. The audit covered the period from July 2018 to June 2020 and included fuel contingency planning; monitoring of fuel consumption and fraud prevention; quality assurance and control; contract management and administration; and billing and payment.

The Mission was mitigating risks to ensure uninterrupted fuel supplies, had commissioned a solar farm to increase renewable energy generation, and was taking steps to improve its contract management. However, the Mission needed to allocate resources to monitor its fuel consumption considering well-known risks related to its misuse and theft.

OIOS made six recommendations. To address issues identified in the audit, UNMISS needed to:

- Regularly analyze and monitor fuel consumption patterns to identify anomalies and to follow-up and investigate unusual trends;
- Provide fuel scanners to contingent units to ensure accurate bulk fuel transactions are captured in the Electronic Fuel Management System;
- Centralize its generator power supply within camp sites where various contingent units are co-located to optimize power generation and reduce fuel consumption, as well as the Mission's environmental footprint;
- Ensure quality inspections are conducted and the results monitored and acted on, and a central filing system is established for maintaining fuel operations records;
- Ensure that contractor fuel flow meters and dispensing equipment are tested, calibrated, and adjusted every six months, and that calibration seals installed by the independent calibrator remain intact; and
- Follow up and recover the cost of fuel provided to non-Mission entities.

UNMISS accepted the recommendations, implemented one of them and has initiated action to implement the remaining recommendations.

CONTENTS

I. BACKGROUND	1-2
II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY	2-3
III. AUDIT RESULTS	3-10
A. Contingency Planning	3-4
B. Monitoring of fuel consumption and fraud prevention	4-7
C. Quality assurance and control	7-8
D. Contract management and administration	9-10
E. Billings and payments	10
IV. ACKNOWLEDGEMENT	10
ANNEX I	Status of audit recommendations
APPENDIX I	Management response

Audit of fuel management in the United Nations Mission in the Republic of South Sudan

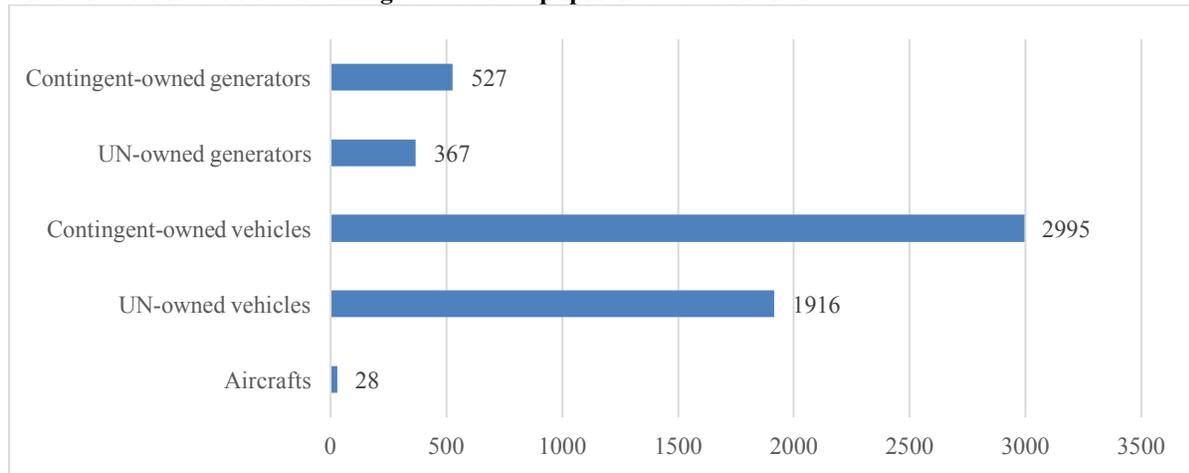
I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of fuel management in the United Nations Mission in the Republic of South Sudan (UNMISS).

2. UNMISS operates in Juba and in remote and logistically challenging locations in the Republic of South Sudan. In November 2018, a turnkey fuel supply and services agreement (fuel contract) was established to supply and construct fuel facilities as well as store, transport and distribute fuel and other petroleum products. The contract is for an initial period of three years with a not-to-exceed (NTE) amount of \$326 million, with an option to extend for an additional two years. As of 30 June 2020, \$116.7 million of the NTE amount had been utilized. The Mission's fuel distribution points were in 21 sites of which 5 were operated by the Mission and 16 by the fuel contractor.

3. In June 2014, UNMISS implemented the Electronic Fuel Management System (EFMS-2), which provides the Mission with a full set of tools for fuel planning, as well as monitoring and reporting on its distribution and consumption. As of 30 June 2020, the Mission had 5,833 fuel consuming assets, as shown in Chart 1.

