



INTERNAL AUDIT DIVISION

REPORT 2022/041

Audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

MINUSCA needed to improve its aviation strategic planning, budgeting, operations and risk management activities to ensure that services are delivered in an effective and efficient manner

31 August 2022

Assignment No. AP2021-637-03

Audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

EXECUTIVE SUMMARY

The Office of Internal Oversight Services (OIOS) conducted an audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA). The objective of the audit was to assess the effectiveness and efficiency of management of air operations in MINUSCA to ensure reliable and cost-effective aviation services in support of the Mission's mandated objectives. The audit covered the period from 1 July 2019 to 31 December 2021 and included a review of aviation support planning, utilization of air assets, management of aviation infrastructure and quality assurance programme.

MINUSCA ensured that aviation assets were used for mandated purposes and implemented various risk mitigation measures within its staffing capabilities to maintain air operations services. However, the Mission needed to improve its aviation strategic planning, budgeting, operations and risk management activities to ensure that services are delivered in an effective and efficient manner.

OIOS made eight recommendations. To address issues identified in the audit, MINUSCA needed to:

- Update the aviation support plan to align it with its mandate and concept of operations and implement a mechanism to ensure that these key strategic documents are updated at least annually;
- Strengthen the staffing capacity of the Aviation Section for key activities to ensure that a responsive and reliable aviation operation is delivered in support of its mandate;
- Ensure that budgeted flying hours are based on previous flight utilization rates;
- Assess aviation risks and develop mitigation measures to ensure that relevant risk management activities are sustainably and systematically conducted;
- Take further action to provide air assets in Kaga-Bandoro to support effective implementation of its mandate and ensure compliance with the 10-1-2 risk management principle designed to save lives;
- Equip all air terminals with firefighting capabilities, including serviceable fire extinguishers, personal protective equipment and trained fire marshals to respond to fire emergencies;
- Promptly prepare and implement an aviation quality assurance programme and provide the required capacity-building to the Aviation Section staff; and
- Develop and implement a monitoring mechanism to ensure that aircraft inspection and performance evaluation reports are timely finalized and proper action is taken to rectify identified issues.

MINUSCA accepted all the recommendations and has initiated action to implement them.

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Audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA).
2. Air transportation services in MINUSCA are integral in supporting the Mission's mandated objectives, including for troop rotation, special military operations, transportation of passengers and cargo and medical and casualty evacuation (MEDEVAC/CASEVAC) of Mission personnel. Air operations are governed by the Department of Operational Support (DOS) Aviation Manual and the International Civil Aviation Organization (ICAO) Standards. In addition to establishing standards, DOS/Air Transportation Service provides technical advice to missions' senior management on aviation-related matters; supports and monitors all areas of aviation activity; and provides guidelines for planning, organizing, training and equipping field missions with air assets, personnel and aviation services.
3. MINUSCA Aviation Section is responsible for all aspects of civilian and military air operations in the Mission to provide continuous, safe, effective, efficient and reliable aviation services in support of the Mission's mandate. The Director of Mission Support (DMS) is accountable and responsible for the proper utilization of all mission air assets. As of 31 December 2021, MINUSCA had deployed 18 aircrafts comprising 5 fixed wing aircraft, 1 commercial and 12 military utility helicopters for aeromedical evacuation, search and rescue, intelligence, surveillance and reconnaissance and transportation of passengers and cargo.
4. The Aviation Section is headed by a Chief Aviation Officer (CAVO) at the P4 level who reports to the DMS through the Chief of Service Delivery Management. The CAVO is supported by a team of 27 staff including 15 international and 5 national staff, and 7 United Nations volunteers (UNVs). MINUSCA has three main operational air bases in Bangui, Bria and Kaga-Bandoro and operates from 19 frequently used airfields. The Aviation Section's approved budgets for 2019/20 and 2020/21 were \$58 million and \$64 million, respectively.
5. Comments provided by MINUSCA are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

6. The objective of the audit was to assess the effectiveness and efficiency of management of air operations in MINUSCA to ensure reliable and cost-effective aviation services in support of the Mission's mandated objectives. The aviation safety programme and unmanned aerial systems were not covered in this audit.
7. This audit was included in the 2021 risk-based work plan of OIOS because aviation plays a critical role in providing operational and logistical air support to the implementation of the Mission's mandate and due to the high costs involved in the provision of air support services.
8. OIOS conducted this audit from October 2021 to February 2022. The audit covered the period from 1 July 2019 to 31 December 2021. Based on an activity-level risk assessment, the audit covered high and medium risk areas in air operations, which included: (i) aviation support planning; (ii) utilization of air assets; (iii) management of aviation infrastructure; and (iv) quality assurance programme.

9. The audit methodology included: (a) interviews with key personnel, (b) review of relevant documentation, (c) analytical review of data from the Aviation Information Management Suite (AIMS) used for recording and processing of flight operations, (d) inspection of aviation infrastructure in 6 of the 19 frequently used airfields, and (e) random and judgmental sampling test of: (i) 1,000 out of 7,225 flight hours flown, (ii) risk management conducted for 80 out of 2,092 special flights, and (iii) sales orders totaling \$323,537 out of a total of \$529,350 for the provision of special and non-revenue flights.

