



## **INTERNAL AUDIT DIVISION**

### **REPORT 2022/034**

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#### **Audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in Mali**

**There was a need to strengthen controls over aircraft utilization, inspections and operators' performance evaluation to enhance effective and efficient utilization of air assets**

**25 July 2022**

**Assignment No. AP2021-641-01**

# **Audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in Mali**

## **EXECUTIVE SUMMARY**

The Office of Internal Oversight Services (OIOS) conducted an audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA). The objective of the audit was to assess the effectiveness and efficiency of the management of air operations to ensure provision of reliable and cost-effective aviation services in support of the MINUSMA mandate. The audit covered the period from 1 July 2019 to 31 December 2021 and included: planning of aviation operations; utilization of air assets; management of aviation infrastructure; and quality assurance.

The Mission's air assets were used for mandated purposes, monthly aviation reports were accurately prepared, and adequate controls over the maintenance of aircraft were in place. However, some areas of air operations needed improvements to manage associated risks, such as: controls over special flight requests; monitoring of aircraft arrival inspections and operator performance evaluation reports; and monitoring of aerodrome infrastructure maintenance, repair and construction projects.

OIOS made five recommendations. To address issues identified in the audit, MINUSMA needed to:

- Enforce the special flight request policy and create awareness among civilian and military personnel of flight planning and tasking procedures for cost-effective air asset utilization;
- Establish regular coordination between the Engineering and Aviation Sections to improve monitoring of timely completion of aerodrome infrastructure maintenance, repair and construction projects;
- Prepare a disabled aircraft recovery plan taking into consideration the existing aircraft recovery system and integrate it with the aviation emergency response plan;
- Monitor that aircraft arrival inspections and all operator performance evaluation reports are timely completed, and communicate significant issues to the Department of Operational Support for remedial action; and
- Take prompt action to conduct proper quality assessments, develop adequate guidance, and provide the required capacity building to the Aviation Section staff on implementing the aviation quality assurance work plan.

MINUSMA accepted the five 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 Mali

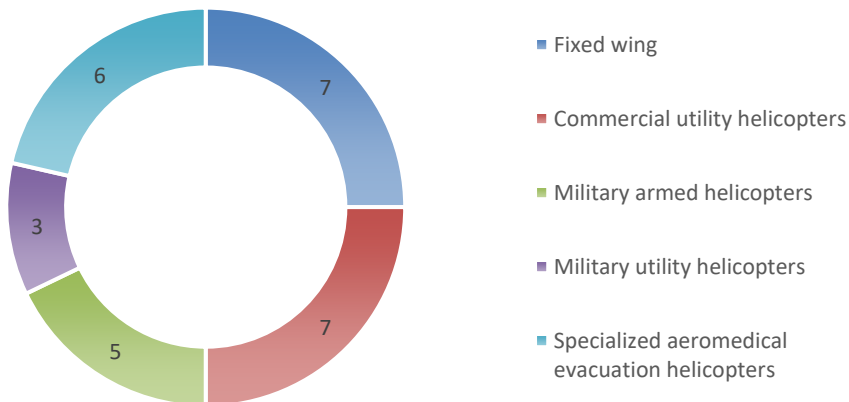
## I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA).

2. Air transportation services in MINUSMA are integral in supporting the Mission's mandated objectives, including for troop rotation, special military operations, transportation of passenger and cargo, and for medical and casualty evacuation (MEDEVAC/CASEVAC) of Mission personnel. Air operations are mainly governed by the Department of Operational Support (DOS) Aviation Manual, the United Nations Aviation Standards for Peacekeeping and Humanitarian Air Transport Operations (AVSTADS) and the International Civil Aviation Organization (ICAO) standards. The Air Transport Service in DOS provides technical advice and guidance to MINUSMA on all aviation-related matters and supports and monitors all areas of aviation activity.

3. As of 30 June 2021, MINUSMA had deployed 28 aircraft comprising of civilian and military fixed wing aircraft, commercial utility helicopters, military armed and utility helicopters, and commercial specialized helicopters for aeromedical evacuation, search and rescue, intelligence, surveillance, and reconnaissance (as shown in figure 1). The aircraft were used mainly for passenger and cargo transportation, MEDEVAC/CASEVAC, search and rescue, military operations, patrols, intelligence, surveillance and reconnaissance. MINUSMA operated out of six air regions in Mali, it used seven airfields and helipads as its main operating bases and had 111 ad hoc landing sites.