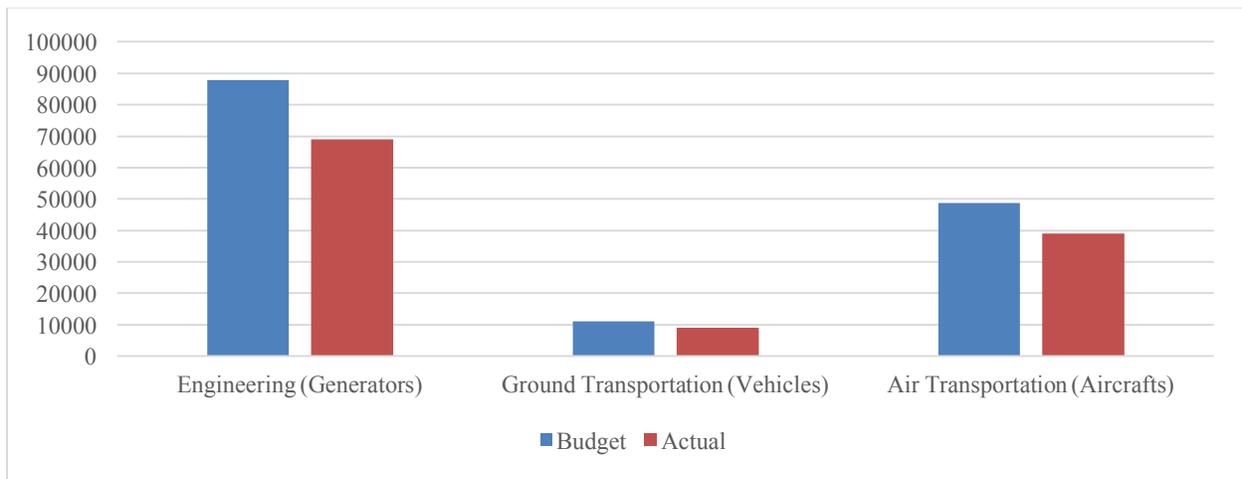
Chart 1: UNMISS fuel consuming assets and equipment at 30 June 2020



Source: UNMISS Fuel Unit

4. The Mission's budget and expenditures for fuel for the two years from July 2018 to June 2020 was \$148.0 million and \$117.3 million, respectively. The total budget and expenditure for the period by type of fuel-consuming equipment is shown in Chart 2.

Chart 2: Budgeted and actual fuel expenditures for the period July 2018 to June 2020 (in thousands of United States dollars)



5. The Fuel Unit is responsible for: (a) ensuring uninterrupted supply, storage, distribution and dispensing of fuel; (b) coordinating with the contractor on the distribution of fuel products; (c) maintaining adequate levels of fuel reserves; (d) monitoring consumption, investigating and reporting on anomalies, fuel consumption and reserves; (e) conducting regular quality inspections of contractor’s fuel installations and products; and (f) ensuring environmentally good practices are applied and improved upon.

6. The Unit is headed by a Chief at the P-4 level who reports to the Chief, Warehouse and Commodities Management Section. The Chief is supported by eight international staff, 13 national staff, one United Nations volunteer, four military staff officers and 44 military petroleum platoon personnel. The Fuel Unit is comprised of four Cells, including Operations, Quality Assurance, EFMS/Fraud Prevention, and Administration.

7. Comments provided by UNMISS are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

8. The objective of the audit was to assess the efficiency and effectiveness of the management of fuel operations in UNMISS.

9. This audit was included in the 2020 risk-based work plan of OIOS due to the operational, safety and financial risks related to UNMISS fuel operations.

10. OIOS conducted this audit from March to September 2020. The audit covered the period from July 2018 to June 2020. Based on an activity-level risk assessment, the audit covered higher risk areas in fuel management including contingency planning; monitoring of fuel consumption and fraud prevention; quality assurance and control; contract management; and billing and payment.

11. The audit methodology included: (a) interviews of key personnel; (b) review of documentation; (c) analytical review of data in EFMS-2 and Umoja; (d) sample testing of all 242,460 fuel transactions, 552 bulk fuel flights and 3,139 bulk fuel requests, and 120 invoice payments; and (e) visits to two fuel sites in Juba (United Nations House and Topping compounds). Site visits were limited due to COVID-19 travel restrictions.

12. The audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.

III. AUDIT RESULTS

A. Contingency planning

The Mission was mitigating risks to ensure uninterrupted fuel supplies, but needed to reduce its airlifting

Contingency planning was in place

13. The Fuel Unit had developed a contingency plan, which included risks faced by the Mission in the delivery of fuel to various locations. The main risk was lack of access to fuel sites during the rainy season due to poor road infrastructure and/or because of insecurity. To mitigate this risk, the Mission had/or was in the process of implementing various measures, including: (a) holding local and strategic fuel reserves at sites and increasing fuel storage capacity at those less accessible sites; and (b) stockpiling fuel during the dry season to minimize the often necessary and expensive airlifting of fuel.

Adequate local and strategic fuel reserves were maintained

14. The required levels of local and strategic fuel reserves were being verified by the Fuel Unit during their monthly site inspections. During COVID-19, the Fuel Unit continued to verify the availability of these reserves. Additionally, OIOS review of monthly inspection reports confirmed that quantities of fuel recorded during stocktaking by the Fuel Unit was in accordance with those required per the contract. OIOS visits to two fuel sites in Juba, confirmed that the required fuel reserves were being maintained.

While airlifting continued, the Mission was taking action to reduce the number of flights

15. From January 2019 to June 2020, UNMISS organized 552 bulk fuel flights to five Mission operated sites and four contractor sites at a cost of \$2.1 million. These flights transported 2.6 million liters of diesel and 669,000 litres of Jet A-1. Although contingency measures had been initiated, UNMISS had to continue to airlift bulk fuel to inaccessible locations because of delays by the contractor in increasing storage capacity at those fuel sites. This was because of the challenges faced by the contractor due to insecurity at these locations and inherent problems in importing the necessary equipment.