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

III. AUDIT RESULTS

A. Aviation support planning

Strategic documents necessary for aviation support planning were not updated

11. Considering the criticality of aviation operations including responsive and reliable support, the Mission must adequately plan its requirements in line with its mandate taking into consideration the risks identified in its risk management framework.

12. Although MINUSCA had been in operation since September 2014, its aviation concept of operations was only developed in May 2022 after the audit fieldwork. The aviation support plan, which should have been derived from and aligned with the Mission support plan and aviation concept of operations, and which defines the overall aviation approach to supporting mission components had not been updated since 2018/19.

13. The aviation budget should also be derived from the aviation concept of operations and support plan. However, there were gaps in the formulation of the Mission's aviation budget as interviews with some critical sections such as Movement Control (MovCon) and military and police components that rely on aviation support indicated that they had not been consulted on the formulation of the aviation budget to ensure its alignment with the Mission's mandate. In addition, budget justifications for proposed levels of air assets were sometimes either inconsistent or inadequate. For example, in the 2019/20 budget estimate sheet the Mission proposed to increase its fixed-wing Let-410 aircraft from one to two whereas the accompanying budget explanatory note stated that it would continue with one. In the 2020/21 budget, MINUSCA proposed to increase the number of Mi-17 helicopters from three to six without providing justification in the explanatory notes.

14. Inadequate or incorrect justification and requirements resulted in low budget implementation rates. For instance, the budget implementation rates for the rotary-wing (helicopters) rental and operational cost for 2019/20 and 2020/21 were 47 and 46 per cent, respectively. Also, due to the use of inaccurate historical data on the average cost of sorties (derived from the number of legs per flight) air navigation charges were under-utilized by 61 per cent in 2019/20 and over-utilized by 70 per cent in 2020/21. Overall, the aviation budget implementation rates for 2019/20 and 2020/21 were 72 and 70 per cent respectively.

15. Further, aviation personnel requirements were not adequately forecasted in the budget proposals. The United Nations Aviation Manual (2021) suggests a total staffing of about 94 aviation personnel for a mission with the size of MINUSCA. However, MINUSCA maintained a staffing of 26 posts for three consecutive years: 2018/19, 2019/20 and 2020/21. A comparison of aviation staffing capacity with other similar-sized missions indicated that MINUSCA had the lowest aviation staff ratio of 1.4 per aircraft

whereas other missions had ratios between 2.5 and 5.7. Consequently, the Aviation Section continued to experience staffing challenges which impacted the effectiveness and safety of air operations as follows:

- No staff was assigned to provide marshalling¹ assistance to the aircraft. This coupled with limited parking space and high number of aircraft increased the exposure to accidents, injuries to personnel and damage to the aircrafts;
- The meteorological office was operated by one national staff and the Mission had not implemented adequate measures to mitigate against a key-person dependency risk;
- The Aviation Section did not assign ground handling staff to 16 of 19 frequently used airfields. Staff from other sections were sometimes performing this role in addition to their core duties. For example, at the Bossangoa airfield a staff member from the Safety and Security Section was performing ground handling activities such as movement of baggage and safe movement of passengers from aircrafts in addition to their normal duties; and
- The Aviation Section's Budget and Finance Unit was inadequately resourced as it was comprised of one UNV and one general services personnel at the G4 level. The Unit managed the Section's budget and finances including processing of invoices, following up on cost recovery with the Mission's Financial Resourcing and Performance Section (FRPS) and the Regional Service Centre in Entebbe and reimbursement of operational charges. OIOS observed staff working long hours and continuously without a break which could have a detrimental effect on their mental and physical health consequently affecting results.

16. The above occurred because management had not given due importance to developing the aviation concept of operations, which was only developed in May 2022, and updating the aviation support plan. As a result, challenges, opportunities and staffing needs were not adequately considered and used to inform the aviation support planning process and to ensure accuracy of budgeting.

- (1) MINUSCA should update the aviation support plan to align it with its mandate and concept of operations and implement a mechanism to ensure that these key strategic documents, including the concept of operations, are updated at least annually.**

MINUSCA accepted recommendation 1 and stated that the Aviation Section was updating the aviation support plan to align it with the Mission's mandate and concept of operations. The updated document would be available by 31 August 2022. Furthermore, the Aviation Section would implement a mechanism to ensure that all key documents are updated at least annually.

- (2) MINUSCA should strengthen the Aviation Section staffing capacity for key activities to ensure that a responsive and reliable aviation operation is delivered in support of its mandate.**

MINUSCA accepted recommendation 2 and acknowledged that the current staffing level in the Aviation Section was not compatible with the obligations to provide safe, cost-effective and reliable air transportation within and out of the Mission area. The extremely limited number of aviation specialists for air terminal, technical compliance, air operations, flight-following and firefighting services has an unavoidable impact on safe, efficient and effective air operations including the coordination of risk management, particularly where air assets are based. The staffing of the Aviation Section would be

¹ Aircraft marshalling is the process of ensuring that the aircraft is guided to park safely at a designated place

one of the focuses of the MINUSCA staffing review which is expected to be initiated in July 2022 and the conclusions would guide staffing changes for the 2023/24 budget.