Figure 1  
MINUSMA fleet composition as of 30 June 2021  
(Aircraft number)



Source: MINUSMA Aviation Section

4. The Aviation Section was headed by the Chief Aviation Officer (CAVO) at the P-5 level, who reported to the Director of Mission Support (DMS) through the Chief, Service Delivery Management. The CAVO is responsible for the overall safe and efficient management of air assets, aircraft operations and ground support contractors. As of 1 December 2021, the Aviation Section had 111 authorized posts of

which 106 were encumbered comprising 22 professionals, 58 field service and 26 national staff. In addition, the Section had 13 international individual contractors. The budgets for air operations for 2019/20 and 2020/21 were \$145.1 million and \$156.0 million, respectively.

5. Comments provided by MINUSMA 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 MINUSMA to ensure provision of reliable and cost-effective aviation services in support of the Mission's mandate. The audit focused on planning of aviation operations, utilization of air assets, management of aviation infrastructure, and quality assurance; and addressed four main questions:

- a) To what extent has the Mission effectively planned its air operations to enable reliable, cost-effective and responsive aviation support?
- b) To what extent has the Mission efficiently utilized its air assets?
- c) How effectively has the Mission managed its aviation infrastructure?
- d) To what extent has the Mission effectively implemented the aviation quality assurance programme?

7. This audit was included in the 2021 risk-based work plan of OIOS because aviation activities play a critical role in providing operational and logistical 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 July to February 2022. The audit covered the period from 1 July 2019 to 31 December 2021.

9. The audit did not include aviation safety and unmanned aerial systems, which will be covered in separate audits. Airfield and airport operations at Bamako international airport and Mopti airport were also not covered as they were managed and operated by the host country.

10. The audit methodology included: (a) interviews with key personnel; (b) review of relevant documentation; (c) analytical review of aircraft utilization and flight operations cost data and after-mission reports; (d) substantive testing of randomly selected samples of 106 out of 4,775 flight requests, 100 out of 926 aircraft monthly aviation reports and 93 out of 602 aircraft maintenance records; and (e) field visits to air regions in Bamako, Gao and Timbuktu.

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

## **III. AUDIT RESULTS**

### **A. Planning of aviation operations**

Planning for military air asset requirements could be improved once the military concept of operations is finalized

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

13. The MINUSMA aviation support plans for 2019/20 and 2020/21 were aligned with the Mission's mandate and support and force adaptation plans. The aviation support plans included the Mission security and threat levels to air assets and infrastructure, aviation resources, flight operations concept, airspace and air traffic management strategy. It also included any planned joint activities with the United Nations agencies and other actors in Mali, information on airports and airfields and necessary support including ground handling and air terminal operations, as well as current military and police operations and air transport emergency response. Budget estimates for aviation operations including budgeted flight hours for 2019/20 and 2020/21 were based on appropriate portfolio of evidence, and included information on personnel, assets, support equipment and services required. MINUSMA also conducted trend analysis of utilization of air assets to better estimate its resource requirements.

14. While adequate methodology was in place for developing the aviation support plan, there were challenges in establishing Mission's military air asset requirements as these were based on the 2020 draft military concept of operations. Since the draft concept was developed, the focus of military efforts changed, resulting in several requirements not envisaged by the Aviation Section. Although the Aviation Section provided the support needed by the military, an up-to-date concept of operations could have facilitated better planning and more efficient use of air assets. For example, a fixed wing aircraft acquired for transporting passengers and cargo was tasked to conduct non-traditional intelligence, surveillance and reconnaissance flights resulting in inefficient utilization of the air asset.

15. Force Headquarters informed that the finalization of the military strategic concept of operations was pending completion of the military capabilities study by the Office of Military Affairs and MINUSMA. As this work was still in progress at the time of the audit, OIOS did not make a recommendation to MINUSMA at this stage.

## **B. Utilization of air assets**

### Aircraft were used for mandated purposes, but controls over special flights needed strengthening

16. Air transportation is a premium mode of travel involving high costs and limited resources, and United Nations air assets should be operated efficiently and effectively for purposes in support of the Mission's mandate.