16. However, at other sites, OIOS calculated that there was enough storage capacity to avoid frequent airlifting of fuel during the rainy season. For example, in Bentiu and based on previous consumption patterns, the fuel site had capacity to store diesel and Jet A-1 fuel for about 6 and 10 months, respectively. Nonetheless, between August 2019 and March 2020, there were still 157 bulk fuel flights costing \$844,000. OIOS confirmed that the quantities airlifted was necessary to ensure continuity of operations. This was because there had been a prolonged rainy season of about 11 months, which caused considerable damage to the roads and these had to be subsequently repaired. To address this situation going forward, the Mission is investing further in infrastructure and location storage facilities to limit airlifting of fuel.

17. Moreover, mainly due to the high mobilization fees and monthly operating and maintenance costs, the Mission decided to directly operate fuel sites in Leer, Akobo, Bunj and Kodok. For better access to these sites, the Mission was planning to rehabilitate the roads leading to these locations to reduce levels of fuel to be airlifted. However, the works (which started in January 2020) had not been completed due to challenges experienced by contingent units to move the necessary large-scale construction materials by road (hindered by the unexpected prolonged rainy season). As a result, UNMISS continued to airlift

relatively small quantities of bulk fuel on a regular basis to these sites, at very high costs (from January 2019 to June 2020, there were 325 bulk fuel flights costing \$1 million). The Mission advised that it is committed to complete the road works.

18. The Mission informed that it was conducting a strategic review due to potential changes in its mandate following the signing and implementation of the Revitalized Peace Agreement, and the re-designation of protection of civilian camps to internally displaced persons camps. The outcome of this review may result in changes to Mission activities and thus fuel distribution locations. At this point, because of the strategic review, the environmental and operational conditions experienced by the Mission, and the action taken to minimize the airlifting of bulk fuel by investing in improving the country's infrastructure and the Mission's fuel storage facilities, OIOS did not make a recommendation.

B. Monitoring of fuel consumption and prevention of fuel fraud

Significant improvement in monitoring fuel consumption was needed

The Fuel Unit was not analysing fuel consumed by its fuel-consuming equipment

19. The Fuel Unit had established an EFMS/Fraud Prevention Unit that was responsible for monitoring fuel consumption and acting on identified anomalies including initiating investigation of suspected cases of fraud. As part of its responsibilities, the EFMS/Fraud Prevention Cell is required to regularly review and analyse fuel transactions and reports generated from EFMS-2. To facilitate the analyses, the Fuel Unit needs to establish a standard fuel consumption unit (FCU) for each item of fuel-consuming equipment, against which actual consumption should be measured. In EFMS-2, UNMISS had recorded and barcoded 5,833 fuel-consuming items of equipment and 674 storage containers.

20. The EFMS/Fraud Prevention Cell had not conducted any analyses during the audit period, and therefore the Mission did not have an effective process to identify: (a) inefficiencies in the performance of assets that may be in need of repair or replacement; and (b) any misuse of fuel and/or potentially fraudulent activities. OIOS review of all fuel transactions (fuel supplied to equipment) and reports in EFMS-2, and other available information noted the following:

- There were 705 duplicate transactions in EFMS-2 totalling \$518,500 (for 480 liters of petrol estimated at \$500, 191,000 liters of diesel estimated at \$175,000, and 370,000 liters of Jet A-1 fuel estimated at \$343,000). This was because the Fuel Unit had not reviewed transactions against actual fuel issuances and made necessary corrections in EFMS-2 or followed up and investigated further.
- 461 contingent fuel-consuming equipment had faulty odometers (vehicles) or hour meters (generators). Therefore, the appropriateness of fuel provided could not be determined. This was an inherent problem, and often raised by the contingent-owned equipment (COE) Unit, but had not been addressed. OIOS estimated that such equipment had been provided almost 2 million liters of diesel and petrol, estimated at over \$1.6 million.
- 1,478 (25 per cent) items of active equipment in EFMS-2 did not have FCUs. This occurred because the Fuel Unit did not always request for FCUs of equipment from relevant sections/sources when registering them in EFMS-2.
- A review of equipment with established FCUs (5,029 items) noted that 656 (13 per cent) recorded consumption above the established rate, with an average monthly potential overconsumption of 39,000 liters of fuel estimated at \$36,000 or 62 per cent above the established rate.
- There were 2,696 fuel transactions in which 870 items of equipment were provided fuel over their tank capacity. The total excess fuel supplied in these cases was: 2.9 million liters of diesel estimated

at \$2.7 million; 24,000 liters of petrol estimated at \$24,000; and 380,000 liters of Jet A-1 fuel estimated at \$352,000.

Monitoring of bulk fuel to contingents was not being done

21. During the audit period, the Mission processed 3,139 bulk fuel requests from 13 contingents amounting to \$8.7 million. Contingent units when requesting additional bulk fuel are required to support the request with consumption reports of the bulk fuel previously provided. The Fuel Unit was responsible for analysing usage in line with expected consumption patterns before approving new requests.