B. Aircraft utilization

Flights were appropriately authorized in support of the mandate

17. MINUSCA flights were appropriately authorized in support of its mandate. The Mission Air Operation Centre coordinated aircraft planning with MovCon and determined the type of aircraft to be tasked considering the distance, suitability of runway, operational readiness of aircraft and availability of fuel at the destination. MINUSCA developed weekly and daily flight schedules based on planned and ongoing requirements and to enable proper planning and tasking it prepared a consolidated monthly maintenance schedule of all aircraft by days and type of maintenance.

18. All flight operations, including aircraft requests and approved daily flight schedules for regular, special and non-revenue flights were entered into AIMS and aircrafts' air tasking orders (ATOs) were then generated from the system. The Mission considered only those flights listed in ATOs as authorized and eligible for execution and reimbursement by air carriers. ATOs completed for regular and special flights had a record of passengers and cargo manifest, pilot's confirmation of the suitability of the ATO and risk assessment, aircraft use reports (AURs), fuel sheet and weapons declaration form, where applicable. In addition, flight hours were accurately reported and validated. OIOS concluded that MINUSCA utilized its aircraft for mandated purposes and had adequate controls to ensure accurate reporting of flights hours.

MINUSCA was taking action to improve cost recovery from third parties

19. MINUSCA is required to recover the cost of flights conducted in support of non-mission mandated purposes including special and non-revenue² flights and air transportation of non-mission passengers and cargo. Cost recovery criteria was specified in the respective agreements and memoranda of understanding covering such flights.

20. The Mission's Fuel Unit accurately raised sales orders in Umoja totaling \$95,955 and \$109,858 for 2019/20 and 2020/21 respectively for fuel consumed by commercial air carriers and Troop Contributing Countries (TCCs) for non-revenue flights. The Regional Service Centre in Entebbe was responsible for billing the carriers and TCCs, and FRPS was responsible for monitoring the accounts receivable. However, OIOS was not provided with evidence on the status of these receivables and recovery efforts. In addition, the Aviation Section accurately raised sales orders for the cost recovery of special flights in Umoja for the transportation of non-mission passengers and cargo. All sales orders for these flights totaling \$97,962 in 2019/20 had been recovered; however, \$143,000 of \$225,575 related to special flights in 2020/21 was still outstanding at the time of the audit.

21. The delay in the recovery of receivables was due to inadequate monitoring and follow-up by FRPS. However, during the audit, FRPS established an accounts receivable review committee which met every two weeks to intensify the collection effort. As the Mission was acting on this issue, OIOS did not make a recommendation.

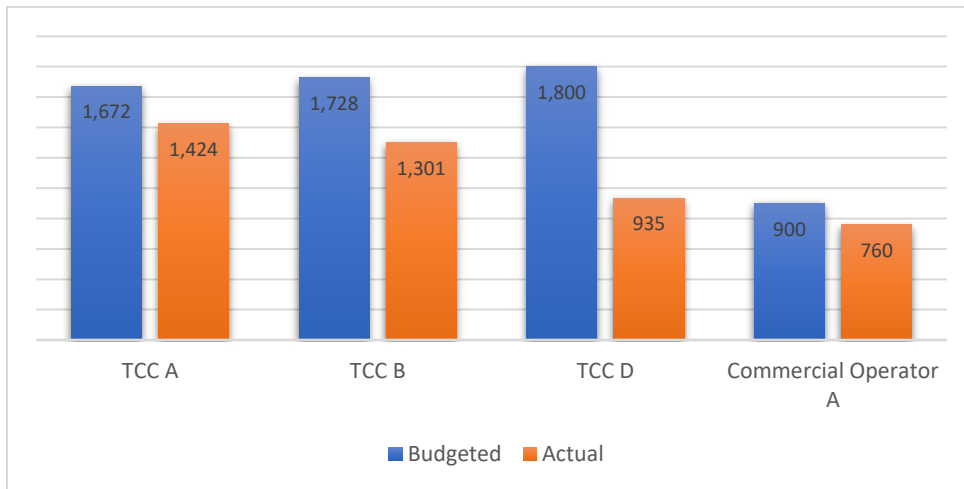
² Non-revenue flights are flights executed for the purpose of the contracted air carrier's own purposes such as flight crew training and maintenance tests.

MINUSCA aircrafts were under-utilized

22. MINUSCA paid for air transportation services provided by TCCs and commercial air operators based on the number of flight hours flown by tasked aircraft which is used to determine operational and fuel consumption costs. By June 2021, MINUSCA had 10 rotary wing aircraft (9 Mi-17 military and 1 Mi-8 civilian helicopters) and 4 fixed wing aircraft (2 AN-74s and 2 Let-410s) that were used for air transportation services. Of the 10 rotary wing aircraft, 3 TCCs provided 3 Mi-17 helicopters each and a commercial air carrier provided 1 Mi-8 helicopter. The fixed wing aircrafts were provided by commercial air carriers.

23. In 2020/21, of the budgeted total of 6,100 flying hours for rotary wing aircrafts, 4,420 were flown indicating an average utilization of 72 per cent. Figure 1 shows budget and actual hours of rotary wing aircraft provided by the three TCCs (each with three aircrafts) and the commercial air carrier with utilization rates of 85, 75, 52 and 84 per cents for TCC A, B and D and the commercial air carrier, respectively.