17. The Mission's aircrafts were used for official purposes, which were duly approved by the designated authorities (CAVO, DMS and the Special Representative of the Secretary-General (SRSG)) in the Aviation e-Service system. Daily flight schedules and air tasking orders (ATOs) were consolidated by the Mission Air Operations Center, vetted by the Chief Technical Compliance Unit and the Chief Air Operations Unit, authorized and recommended by CAVO and, depending on the level of risk, either approved by the DMS or the SRSG. Military air tasking requests were vetted by the Force Deputy Chief of Staff, released by the Chief Air Regions, recommended by CAVO and, depending on the level of risk, approved by the Force Chief of Staff or the Force Commander.

18. The MINUSMA Aviation Section supported 2,607 special flight requests (SFRs), of which 56 per cent were routine requests such as fresh food deliveries to contingents in the regions in support of the contractor, ammunition inspections, senior management visits to regional offices, and services provided to other organizations under cost recovery. However, 45 per cent of SFRs were not submitted within the required 48 hours prior to flight departure. While all SFRs were supported by the Aviation Section, the short notice did not allow the Mission to consider less costly alternatives. For example, a military aircraft tasking request was submitted after the regular flight schedule had been finalized. Therefore, the Aviation

Section assigned a fixed wing aircraft to fulfill the SFR, but it resulted in an aircraft flying to Gao empty, which was not efficient and could have been avoided with advance planning.

19. Moreover, there were five instances of SFRs on short notice to deliver individual contractors' salaries and information technology equipment, conduct site visits of Field Technology Section's staff and to support host government authorities. Due to late submission of SFRs, the Aviation Section, based on aircraft availability, organized the flights that flew with less than five passengers without considering costs involved. Additionally, the Aviation Section staff informed that the high number of urgent SFRs put them under pressure due to the short timeline for making aircraft ready.

20. In the peacekeeping environment, there will be times when advance planning for SFRs is not possible. However, in several cases reviewed by OIOS, late SFRs were due to inadequate planning by those requesting the flights. The Mission was not strict in enforcing the SFR policy and declining routine requests submitted less than 48 hours in advance, which prevented proper planning and thus efficiencies. It also needed to further sensitize military staff officers, who rotate frequently, on the special flight policy.

**(1) MINUSMA should enforce the special flight request policy and create awareness among civilian and military personnel of the flight planning and tasking procedures for cost-effective air asset utilization.**

*MINUSMA accepted recommendation 1 and stated that on 16 March 2022, the Mission issued a circular on aviation support request procedures and would monitor its strict implementation by all parties concerned. Moreover, to ensure awareness, all newly deployed air operations planners, both military and civilian, would report to the Aviation Section to gain firsthand knowledge through experienced planners including on the job training.*

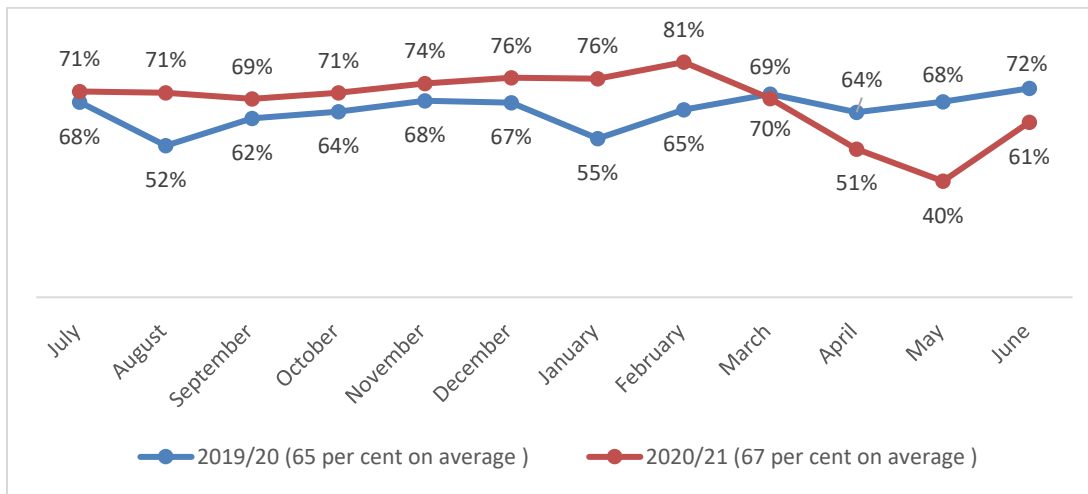
Need to evaluate utilization and cost-effectiveness of air assets

21. Analysis of actual flown hours against the total budgeted hours for the deployed seven fixed wing aircraft indicated that the Mission utilized overall 87 and 75 per cent of the budgeted hours in 2019/20 and 2020/21, respectively. Two out of seven fixed wing aircraft had a lower utilization rate of an average 60 per cent of the 2020/21 budgeted hours due to COVID-19.