22. From a sample of 93 bulk fuel requests and related consumption reports, 7 of the 93 bulk fuel requests were not supported by consumption reports. The Fuel Unit informed that they had misplaced the reports. OIOS review of the available 86 consumption reports noted that 4 were adequately supported while: (a) in 44 reports, the hourly consumption rates for generators varied fairly significantly from month to month, for example, contingent A reported the hourly consumption rate as being from 198 to 432 liters for the same 550-KVA generator; and (b) 38 reports did not provide any information on the consumption rate of each item of equipment.

23. The use of fuel scanners by contingent units would enhance accurate accounting for bulk fuel requests and thus in EFMS-2. However, fuel scanners were not being used by contingents, although currently in use by non-contingent sections to account for fuel transactions (including bulk fuel requests) in EFMS-2. The Chief of Fuel Unit explained that their use by contingents had been discontinued in July 2014 due to the large number of errors made in recording fuel transactions in EFMS-2 just after the system was implemented, and because no training had been provided to contingents on their use. However, as the scanners are now more effective, the Fuel Unit intends to reintroduce their use, and in January 2020 ordered 110 scanners, but due to the current situation, they have not yet been delivered. Inadequate monitoring of bulk fuel issuances increased the risk of fuel wastage and theft not being detected.

24. The Chief of Fuel Unit attributed staffing constraints for the absence of monitoring and investigation of fuel consumption and following up on missing documents. The EFMS/Fraud Prevention Cell had only one international staff, who dedicated most of his time on the daily reconciliation of fuel quantities with the contractor. While acknowledging that there may be staffing constraints, the monitoring of fuel consumption is an essential task, and steps need to be taken to have effective controls in place considering its large budget and high-risk of misuse and theft. OIOS also noted that the Mission Support Division did not have plans to: (a) revise and update FCU data in EFMS-2 to monitor the reasonableness of fuel consumed; and (b) ensure contingent units repair faulty odometer and hour meters. For the latter point, the Mission expressed continual difficulties getting contingents to repair faulty measuring equipment but will continue to follow-up on this to ensure contingents accurately account for fuel provided and consumed.

- (1) UNMISS should dedicate resources to strengthen controls over its management of fuel by: (a) including standard consumption rates in the Electronic Fuel Management System; and against these (b) regularly analyzing and monitoring fuel consumption patterns to identify anomalies and to follow-up and investigate unusual trends.**

UNMISS accepted recommendation 1 and stated that the Fuel Unit Fraud Prevention Team has made progress in establishing FCUs for United Nations-owned equipment and COE and is currently updating that information in EFMS-2. Recommendation 1 remains open pending receipt of evidence that FCUs have been included in EFMS-2, and they are regularly used to analyze and monitor fuel consumption patterns to identify anomalies and these have been followed-up and investigated.

(2) UNMISS should expedite the provision of fuel scanners to all contingent units to ensure accurate bulk fuel transactions are captured in the Electronic Fuel Management System and provide appropriate training to contingent units on their use.

UNMISS accepted recommendation 2 and stated that the deployment of new EFMS-2 scanners to contingents was delayed due to COVID-19 and the Fuel Unit was coordinating with United Nations Headquarters and expect to begin the rollout of scanners between July and August 2021. Training will be provided to the contractor and contingents involved in fuel dispensing operations. Recommendation 2 remains open pending receipt of evidence that fuel scanners have been provided to all contingent units and appropriate training has been provided to contingents on their use.

Need to centralize power supply to optimize diesel-generation

25. During the audit period, generators consumed about 60 per cent of the Mission's fuel budget. However, UNMISS had not yet installed energy meters on 40 generator clusters¹ in 5 of its 10 field locations, which would allow fuel efficiency load zones² to be established and through proper monitoring and adjustment would result in generator fuel consumption reductions. OIOS had previously recommended UNMISS to install energy meters in its audit of implementation of environmental action plan (report 2019/079 dated 27 August 2019). As of the audit date, the recommendation was still not fully implemented.

26. In the first six months of 2020, the Mission maintained energy production data for its generators in 34 of the 74 generator clusters. The data showed that these 34 clusters consumed 8.1 million liters of diesel fuel to produce 24.3 million kilowatt hours of energy. OIOS analyses of the fuel efficiency ratios indicated that 22 (65 per cent) of the 34 generator clusters were not running efficiently. This was because these clusters comprised different generator capacities that were not synchronized for optimal generation of electricity. Nonetheless, UNMISS was taking action to locate similar generator capacities together at clusters to enable synchronization and thereby optimize their use.

27. The Mission had also not centralized its power supply within camp sites where various contingent units and other Mission personnel were co-located to optimize diesel power generation. For example, at the United Nations House compound, the UNMISS offices, staff accommodation units and six contingent unit camps were in proximity of each other, but the Mission maintained nine separate generator power plants. This resulted in concurrent running of several generator clusters at low efficiency load range. For example, OIOS inspection of the generator cluster of contingent B at the United Nations House compound indicated that the six generators in use were not synchronized, and OIOS analysis of their fuel efficiency ratios (based on fuel consumed and energy produced) indicated that all six generators were not run efficiently. Therefore, during the period January to June 2020, only 1 of the 5 contingents generator clusters was run at high fuel efficiency load range. In OIOS view, where possible and practical, UNMISS needs to consider centralizing its power supply to reduce fuel consumption and thus its environmental footprint.