Figure 1
Budgeted and actual flight hours by air carrier for rotary wing aircraft in 2020/21

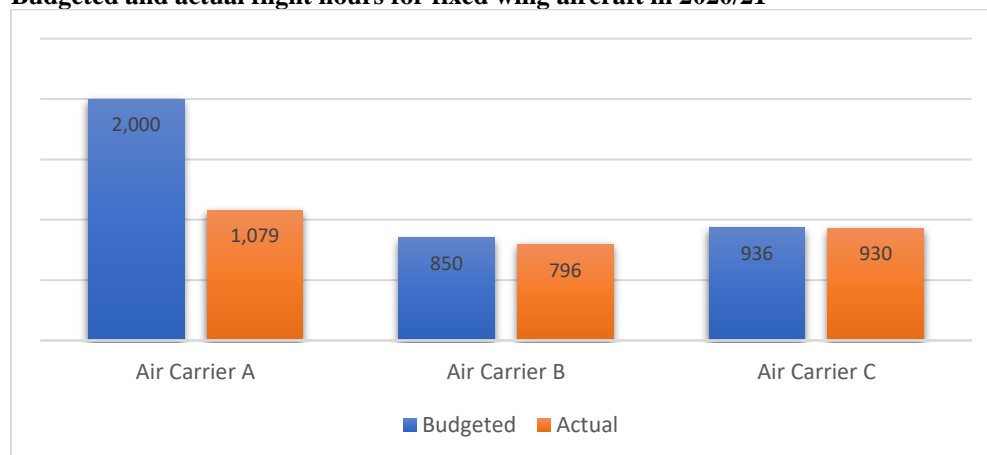


Source: MINUSCA 2020/21 air operations performance report

24. While the COVID-19 pandemic restrictions and delayed deployment by TCCs had an impact on the Mission's operations, including underutilization of aircrafts, OIOS is of the opinion that an average utilization rate of 72 per cent was low and was mainly due to weaknesses in the aviation planning and budgeting process. The aviation budget was not always based on previous years' utilization of flight hours and adjusted by known changes in the operating environment. In addition, long periods of unserviceable aircraft provided by TCCs contributed to underutilization. A review of monthly aviation reports noted that three TCC helicopters were available for tasking for less than 75 per cent of a calendar month due to maintenance and unserviceability. For example, two of nine helicopters supplied by TCCs were unavailable for tasking for three consecutive months, and another helicopter was unavailable for one month.

25. The average utilization of four fixed wing civilian aircrafts was 74 per cent in 2020/21 (i.e., 2,805 of 3,786 flying hours) as shown in figure 2.

Figure 2
Budgeted and actual flight hours for fixed wing aircraft in 2020/21



Source: MINUSCA 2020/21 air operations performance report

26. MINUSCA had budgeted 2,000 flight hours for the two AN-74 aircraft with a passenger capacity of 50 provided by Air Carrier A. However, only 1,079 hours were flown indicating an underutilization rate of 47 per cent. MINUSCA stated that the two AN-74 aircrafts were used for troop rotation and transportation of cargo and were also needed because of their capability to travel long distance outside the mission area for medical/casualty evacuation. However, in accordance with the Aviation Manual, medical/casualty evacuation should not be used as a justification for underutilized air assets.

27. The underutilization of budgeted flying hours was an indication of inaccurate and inadequately justified aviation budgeting as explained earlier in this report. Ineffective management of air assets may result in the inability to provide reliable, cost-effective and responsive air operations support to implement the Mission’s mandate. Although the Mission indicated that it had a mechanism to formulate budgeted flying hours based on previous utilization rates and future expected developments, this was not effective as the budgeted hours had been inaccurate and aircrafts were underutilized for three consecutive years.

(3) MINUSCA should improve its planning of flying hours in the budget formulation by using previous flight utilization rates and considering expected changes and new developments in the Mission environment.

MINUSCA accepted recommendation 3 and stated that although it had a mechanism for budgeting flying hours some factors were unknown at the time of budget submission as the planning process took place a year in advance of its implementation. The aviation fuel crisis in the last months of 2021/22 which adversely impacted the number of flight hours could not have been predicted at the time the budget was being prepared in 2020. MINUSCA would continue to improve the budget formulation through coordination with other stakeholders.

Aviation risk management needed improvement

28. Mission aircrafts routinely operate in difficult and hostile environments and a robust risk management is key to ensuring that aviation operations are conducted in the safest manner while maximizing performance.

29. The Mission provided daily aircrew briefings for the following day scheduled flights based on updated risk assessments. Before each flight departure, the Aviation Section sought a pre-flight threat

assessment clearance from the United Nations Department of Safety and Security (UNDSS) on the security situation of the planned destination within the past 24 hours. A review of ATOs relating to regular flights (excludes special flights) indicated that aircraft pilots regularly completed and signed the flight crew aviation risk management (ARM) form and the after-mission report (AMR) before and after the flight. However, there was no documentary evidence that risk assessments were regularly conducted for special flights undertaken for casualty/medical evacuations and other operational requirements as OIOS was not provided with the ARM forms for any of the 80 special flights selected for review.