22. A comparison of actual flown hours to the budgeted hours for rotary wing aircraft indicated that the Mission utilized overall 87 and 81 per cent of the budgeted hours in 2019/20 and 2020/21, respectively. During 2019/20, the Mission operated with a total of 35 rotary wing aircraft (14 commercial and 21 military helicopters), of which two commercial utility helicopters were utilized more than their budgeted hours by 159 and 49 per cent due to non-deployment of 10 of the 21 military helicopters, and unpredicted operational requirements. During 2020/21, due to unforeseen withdrawal of eight rotary wing aircraft and crash of one military helicopter, the Mission operated with 25 rotary wing aircraft (13 commercial and 12 military helicopters), which resulted in one aircraft being utilized more than the budgeted hours by 49 per cent.

23. Average seat capacity utilization for the Mission's aircraft during 2019/20 and 2020/21 was 65 per cent and 67 per cent, respectively. The lowest utilization was in May 2020 with 40 per cent, which was attributable to the movement restrictions caused by the pandemic (see figure 2).

Figure 2  
**Monthly average aircraft seat capacity utilization in 2019/20 and 2020/21**  
 (Percentage)



Source: MINUSMA Aircraft Use Report database

24. However, the Mission had not established performance indicators based on capability, tasks and cost to monitor for improved utilization. The monthly aircraft utilization reports prepared by the Aviation Section did not include adequate analysis and justification for higher or lower utilization. Additionally, in some cases, when substitute aircraft were received in lieu of non-generated military air assets, the purpose of the flight hours acquired were not established to monitor their performance. The lack of supporting analysis of utilization of air assets impacted the planning and budgeting process, which may result in lost opportunity for future savings.

25. MINUSMA informed OIOS that there was no United Nations policy on performance indicators for the economic utilization of air assets at the field mission level. Despite this, MINUSMA monitored economic indicators for air operations using similar categories of aircraft. The indicator calculates the cost of transporting one passenger per 100 kilometers of distance. It was prepared at the end of the fiscal year by factoring direct and indirect expenditures (e.g., actual contractual costs, flown hours, consumed fuel, paid fees etc.) for transported number of passengers and kilogram of cargo on each type of the category of aircraft. However, the justification for a higher or lower utilization of a specific aircraft against budgeted hours remained to be addressed. Since the issue of an overarching policy framework on performance management for air operations would be covered in a planned audit of procurement of air assets in the United Nations, OIOS did not make a recommendation to MINUSMA at this stage.

MINUSMA was in the process of reformulating an evacuation concept based on available capabilities and speed of action

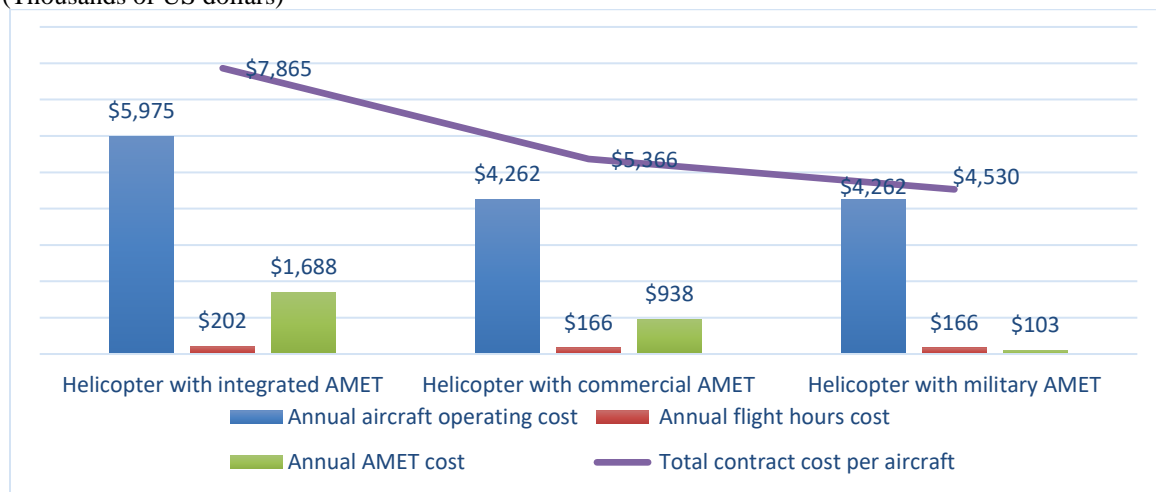
26. The Aviation Manual stipulates that a requirement for MEDEVAC/CASEVAC facilities should not be used as a justification for the maintenance of expensive and under-utilized air assets; MEDEVAC/CASEVAC should not be taken as the primary function of the aircraft; and available/appropriate air assets are to be utilized for MEDEVAC/CASEVAC. Therefore, there was a need for MINUSMA to conduct cost-benefit analysis of various options of deploying MEDEVAC/CASEVAC capabilities.