(3) UNMISS should, where possible and practical, centralize its generator power supply within camp sites where various contingent units are co-located to optimize power generation and reduce fuel consumption, as well as the Mission's environmental footprint.

¹ A generator cluster is a group of generators that are closely positioned together at the same location to serve the energy needs of a contingent unit or section of a Mission camp.

² Fuel efficiency load range indicates the range of power generated per liter of fuel consumed. It is used to determine the efficiency levels of generators. For example, high efficiency load range indicates that 60-80 per cent of power is generated per liter of fuel consumed, low efficiency load range indicates that 25-40 per cent of power was generated per liter of fuel consumed, and non-efficient load range indicates 0-25 per cent of power generated per liter of fuel consumed.

UNMISS accepted recommendation 3 and stated that Phase 2 of the multi-year project has been started for the replacement of multiple generator power stations with one consolidated power station and medium tension transmission network for United Nations House and Tomping (in Juba). The construction of Phase 2 started in September 2020 and is expected to be completed in July 2021. The medium tension ring will be ready to connect all TCCs generators depending on agreements with troop contributing countries. Recommendation 3 remains open pending receipt of evidence that action has been taken where practical to centralize power supply within camps to optimize power generation and reduce fuel consumption.

The Mission had commissioned a solar farm project to increase renewable energy generation

28. In February 2020, UNMISS implemented a solar farm project at its United Nations House compound in Juba to increase the utilization of renewable energy, reduce diesel consumption and the Mission's environmental footprint. The solar panel equipment had a 25-year life span and its cost and installation amounted to \$1.6 million, with annual maintenance cost of \$50,400.

29. At the time of the audit, the project was still in its early days and implementation of the transmission centralization project was delayed, partly due to COVID-19. However, once the project is fully implemented, UNMISS anticipated a 60 per cent reduction (or 90,000 liters) in fuel consumption in one of its three power plants at the United Nations House compound. As the project had just started, OIOS did not assess the impact of the solar farm project; but is of the view that this is an excellent initiative, and an important project to reduce fuel consumption and mitigate environmental risks in the longer-term.

C. Quality assurance and control

Recommendations from quality inspections needed to be implemented

30. The contractor had developed a quality control programme that met the standards required by the contract. The contractor was also hiring an independent inspector to conduct laboratory tests of each fuel delivery to ensure its quality was in accordance with international standards. The Fuel Unit's Quality Assurance Cell was also responsible for carrying out quality checks including health, safety, and security standards.

31. However, there was insufficient evidence available in the Fuel Unit to conclude whether all the required monthly quality inspections were conducted at fuel sites. For instance, for July 2018 to June 2020, only 187 (47 per cent) quality inspection reports were available against those 384 that should have been completed. Albeit, OIOS understands that inspections were limited because of COVID-19. Additionally, the Fuel Unit could not provide evidence that any fuel quality inspections had been conducted in Torit, Yei and Gok Machar. The Fuel Unit also confirmed that quality inspections were not done in the five Mission-operated fuel sites because they were small, and not easily accessible due to insecurity. The Fuel Unit informed that lack of adequate documents was mainly as it had not implemented a proper filing system. While this may be part of the problem, without an active process in place for the Fuel Unit to receive and thus review the results of quality inspections, the Chief of Unit did not have assurance that adequate and regular quality checks were being conducted.

32. A review of 93 of the available 187 monthly inspection reports showed that the Fuel Unit was not always actively following up to ensure quality issues were timely addressed. For example, it took over 27 months for the contractor to construct a lubricant storage in Yambio and to place gravel at the Bor fuel site storage for empty drums to avoid soil degradation. Similarly, work related to repairs to doors of refueller trucks at the airport in Wau and the need for a cell phone store (phones of visitors are not allowed onto fuel

sites) in Malakal were reported in January 2020 and had not yet been addressed. This was partly due to infrequent performance reviews with the contractor for which the Mission has confirmed will be held more regularly going forward to ensure performance issues are resolved in a timely manner.

(4) UNMISS should take action to ensure quality inspections are being conducted and the results monitored and acted on, and a central filing system is established for maintaining fuel operation records including monthly fuel quality inspection reports.

UNMISS accepted recommendation 4 and stated that due to COVID-19, quality inspections were limited. The Fuel Unit expects to resume normal ongoing inspections with the assistance of a contingent petroleum platoon. Also, all inspections and operations documents are being stored /filed on the Fuel Unit share drive. Recommendation 4 remains open pending receipt of evidence that required quality inspections are being conducted and a proper repository or filing system has been established to maintain fuel operations records.

Need to regularly calibrate contractor fuel flow meters and dispensing equipment

33. To ensure accurate quantities of fuel are delivered to UNMISS fuel-consuming equipment, in accordance with the contract, an independent contractor should be hired to calibrate, test and adjust the contractor's fuel flow meters and dispensing equipment, and provide calibration certificates to the Fuel Unit.