30. MINUSCA had acquired six alcohol breathalyzer test equipment and developed draft standard operating procedures to guide its zero-tolerance alcohol policy by aircrews; and in December 2021 it provided training on the use of the breathalyzer kit and its calibration to staff of various sections. However, the Mission was yet to start testing aircrews for alcohol consumption as it was awaiting receipt of the calibration key and breathalyzer solution. Nevertheless, MINUSCA provided regular briefing to aircrews on its zero-tolerance alcohol policy. As the Mission was taking action, OIOS did not raise a recommendation in this regard.

31. MINUSCA had a dedicated Flight-Following Unit which maintained regular communication with pilots on departure and arrival, and a sky router satellite tracking system administered by the United Nations Global Service Centre was used to track the aircraft. MINUSCA provided a satellite tracking system for TCC-provided military aircrafts whilst commercial air carriers had their own satellite tracking system synchronized with the Mission's sky router tracking system reporting on the aircraft position every three minutes.

32. The Aviation Section had trained weather focal points in nine field offices who reported on daily information collected from their respective weather stations to the Meteorological Office in Bangui. The Mission complemented the meteorological information from its weather stations with those from other sources including the local representative office for the Agency for Aerial Navigation Safety in Africa and Madagascar at the Bangui International Airport, which monitored and provided weather information to all air operators within the mission area airspace. Also, the Mission Air Operations Centre included forecast weather information in the daily pre-flight briefing that was provided to air crew prior to departure.

33. However, the Aviation Section did not maintain a risk map depicting the level of threat throughout the Mission area, which could provide critical information to mitigate risks during the planning and execution of flights and to alert pilots to avoid risk areas that are above the range of available air defense systems. Further, the required hazard identification analysis was not conducted on: (a) passenger and cargo handling; (b) airfield and ramp management; (c) airspace management; and (d) aviation fuel.

34. MINUSCA attributed the above-mentioned weaknesses to insufficient capacity to perform the risk management function. Nevertheless, it had not implemented adequate mitigation measures to timely and systematically identify and address risks to some aviation activities.

(4) MINUSCA should assess risks and develop mitigation measures to ensure that relevant aviation risk management activities are sustainably and systematically conducted as required.

MINUSCA accepted recommendation 4 and stated that aviation risk management (ARM) forms were developed as per the Mission's aviation standard operating procedures. When the risk level was low and the destination was regularly flown, the Mission Air Operations Centre (MAOC) did not issue ARM forms. Although the Airfield and Air Terminal Unit (AATU) implemented various risk mitigating and hazard identification measures, the Unit was understaffed. The Aviation Safety Officer also

undertakes random inspection/surveys of airfields in the sectors and applies mitigation measures, as applicable.

Due to non-deployment of a helicopter unit in Kaga-Bandoro, there was a risk of delays in medical and casualty evacuations

35. In 2014, MINUSCA established a letter of assist agreement with a TCC for the provision of three Mi-17 helicopters at a main operational base in Kaga-Bandoro to conduct critical operational and logistical tasks, including troop transportation and medical/casualty evacuation services covering a wide range of temporary and permanent operating bases.

36. However, the TCC did not deploy to Kaga-Bandoro but had been operating in Bangui since their deployment citing safety concerns of the Helicopter Landing Site (HLS). To address this concern, the Aviation Section had cleared the Kaga-Bandoro HLS as meeting the United Nations peacekeeping air operations acceptable standard. In addition, other TCCs with the similar type of helicopters had been operating from the same landing site without any difficulties.

37. In 2021, the MINUSCA military leadership team requested urgent relocation of the TCC helicopter unit to meet operational requirements of the Force. The non-deployment of the TCC helicopter unit to Kaga-Bandoro negatively impacted the Mission's ability to meet its medical and casualty evacuation needs in respect of the United Nations 10-1-2 principle. Therefore, medical attention, which is required to occur within 10 minutes for immediate hemorrhage and airway control, one hour for advanced trauma care and two hours for damage control surgery was not achievable for Kaga-Bandoro.

(5) MINUSCA should take action to provide air assets in Kaga-Bandoro to support effective implementation of its mandate and ensure compliance with the 10-1-2 risk management principle designed to save lives.

MINUSCA accepted recommendation 5 and stated that it was being implemented by the aviation and engineering sections and the Force Headquarters. Effective February 2022, one helicopter was relocated to Kaga-Bandoro and was on standby for medical/casualty evacuation services and intelligence, surveillance and reconnaissance tasks. The construction of the second helicopter landing site and earthwork for associated facilities was ongoing to accommodate the remaining two rotary-wing aircraft.

C. Management of aviation infrastructure

Runways and landing sites were adequately managed but air terminals were not fully equipped for fire emergencies

38. The Engineering Section regularly maintained runways and aprons and had constructed HLS at airfields in 18 field locations. The areas around runways, aprons and HLS were cleared of vegetation, including grass and trees that could compromise the safety of air operations. The Mission was also constructing a new air terminal in Bangui for exclusive use of its air assets and an HLS in Kaga-Bandoro to enable positioning of rotary wing aircraft.

39. To ensure safe aircraft landing, parking and take-off, MINUSCA also deployed its military and formed police contingents at strategic locations along the airfields to control and prohibit movement of unauthorized persons. For instance, at the airfield in Kaga-Bandoro which was surrounded by a camp for

internally displaced persons and where one end of the runway was used as a market MINUSCA used the firetruck siren to warn expected movement of an aircraft during landing and take-off.