27. MINUSMA had six helicopters with specialized capabilities and an Aero Medical Evacuation Team (AMET) dedicated predominantly for MEDEVAC/CASEVAC purposes. There were three different



concepts of MEDEVAC/CASEVAC arrangements: (i) integrated AMET helicopter (both helicopter and AMET team included in the same contractual agreement); (ii) helicopter with commercial AMET (two separate contracts for the helicopter and AMET); and (iii) helicopter with military AMET (one contract for the helicopter, and Letter of Assist for AMET). Four of the six helicopters were equipped with integrated AMET and deployed in Timbuktu, Gao, Kidal and Menaka. The total annual operating cost, including aircraft operating cost, flight hours and AMET cost, was \$7.9 million per each helicopter. One helicopter was deployed in Mopti with commercial AMET, and its annual operating cost was \$5.4 million. Annual cost for the sixth helicopter deployed in Tessalit operating with the military AMET was \$4.5 million. Comparative costs of operating these three concepts are shown in figure 3.

Figure 3  
**Comparison of annual operating cost of aircraft under three different MEDEVAC/CASEVAC concepts**  
 (Thousands of US dollars)



Source: MINUSMA Aviation Section

28. In addition, there were three military utility<sup>1</sup> helicopters with one AMET deployed in Timbuktu; four utility helicopters with AMET in Gao; and each of the four Level II hospitals in Kidal, Timbuktu, Gao and Mopti were also equipped with AMET. Although the six specialized helicopters were dedicated to MEDEVAC/CASEVAC, other aircraft were also utilized for MEDEVAC/CASEVAC depending on availability and type of evacuation. While the specialized helicopters were convenient to deploy as AMET was integrated, the cost was substantially higher than the other capabilities, as shown in figure 3.

29. OIOS estimated that approximately \$9.9 million could have been saved annually by using a commercial AMET with utility helicopters. Further, approximately \$13.3 million could have been saved by using military AMET with utility helicopters. The Mission management explained that the integrated AMET offered the best quality of MEDEVAC/CASEVAC services, but this was not supported by a cost-benefit analysis.

30. The Mission also advised that its evacuation concept was based on available capabilities and speed of action. However, a working group was currently in the process of reformulating an effective evacuation concept for MINUSMA based on review from the United Nations Department of Operational Support, Office of Supply Chain Management and non-governmental organizations. The Mission would take the necessary measures based on its conclusions. Based on the action taken by MINUSMA, OIOS did not make a recommendation.

<sup>1</sup> A utility helicopter is a multi-purpose helicopter capable of fulfilling many different roles including transporting passengers and cargo, and conducting air patrols

MINUSMA was taking action to improve cost recovery from third parties

31. In 2019/20 and 2020/21, MINUSMA provided aviation fuel and transportation services to third parties including United Nations agencies, non-government organizations and foreign government delegations and contractors totaling \$4.4 million. Cost recovery criteria was specified in the respective agreements and memoranda of understanding. OIOS review of records on non-MINUSMA air transport and cargo movement requests, billing and collection indicated that approximately 6 per cent (\$258,000) of this amount had not been recovered as of 31 December 2021. Of this amount, \$53,364 had not been billed due to absence of periodic reconciliation of the cost of air services provided on a recovery basis.

32. To address this, the Mission was organizing the Service Management Unit under the Finance and Budget Section to oversee the end-to-end process of billing and monitoring of the cost recovery from third parties. Based on the action being taken, OIOS did not make a recommendation.