34. An independent calibrator was hired only once a year, and OIOS noted that the calibration certificates issued did not record the meters tested, the calibration readings and adjustments made. Such information is required by international standards. Moreover, OIOS inspections noted that there was no reference on the equipment of when the calibration was done, and seals (placed by the independent contractor) had been broken. Contractor personnel informed that seals had to be broken because meter calibrations were only conducted once a year, and it was often necessary to adjust meter readings due to errors identified in readings taken during quality inspections. Consequently, more regular calibrations (six-monthly) were necessary to avoid adjustments to meter readings by persons that are not independent.

35. The above resulted, as UNMISS had not requested the contractor to ensure that an independent calibrator be hired on a six-monthly basis to calibrate fuel meters and pumps to avoid seals being broken to adjust fuel flow meters. Without regular calibration, there is an increased risk of inaccurate measurement and reporting of quantities of fuel being delivered to Mission fuel-consuming equipment and this could lead to financial loss through theft.

(5) UNMISS should: (a) take action to ensure that the contractor fuel flow meters and dispensing equipment are tested, calibrated and adjusted every six months, as per the terms of the contract; and (b) verify during monthly quality inspection visits that calibration seals installed by the independent calibrator remain intact.

UNMISS accepted recommendation 5 and stated that: (a) all flow meters are now calibrated once every six months; and (b) the seals are intact. OIOS confirmed that fuel flow meters and dispensing equipment were being tested, calibrated, and adjusted every six months by an independent calibrator, and that calibration seals were intact. Based on action taken by UNMISS, recommendation 5 has been closed.

D. Contract management and administration

The Mission had fully mobilized and secured all fuel sites

36. As of 30 June 2020, all 16 contractor-operated fuel sites had been fully mobilized and the required United Nations site board approvals, mobilization checklists and independent inspections to confirm readiness were completed in accordance with the terms of the contract. Additionally, for the contractor to become operational, the Mission paid the contractor: (a) \$10 million for mobilization of new sites, and installation of generator clusters; and (b) \$21.5 million for monthly operations and maintenance fees. All required initial expansion and installation of facilities and equipment were completed, and appropriateness of invoiced costs were verified by the Fuel Unit and adequate supporting documentation was available.

The contractor implemented adequate safety and security measures at fuel sites

37. At the two sites visited by OIOS, the contractor had implemented safety and security measures, including: (a) adequately secured and well labelled fuel tanks to deter unauthorized access; (b) maintained first aid and spill kits, eye washing stations and waste oil tanks; and (c) displayed no smoking signage and emergency contacts prominently at the fuel sites. The Mission ensured that contractor personnel wore personal protection equipment during operations, maintained the required quantity of functioning fire extinguishers, fire monitors, pump/fire hoses and sirens at all the locations, and had a dedicated assembly point in event of an emergency. The contractor had emergency response plans for its fuel sites, conducted the required monthly emergency response exercises and fire drills to test validity of its emergency response plan, and maintained adequate documentation of incidents and near misses and quantities of used engine oils disposed.

Regular performance meetings will be conducted to timely resolve issues to avoid failure in fuel operations

38. To ensure the fuel contractor meets its contractual obligations and promptly addresses underperformance, UNMISS is required to hold monthly meetings with the contractor and conduct quarterly performance assessments. The Fuel Unit held periodic meetings with the contractor, but not monthly as recommended, increasing the risk that performance issues were not timely addressed.

39. Minutes of meetings were documented, with action points on areas where the contractor's performance needed to improve. This included for the contractor to: expedite the ongoing installation of fuel tanks in areas without them; commission aircraft refuellers, rollout plans to install automatic temperature control meters; adjust fuel reserves in line with contract amendments; and allocate land for generator clusters. The Mission followed up on outstanding issues in subsequent meetings until they were fully resolved, albeit with some delay as reported in the quality assurance and control section of the report. At the time of the audit date, issues such as the installation of the automatic temperature control meters and adjustment of fuel reserves had been resolved, but the installation of fuel tanks was ongoing. Based on action being taken to address performance issues with the contractor, no recommendation has been made.

The Mission monitored fuel imported on duty-free basis

40. The Status of Forces Agreement between the United Nations and the Government of the Republic of South Sudan exempts the Mission from payment of direct taxes for all goods imported for its use. During the review period, the Mission imported: (a) 91 million liters of diesel costing \$75.2 million; (b) 48 million liters of Jet A-1 fuel costing \$40.0 million; and (c) 335,000 liters of petrol costing \$337,000. OIOS was able to reconcile these amounts to the tax exemption certificates received from the government. Moreover, the Fuel Unit was reconciling on monthly basis the quantities of duty-free fuel imported by the contractor

with that consumed and stocks in hand. OIOS was of the view that the Mission implemented appropriate procedures to ensure duty-free privileges are used for its exclusive purposes.

E. Billings and payments

The Mission had taken adequate steps to obtain prompt payment discounts

41. The contractor, to calculate the invoiced amount due by UNMISS, was using a well-known international benchmark together with the fixed price per fuel site as agreed in the contract. During the audit period, the Mission paid 120 invoices totaling \$105.7 million for fuel products. There was evidence that the Fuel Unit was properly checking, verifying, and certifying quantities of fuel against those listed in the invoice. The process was also completed in a timely manner, enabling the Mission to obtain prompt-payment discounts totaling \$1.9 million. OIOS concluded that UNMISS had implemented adequate controls over the payment of invoices.