40. The Air Terminal Unit conducted regular inspections of airfields used by the Mission except for the interruption caused by travel restrictions during the COVID-19 lockdown, and throughout this time and as an interim measure, the Unit requested feedback from its staff in field offices and air crews on the condition of airfields and windsocks. Following the easing of travel restrictions in 2022, the Aviation Section prepared an inspection schedule and commenced visits to field offices to carry out these inspections.

41. However, the air terminals were not adequately equipped for fire emergencies. Qualified firefighting personnel and fire extinguishers were not always available at the field offices, and the deployed fire extinguishers were not regularly inspected. Also, personal protective equipment was not provided to personnel assigned with fire marshal roles at airfields in field offices. The Mission had one trained Fire Marshal that was based at the Bangui airport, however, the staff retired in February 2022 and was yet to be replaced. Furthermore, due to lack of qualified and trained operators MINUSCA was yet to deploy 4 of its 10 firefighting trucks in field offices.

42. Inadequate aviation-related firefighting services exposed Mission personnel to the risk of injuries, and damage to property including aircrafts, in the event of fire incidents.

(6) MINUSCA should take action to ensure that all air terminals are adequately equipped with firefighting capabilities, including serviceable fire extinguishers, personal protective equipment, and trained fire marshals to respond to fire emergencies.

MINUSCA accepted recommendation 6 and stated that the recruitment of a Fire Marshal was ongoing and expected to be completed by end of August 2022. Fire extinguishers in Bangui and in the sectors were being checked by the UNDSS Fire Safety Unit to ensure serviceability. Additionally, a request was made for the military and the UNDSS Fire Safety Unit to assist in the event of an emergency given the lack of mission firefighting specialists to manage the fire truck during aircraft operations and refueling procedures. The Aviation Section has also distributed reflector vests, safety shoes and earmuffs protectors to ramp staff.

D. Quality assurance

Aviation quality assurance programme was not adequately implemented or monitored

43. MINUSCA did not prepare and implement an aviation quality assurance programme and it did not review hazard incidents and aircraft technical reports to ensure corrective action was taken to address identified issues. This was mainly due to the increased workload, insufficient staffing of the Quality Assurance Unit and inadequate capacity-building of the staff. The P3 Chief of Unit was also acting as the CAVO from January 2020 to September 2021 and this resulted in lapses in quality assurance activities. For example:

- Air assets parked at the Bangui airport suffered structural damages during ground maneuvers of jet engine aircrafts on three different occasions since 2018. The Aviation Section did not analyze these incidents for timely corrective action and continued safety of the Mission's aircraft.
- Although MINUSCA regularly inspected newly assigned Mission aircraft and evaluated the performance of air carriers, a review of 25 aircraft inspection reports and 30 air carrier performance evaluation reports indicated that they were not finalized and signed off by the CAVO, DMS and

United Nations Headquarters representatives. Furthermore, three military attack helicopters deployed in October 2021 were tasked despite the absence of voice recorders in the cockpit and a weather radar. There was no evidence that the identified critical weaknesses were rectified prior to tasking.

- Recurring issues remained unresolved from prior periods. The aircraft inspection reports showed non-compliance by air carriers to provide aircraft flight manual in English as required.
- The Mission conducted only 9 of 30 monthly performance reviews of the ground handling services contractor and did not monitor resolution of identified recurring issues that were related to unsatisfactory performance which eventually impacted on the timeliness of flights.

44. To ensure safety and quality of air operations, prompt action was needed to address issues identified including implementation of a robust quality assurance programme.

(7) MINUSCA should promptly prepare and implement an aviation quality assurance programme and provide the required capacity-building to the Aviation Section staff.

MINUSCA accepted recommendation 7 and stated that the process of implementing an aviation quality assurance programme was ongoing but had been slowed by the insufficient capacity of the Aviation Section, particularly the Quality Assurance Unit.

(8) MINUSCA should develop and implement a monitoring mechanism to ensure aircraft inspection and performance evaluation reports findings are timely finalized, and proper action taken to rectify identified issues.

MINUSCA accepted recommendation 8 and stated that the Aviation Quality Assurance programme would be issued for implementation in August 2022 to ensure all aircraft inspection reports and carrier performance evaluation reports are completed and up to date by 30 August 2022.