### **C. Management of aviation infrastructure**

Aviation infrastructure improvement projects were not adequately monitored

33. To support efficient and safe air operations, the Mission must maintain adequate aviation infrastructure.

34. During the audit period the Aviation Section submitted to the Engineering Section requests for 70 projects to maintain and improve aviation infrastructure in all air regions of the Mission. Of these, 7 projects were completed, 46 were in progress and 17 were not started. Regarding the 46 projects in progress, there were, at times, significant delays in completing them, even though they were designated as high priority. For example, the repair of broken door frames for hangars in Gao that was initiated in November 2020 has not been completed. Delays in completing aviation infrastructure improvements may impact the safety and effectiveness of aviation operations; that was the case in Gao, the Mission's maintenance hub for helicopters, where OIOS observed technicians conducting maintenance in the open air without shade. Such a practice may expose the aircraft to dust and other objects and compromise safety. (OIOS noted that the project to provide aircraft cover was in progress.)

35. Several reasons were attributed to the delays, including project design issues, performance issues by some contractors, and inadequate project monitoring and coordination between the Engineering and Aviation Sections and regional administration offices. The Aviation Section maintained a project monitoring sheet which included the type and status of the project, work description, date submitted to the Engineering Section and a similar record was maintained by the Engineering Section. There were discrepancies between the two monitoring spreadsheets, with certain projects not registered by the Engineering Section record.

**(2) MINUSMA should ensure regular coordination between the Engineering and Aviation Sections to improve monitoring of timely completion of aerodrome infrastructure maintenance, repair and construction projects.**

*MINUSMA accepted recommendation 2 and stated that the Engineering and Aviation Sections would strengthen their coordination system to ensure timely completion of aerodrome infrastructure maintenance, repair and construction projects based on timeline maintenance sheets kept by both sections, followed by regular meetings, reports and field visits.*

To improve emergency response, the Mission needed to prepare a disabled aircraft recovery plan

36. To ensure safe and undisrupted air operations, adequate measures should be instituted to respond to an aviation emergency.

37. MINUSMA developed and implemented an aviation emergency response plan. The plan established the conditions for execution, response phases, the command-and-control structure, and the roles and responsibilities of the crisis response group. As part of its emergency response planning, the Mission procured an aircraft recovery system at a cost of \$737,234 and trained 15 staff on the use of the system to recover disabled aircraft in case of aviation emergency. MINUSMA stated that while these incidents do not occur frequently, their impact on operations is critical with very high financial and opportunity costs.

38. However, the system was not fully functional, and the Mission lacked the capability to effectively use the system in case of an emergency. To develop a fully functional recovery system, MINUSMA initiated procurement of additional equipment at an estimated cost of \$342,634. Because aircraft recovery required special training and skills, MINUSMA was in the process of procuring the services of a consultant to operate the aircraft recovery system, perform regular equipment maintenance and train staff at an additional estimated cost of \$268,973, which would bring the total cost of the system to \$1,348,841.

39. The above was due to the lack of a disabled aircraft recovery plan based on proper risk identification, appropriate consultation with relevant stakeholders and a feasibility study to determine the best option for removing disabled aircraft.

**(3) MINUSMA should prepare a disabled aircraft recovery plan taking into consideration the existing aircraft recovery system and integrate it with the aviation emergency response plan.**

*MINUSMA accepted recommendation 3 and stated that MINUSMA had a road map in place for a disabled aircraft recovery plan for which equipment had been procured and manpower had been trained. The plan would be developed and integrated in the 2022 Aviation Emergency Response Plan after acquisition of additional required equipment.*

## **D. Quality assurance**

Mission aircraft maintenance was monitored

40. A review of maintenance records covering all 28 aircraft deployed in MINUSMA as of 30 June 2021 indicated that the carriers properly scheduled and conducted aircraft maintenance in accordance with respective contractual agreements. In all reviewed cases, the operators submitted a maintenance request and provided MINUSMA with a certificate of release after the scheduled or unscheduled maintenance to attest the aircraft serviceability.

Performance evaluation and aircraft inspection reports were not timely prepared and utilized to make appropriate decisions

41. Technical reports such as the aircraft inspection report and air operator's or military unit's end of contract and quarterly performance evaluation reports are used as a safety enhancement tool and for improvement of the quality of services provided by them.