There was a need to recover costs of fuel provided to non-Mission entities in a timely manner

42. UNMISS signed memoranda of understanding with 11 United Nations agencies and two international Non-Governmental Organizations (NGOs) on cost recovery for fuel supplied. This included the cost of fuel plus 14 per cent administrative fee and a portion of the monthly operating and maintenance costs to operate the fuel sites. As of August 2020, an amount of \$993,000 was due for which amounts had been outstanding for an average of six months. The Finance Unit advised that delays in settlement of amounts was because their regular follow-up meetings were postponed due to COVID-19. While acknowledging the impact of the pandemic, this did not explain the non-recovery of long-outstanding balances. For instance, \$219,000 was outstanding for between one to two years. Moreover, as of 28 February 2021, the amounts due had increased to \$1.9 million, of which \$489,000 related to fuel provided more than one year before. Action was therefore needed to recover amounts due in a timely manner, as with the passage of time, there is an increased risk of financial loss to UNMISS.

(6) UNMISS should take action to follow up and recover the cost of fuel provided to non-Mission entities.

UNMISS accepted recommendation 6 and stated that the collection of receivables is an ongoing process and communication with non-UNMISS entities via e-mail and Microsoft Teams meetings were undertaken to ensure recovery of fuel costs. Although several non-UNMISS entities have committed to settling their outstanding balances before the end of the financial year, the Office of the Director of Mission Support in coordination with the Budget and Finance Section intend to send letters to non-Mission entities that have significant receivable balances. Recommendation 6 remains open pending receipt of evidence that outstanding amounts for fuel supplied have been recovered.

IV. ACKNOWLEDGEMENT

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

(Signed) Eleanor T. Burns
Director, Internal Audit Division
Office of Internal Oversight Services

STATUS OF AUDIT RECOMMENDATIONS

Audit of fuel management in the United Nations Mission in the Republic of South Sudan

Rec. no.	Recommendation	Critical ³ / Important ⁴	C/ O ⁵	Actions needed to close recommendation	Implementation date ⁶
1	UNMISS should dedicate resources to strengthen controls over its management of fuel by: (a) including standard consumption rates in the Electronic Fuel Management System; and against these (b) regularly analyzing and monitoring fuel consumption patterns to identify anomalies and to follow-up and investigate unusual trends.	Important	O	Receipt of evidence that FCUs have been included in EFMS-2, and they are regularly used to analyze and monitor fuel consumption patterns to identify anomalies and these have been followed-up and investigated.	31 December 2021
2	UNMISS should expedite the provision of fuel scanners to all contingent units to ensure accurate bulk fuel transactions are captured in the Electronic Fuel Management System and provide appropriate training to contingent units on their use.	Important	O	Receipt of evidence that fuel scanners have been provided to all contingent units and appropriate training has been provided to contingents on their use.	30 November 2021
3	UNMISS should, where possible and practical, centralize its generator power supply within camp sites where various contingent units are co-located to optimize power generation and reduce fuel consumption, as well as the Mission's environmental footprint.	Important	O	Receipt of evidence that action has been taken where practical to centralize power supply within camps to optimize power generation and reduce fuel consumption.	30 July 2021
4	UNMISS should take action to ensure quality inspections are being conducted and the results monitored and acted on, and a central filing system is established for maintaining fuel operation records including monthly fuel quality inspection reports.	Important	O	Receipt of evidence that required quality inspections are being conducted and a proper repository or filing system has been established to maintain fuel operations records.	30 September 2021
5	UNMISS should: (a) take action to ensure that the contractor fuel flow meters and dispensing equipment are tested, calibrated and adjusted every	Important	C	Action taken	Implemented

³ Critical recommendations address those risk issues that require immediate management attention. Failure to take action could have a critical or significant adverse impact on the Organization.

⁴ Important recommendations address those risk issues that require timely management attention. Failure to take action could have a high or moderate adverse impact on the Organization.

⁵ Please note the value C denotes closed recommendations whereas O refers to open recommendations.

⁶ Date provided by UNMISS.

STATUS OF AUDIT RECOMMENDATIONS

Audit of fuel management in the United Nations Mission in the Republic of South Sudan

	six months, as per the terms of the contract; and (b) verify during monthly quality inspection visits that calibration seals installed by the independent calibrator remain intact.				
6	UNMISS should take action to follow up and recover the cost of fuel provided to non-Mission entities.	Important	O	Receipt of evidence that outstanding amounts for fuel supplied have been recovered.	31 December 2021

APPENDIX I

Management Response

UNITED NATIONS

United Nations Mission
in South Sudan



NATIONS UNIES

Mission des Nations Unies
en Soudan du Sud

Date: 3 May 2021

To: Ms. Eleanor T. Burns
Director
Internal Audit Division, OIOS

From: Maria Costa 
Director of Mission Support
UNMISS

Subject: **Comments on the Draft Report of the Audit of Fuel Management in the United Nations Mission in the Republic of South Sudan (Assignment No. AP2020/633/02)**

1. UNMISS acknowledges receipt of the draft report referenced OIOS-2021-00483 and dated 15 April 2021, on the Audit of Fuel Management.
2. Please find attached the Mission's comments on the recommendations as provided in Appendix 1.
3. Thank you for your consideration and support.