IV. ACKNOWLEDGEMENT

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

Internal Audit Division
Office of Internal Oversight Services

STATUS OF AUDIT RECOMMENDATIONS

Audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

Rec. no.	Recommendation	Critical ³ / Important ⁴	C/ O ⁵	Actions needed to close recommendation	Implementation date ⁶
1	MINUSCA should update the aviation support plan to align it with its mandate and concept of operations and implement a mechanism to ensure that these key strategic documents, including the concept of operations, are updated at least annually.	Important	O	Receipt of a copy of the updated aviation support plan and evidence of mechanism put in place to ensure documents are updated at least annually	31 August 2022
2	MINUSCA should strengthen the Aviation Section staffing capacity for key activities to ensure that a responsive and reliable aviation operation is delivered in support of its mandate.	Important	O	Receipt of evidence of action taken to strengthen the key staffing capacities in the Aviation Section.	1 November 2022
3	MINUSCA should improve its planning of flying hours in the budget formulation by using previous flight utilization rates and considering expected changes and new developments in the Mission environment.	Important	O	Receipt of evidence of how the mechanism to ensure accurate budgeting has been implemented in the preparation of the 2022/23 budget	31 December 2022
4	MINUSCA should assess risks and develop mitigation measures to ensure that relevant aviation risk management activities are sustainably and systematically conducted as required.	Important	O	Receipt of evidence of action that has been taken to improve the capacity of the Airfield and Air Terminal Unit and the onboarding of a Fire Marshall	31 December 2022
5	MINUSCA should take action to provide air assets in Kaga-Bandoro to support effective implementation of its mandate and ensure compliance with the 10-1-2 risk management principle designed to save lives.	Important	O	Receipt of evidence that all three aircrafts are relocated to Kaga-Bandoro.	1 March 2023
6	MINUSCA should take action to ensure that all air terminals are adequately equipped with firefighting capabilities, including serviceable fire	Important	O	Confirmation of the onboarding of the Aviation Fire Marshall and confirmation by that officer that the firefighting capabilities are adequate	31 August 2022

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 MINUSCA in response to recommendations.

STATUS OF AUDIT RECOMMENDATIONS

Audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

Rec. no.	Recommendation	Critical ³ / Important ⁴	C/ O ⁵	Actions needed to close recommendation	Implementation date ⁶
	extinguishers, personal protective equipment, and trained fire marshals to respond to fire emergencies.				
7	MINUSCA should promptly prepare and implement an aviation quality assurance programme and provide the required capacity-building to the Aviation Section staff.	Important	O	Receipt of evidence of preparation and implementation of the aviation quality assurance programme, including ensuring adequate staffing capability	31 August 2022
8	MINUSCA should develop and implement a monitoring mechanism to ensure aircraft inspection and performance evaluation reports findings are timely finalized, and proper action taken to rectify identified issues.	Important	O	Receipt of evidence that all aircraft inspection reports and carrier performance evaluation reports have been completed	31 August 2022

APPENDIX I

Management Response

**INTEROFFICE MEMORANDUM****MEMORANDUM INTERIEUR**

TO: Mr. Kemal Karaseki
A: Acting Chief Peacekeeping Audit Service,
Internal Audit Division
OIOS

DATE: 15 August 2022

FROM: Valentine Rugwabiza
DE: Special Representative of the Secretary-General
Head of MINUSCA

REFERENCE: MINUSCA/OSRSG/121/2022

SUBJECT: **MINUSCA's comments on the Draft results of an audit of air operations in**
OBJET: **MINUSCA (Assignment No. AP2021-637-03)**

1. With reference to your email addressed Monday 25 July 2022 on the above captioned subject, kindly find attached MINUSCA's comments on the draft results of an audit of air operations.
2. I take this opportunity to thank your team for the findings and recommendations issued in this audit.

Annex (1): - MINUSCA's comments on the Draft report on an audit of air operations in
MINUSCA

cc: Mr. Eleanor T. Burns, Director, Internal Audit Division, OIOS
Ms. Maya Fridman, Professional Practices Section, Internal Audit Division, OIOS
Mr. Emmanuel Agawu, DMS, *a.i.*, MINUSCA
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Mr. Braima Jamanca, Chief Service Delivery, MINUSCA
Mr. Charles Roger Amoussou, Chief Aviation Officer, MINUSCA
Ms. Tiphaine Dickson, Risk Management and Compliance Officer, MINUSCA

Management Response

Audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	MINUSCA should update the aviation support plan to align it with its mandate and concept of operations and implement a mechanism to ensure that these key strategic documents, including the concept of operations, are updated at least annually.	Important	Yes	Chief Aviation Officer (CAVO)	15 August 2022	MINUSCA accepts the recommendation. The Aviation Section is currently updating the aviation support plan to align it with MINUSCA's mandate and concept of operations. The updated document will be available by 15 August 2022. Furthermore, the Aviation Section will implement a mechanism to ensure that all key documents are updated at least annually.
2	MINUSCA should strengthen the Aviation Section staffing capacity for key activities to ensure that a responsive and reliable aviation operation is delivered in support of its mandate.	Important	Yes	CAVO	1 November 2022	MINUSCA accepts the recommendation. The current staffing level is not compatible with the obligations to provide safe, cost-effective, and reliable air transport support to all UN staff for air transportation within and out of the Mission area as per the Aviation standard staffing structure as described and explained in the United Nations Aviation Manual (edition February 2021). The extremely limited number of aviation specialists in the sector associated with Air Terminal, Technical compliance, Air operations, Flight Following, and Firefighting services is evident and has an unavoidable impact on safe, efficient, and

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.

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						effective air operations, including the coordination of risk management, particularly where air assets are based. The staffing of the Aviation Section will be one of the focus of the MINUSCA Staffing Review that will be initiated in July 2022 and which conclusions will guide the staffing changes in the 23-24 budget submission due in October 2022.
3	MINUSCA should implement a mechanism to ensure that its budgeted flying hours are based on previous flight utilization rates, taking into consideration new developments.	Important	Yes	CAVO	Done on daily basis.	MINUSCA accepts the recommendation. The Mission already has a mechanism based on flying hours in place, the Air Operations Center and Technical Compliance Unit monitor rigorously budgeted flight hours against the flight hours actually used. The Mission formulates its budgeted flying hours based on previous utilization rates and takes into consideration future expected developments as well. However, there are unknown factors at the time of budget submission, as the planning takes place a year in advance of its implementation. The Mission will continue to improve the budget formulation through coordination with other major stakeholders. It must be noted that the aviation fuel crisis in the last months of the 2021/22 Budget cycle, which adversely impacted the number of flight hours, could not have been predicted at the time the budget was being prepared in 2020.