42. While all aircraft deployed in MINUSMA were inspected upon arrival, initial inspection reports were not prepared and finalized timely, with about 20 per cent of them delayed for an average of 19 months

from aircraft arrival dates. Also, out of 53 performance evaluations that were overdue, only 23 were completed, 17 were pending completion, and 13 were not initiated. The Mission explained that performance evaluations were initiated but not completed in a legacy system which was decommissioned and replaced by a new Contract Performance Reporting Tool. However, delays in finalizing inspection reports and operators' performance evaluations were also due to inadequate monitoring of their timely completion by responsible individuals such as Chief Aviation Safety Officer, CAVO and DMS. As a result, potential safety concerns of aircraft were not communicated timely to DOS to guide decisions on contract awards to air operators, which could also result in aviation safety and reputational risks. For example, the following was noted:

- In one instance, the inspection report indicated that the aircraft was not properly equipped and maintained, and not fit for purpose. However, the aircraft remained in the Mission from 6 December 2020-14 May 2021 but was unutilized due to constant need for unscheduled maintenance resulting in unnecessary cost of \$1.3 million.
- In another instance, the long-term charter agreement was renewed in November 2020 without completion of the performance evaluation. In a partially completed evaluation, the Aviation Safety Unit assessed the operator's performance as unsatisfactory for technical reasons such as malfunction of electrical control system, flaps control, generator failures and poor standards of maintenance.

**(4) MINUSMA should strengthen monitoring mechanisms to ensure that aircraft arrival inspections and all operator performance evaluation reports are timely completed, and significant issues are communicated to the Department of Operational Support for remedial action.**

*MINUSMA accepted recommendation 4 and stated that the Mission would amend the Aviation Technical Compliance Unit standard operating procedures to strengthen monitoring mechanisms for timely completion of aircraft arrival inspections and performance evaluations by all stakeholders. Significant issues would be communicated to the Department of Operational Support for remedial action when necessary.*

#### There was a need to undertake systematic quality assurance audits

43. To ensure quality aviation operations and processes and continuous quality system improvement, the Mission needs to implement an aviation quality assurance programme.

44. MINUSMA Aviation Section prepared a quality assurance audit programme for 2019/20 and 2020/21 that outlined areas to be reviewed, but the programme activities were not effectively carried out. Quality assurance activities were conducted on an ad hoc basis and consisted in random reviews of pre-flight briefing checklists, after mission reports and aircraft timing records. The ad hoc reviews raised minor issues, such as use of old forms, errors in dates, etc. and they were communicated to the concerned chiefs of air regions who took corrective actions.

45. The Aviation Safety Section, jointly with the Air Transport Service, DOS undertook an assessment of the Mission's aviation safety and quality assurance functions during 27 September - 11 October 2021. The assessment concluded that there was non-compliance with the minimum United Nations aviation standards and identified shortcomings in the implementation of safety/quality mechanism. It recommended creating one joint aviation safety assurance and quality assurance oversight programme based on the existing Aviation Safety Assurance Guidelines. The recommendation provided by the assessment team had not been implemented at the time of the audit.

46. The above was the result of the failure by the Aviation Section to develop the MINUSMA quality assurance policy and process as recommended by the Aviation Manual. The Mission advised that the Aviation Quality Policy, Aviation Quality Manual and Quality Assurance Programme were not developed and distributed by the United Nations Air Transport Services to guide quality assurance audits in the Mission. The Aviation Section prioritized other activities such as: (a) implementation of corrective actions to address the 2019/20 ad hoc reviews by the Quality Assurance and Standardization Unit; (b) review of risk assessment checklist completed by the pilot-in-command through processing of the electronic After Mission Reports; and (c) contract performance monitoring. However, the quality assurance programme was not systematically implemented and embedded in the aviation activities, which has resulted in missed opportunities in ensuring continuous safety and quality improvement.