cc: Mr. Nicholas Haysom, Special Representative of the Secretary-General, UNMISS
Ms. Fatoumata Ndiaye, Under Secretary-General, Office of Internal Oversight Services
Mr. Matthew Carlton, Chief, Supply Chain Management Service, UNMISS
Mr. Timothy Crowley, Chief, Operations and Resource Management Service, UNMISS
Col. Mohammad Monir Hossain Patwary, Chief, Warehouse and Commodity Management Section, UNMISS
Mr. Ricardo Ramirez-Gaston, Chief, Budget and Finance Section, UNMISS
Ms. Elizabeth Gregory, Audit Focal Point, UNMISS
Mr. Alexey Khoroshenin, Chief, Fuel Unit, UNMISS
Mr. Rinzin Wangchuk, Chief, Operations Unit, Engineering Section, UNMISS

Management Response

Audit of fuel management in the United Nations Mission in the Republic of South Sudan

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1.	UNMISS should dedicate resources to strengthen controls over its management of fuel by: (a) including standard consumption rates in the Electronic Fuel Management System; and against these (b) regularly analyzing and monitoring fuel consumption patterns to identify anomalies and to follow-up and investigate unusual trends.	Important	Yes	Chief Fuel Officer	31 December 2021	The Fuel Unit Fraud Prevention Team has made progress in establishing standardized consumption rates for UNOE and COE equipment and is currently updating that information in EFMS2. Once this is fully set up, it will enable the Mission to regularly analyze and monitor fuel consumption patterns/trends and identify anomalies whenever they may occur.
2.	UNMISS should expedite the provision of fuel scanners to all contingent units to ensure accurate bulk fuel transactions are captured in the Electronic Fuel Management System and provide appropriate training to contingent units on their use.	Important	Yes	Chief Fuel Officer	30 November 2021	Deployment of the new EFMS2 Scanners to contingents was delayed due to COVID-19. However, the Fuel Unit in coordination with UNHQ FTS expects to begin the rollout of the new FAMOCO Scanners between July and August 2021. At the same time, an associated training will be provided to contractor and contingent units involved in fuel dispensing operations.
3.	UNMISS should, where possible and practical, centralize its generator power supply within camp sites where various contingent units are co-located to optimize power generation and	Important	Yes	Chief, Operations Unit,	30 July 2021	The Engineering Section has started Phase 2 of the multi-year project for the replacement of multiple generator power stations with one consolidated power

¹ Critical recommendations address those risk issues that require immediate management attention. Failure to take action could have a critical or significant adverse impact on the Organization.

² Important recommendations address those risk issues that require timely management attention. Failure to take action could have a high or moderate adverse impact on the Organization.

Management Response

Audit of fuel management in the United Nations Mission in the Republic of South Sudan

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
	reduce fuel consumption, as well as the Mission's environmental footprint.			Engineering Section		station and medium tension transmission network for UN House and Tomping (in Juba). Phase 1 was completed in 2019 with an integrated solar power of 1 MW in the field location at Wau. The construction of Phase 2 started in September 2020 and is expected to be completed in July 2021. The medium tension ring will be ready to connect all TCCs generators depending on the MOUs and new required agreements between TCCs and the UN, as well as the availability of funding.
4.	UNMISS should take action to ensure quality inspections are being conducted and the results monitored and acted on, and a central filing system is established for maintaining fuel operation records including monthly fuel quality inspection reports.	Important	Yes	Chief Fuel Officer	30 September 2021	Due to COVID-19, quality inspections have been limited. However, the Fuel Unit expects to resume normal inspections with the assistance of the Indian Petroleum Platoon. All inspections and operations documents are being stored/filed on the Fuel Unit shared drive. The Fuel Unit SOP already includes the fuel quality assurance checklist.
5.	UNMISS should: (a) take action to ensure that the contractor fuel flow meters and dispensing equipment are tested, calibrated and adjusted every six months, as per the terms of the contract; and (b) verify during monthly quality inspection visits that calibration seals installed by the independent calibrator remain intact.	Important	Yes	Chief Fuel Officer	Implemented	Documentary evidence has been submitted to the audit team to show that meter calibrations are conducted every six months and calibration seals are intact.

Management Response

Audit of fuel management in the United Nations Mission in the Republic of South Sudan

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
6.	UNMISS should take action to follow up and recover the cost of fuel provided to non-Mission entities.	Important	Yes	Chief, Budget and Finance Section	31 December 2021	<p>Evidence was given that proper follow-up and a Mission internal control system are in place which itself has been endorsed by OIOS.</p> <p>During the previous year, it was not possible to have face-to-face meetings with non-UNMISS clients due to COVID-19. However, communications via e-mail and MS Teams were conducted with non-UNMISS clients. Before the end of the financial year, the Office of the DMS in coordination with BFS will send letters to those non-UNMISS clients that have significant balances and are on arrears.</p> <p>Several UN Agencies, Funds and Programmes have already committed to settle their outstanding balances before 30 June 2021.</p> <p>The collection of receivables related to the supply of fuel to non-UNMISS clients is an ongoing process and will continue throughout the year.</p>