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4	MINUSCA should assess risks and develop mitigation measures to ensure that relevant aviation risk management activities are sustainably and systematically conducted as required.	Important	Yes	CAVO Aviation Safety Officer (ASO)	Done on daily basis.	<p>MINUSCA accepts the recommendation.</p> <p>The Aviation Section has developed its Aviation Risk Management (ARM) as per the Mission's Aviation SOP. When the risk level is low, and the destination is regularly flown, the Mission Air Operations Center (MAOC) does not issue ARM. Currently, to ensure the automatic, easy, and rapid sharing of information the MAOC uploads ARM documents on the Aviation shared drive.</p> <p>Hazard identification:</p> <ul style="list-style-type: none"> • Passenger and cargo handling: Monitoring the passenger/cargo handling is under the responsibility of MOVCON Section. Aviation Staff from the Airfield and Air Terminal Unit (AATU) monitor the loading procedure, ensure that proper and accurate aircraft load documentation is delivered to the Pilot in Command (PIC) in a timely manner, access to the air terminal, access control to airside area, security screening process before entering assigned sterile areas, ensure passengers are not near the engines or any other area of the aircrafts except when boarding. All these mitigation measures, and the identification of hazard requires additional AATU staff. • Airfield and ramp management: The hazard identification is done in Bangui (FACA Air Force Base), Bouar, Kaga Bandoro and Bria. The Aviation Safety

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						<p>Officer flies to the sectors to carry out random airfield inspection/survey and to apply mitigation measures as applicable. Ramp staff check Foreign Objects Debris (FOD), marshal the aircrafts, ensure that adequate parking and turn around space is available. Safety cones are placed to keep unauthorized personnel away from aircraft, and aviation equipment on the ramp. Fire extinguishers are provided to locations that operate on regular basis.</p> <ul style="list-style-type: none"> • The Firefighting training is provided by the Aviation fire marshal. • Aviation fuel: The fuel contractor and the air crew test the fuel before refueling MINUSCA aircraft in each location within the mission area. Fire extinguishers are available during refueling and engine start up. Fire trucks are available but currently in the absence of a firefighting specialist.
5	MINUSCA should take action to provide air assets in Kaga-Bandoro to support effective implementation of its mandate and ensure compliance with the 10-1-2 risk management principle designed to save lives.	Important	Yes	CAVO Chief Engineering & Facilities Management Section Force Commander	1 March 2023	MINUSCA accepts the recommendation. The Aviation Section, Engineering Section, and Force Headquarters are complying with this recommendation. Since 22 February 2022, one helicopter from the Pakistan Military Aviation Unit (PAKAV) has been relocated to Kaga Bandoro and is on standby for CASEVAC/MEDEVAC, Intelligence, Surveillance, and Reconnaissance (ISR) tasks. The construction of the Helicopter Landing Site

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						(HLS)-2 and earthwork for associated facilities by Pakistan Engineering (PAKENG) is ongoing to accommodate the remaining two rotary-wing aircraft concerned by the Letter of Assist (LoA).
6	MINUSCA should take action to ensure that all air terminals are adequately equipped with firefighting capabilities, including serviceable fire extinguishers, personal protective equipment, and trained fire marshals to respond to fire emergencies.	Important	Yes	CAVO	31 August 2022	MINUSCA accepts the recommendation. The recruitment of an Aviation fire marshal is currently ongoing and is expected to be completed for onboarding of the selected candidate by end of August 2022. While waiting for the onboarding of the Aviation Fire Marshal, the fire extinguishers in Bangui and in the Sectors are being checked by the UNDSS Fire Safety Unit in the sectors to ensure serviceability. Additionally, a request has been made for TCCs and the UNDSS Fire Safety Unit to assist in case of an emergency since Aviation firefighting specialists are currently not available to manage the fire truck to safely cover aircraft operations and refueling procedures. Aviation provides reflector vests for ramp staff use; further, safety shoes, and earmuffs protectors have been received and distributed.
7	MINUSCA should promptly prepare and implement an aviation quality assurance programme and provide the required capacity-building to the Aviation Section staff.	Important	Yes	CAVO Chief Quality Assurance Unit	31 August 2022	MINUSCA accepts the recommendation. The process of implementing an aviation quality assurance programme is ongoing but has been slowed by the insufficient capacity of the Aviation Section, and in particular the Quality Assurance Unit.

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8	MINUSCA should develop and implement a monitoring mechanism to ensure aircraft inspection and performance evaluation reports findings are timely finalized, and proper action taken to rectify identified issues.	Important	Yes	CAVO Chief Aviation Safety Unit Chief Technical Compliance Unit	31 August 2022	MINUSCA accepts the recommendation. The Aviation Internal Audit program will be issued for implementation by 15 August 2022 to ensure all aircraft inspection reports and carrier Performance Evaluation reports are completed and up to date by 30 August 2022.