**(5) MINUSMA should take prompt action to ensure proper quality assessments are conducted, develop adequate guidance and provide the required capacity building to the Aviation Section staff on implementing the aviation quality assurance work plan.**

*MINUSMA accepted recommendation 5 and stated that the Mission would follow up with the Air Transport Service, United Nations Headquarters on the status of pending guidance documents on aviation quality policy, aviation quality manual and quality assurance programme and on the possibility of having specialized training to build required capacity of Aviation Section staff. Meanwhile, in the absence of guiding documents, the Mission would implement an aviation quality audit programme by using the quality audit plan, audit checklists and/or surveys in coordination with the aviation safety unit.*

## V. ACKNOWLEDGEMENT

47. OIOS wishes to express its appreciation to the management and staff of MINUSMA 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 United Nations Multidimensional Integrated Stabilization Mission in Mali

| Rec. no. | Recommendation   | Critical <sup>2</sup> /<br>Important <sup>3</sup> | C/<br>O <sup>4</sup> | Actions needed to close recommendation  | Implementation date <sup>5</sup> |
|----------|--|---|----------------------|---|----------------------------------|
| 1        | MINUSMA should enforce the special flight request policy and create awareness among civilian and military personnel of the flight planning and tasking procedures for cost-effective air asset utilization.  | Important   | O                    | Pending receipt of evidence that the special flight request policy is enforced, and steps are taken to create awareness among civilian and military personnel.              | 30 June 2023                     |
| 2        | MINUSMA should ensure regular coordination between the Engineering and Aviation Sections to improve monitoring of timely completion of aerodrome infrastructure maintenance, repair and construction projects.   | Important   | O                    | Pending receipt of evidence of timely implementation of aerodrome infrastructure projects.  | 30 June 2023                     |
| 3        | MINUSMA should prepare a disabled aircraft recovery plan taking into consideration the existing aircraft recovery system and integrate it with the aviation emergency response plan.   | Important   | O                    | Pending the development of a disabled aircraft recovery plan integrated into the aviation emergency response plan.  | 31 December 2022                 |
| 4        | MINUSMA should strengthen monitoring mechanisms to ensure that aircraft arrival inspections and all operator performance evaluation reports are timely completed, and significant issues are communicated to the Department of Operational Services for remedial action. | Important   | O                    | Pending receipt of the revised procedures to strengthen monitoring of timely completion of aircraft arrival inspections and evaluation of the performance of air operators. | 31 December 2022                 |
| 5        | MINUSMA should take prompt action to ensure proper quality assessments are conducted and develop adequate guidance and provide the required capacity building to the Aviation Section staff on implementing the aviation quality assurance work plan.                    | Important   | O                    | Pending receipt of evidence that MINUSMA has implemented a proper aviation quality assurance programme.   | 31 December 2022                 |

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> Please note the value C denotes closed recommendations whereas O refers to open recommendations.

<sup>5</sup> Date provided by MINUSMA in response to recommendations.




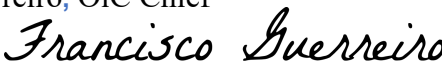

# **APPENDIX I**

## **Management Response**

FACSIMILE

07 July 2022

Reference: MINUSMA/OCOS/2022/505

|   |   |
|---|---|
| <b>TO:</b> Ms. Eleanor T. Burns<br>Director<br>Internal Audit Division<br>OIOS.   | <b>FROM:</b> Claudia Banz<br>Chief of Staff    |
| <b>ATTN:</b> Mr. Seydou Sirpe<br>Chief Resident Auditor<br>Bamako   | for Anton Antchev<br>Director of Mission Support<br>   |
| <b>FAX #:</b>   | <b>FAX #:</b> Email: <a href="mailto:MINUSMA-mars@un.org">MINUSMA-mars@un.org</a>   |
| <b>TEL #:</b>   | <b>TEL #:</b>   |
| <b>SUBJECT: MINUSMA response to an audit of air operations in the United Nations Multidimensional Integrated Stabilization Mission in Mali (Assignment No. AP-2021-641-01)</b>  |   |
| Total number of transmitted pages including this page: 8  |   |
| <i>Reference Facsimile, IAD- AP2021-641-01, dated 2 June 2022 and, Peacekeeping Audit Service, OIOS, memorandum of 2 June 2022, OIOS-00802</i>  |   |
| <ol style="list-style-type: none"><li>1. In reply to the referenced correspondence, please find attached MINUSMA's Management Response to the OIOS findings and recommendations, as presented in the subject report.</li><li>2. Note has been taken of the areas warranting the Mission's attention and an action plan for implementing the recommendations issued is attached.</li></ol> |   |
| Best regards.   |   |
| <b>Drafted by:</b> <br>Boniface Mailu, Admin Assistant<br>Risk Management & Compliance Unit (RMCU)<br>Office of the Chief of Staff (OCOS)<br><b>Cleared by:</b><br>Francisco Guerreiro, OiC Chief<br>RMCU/OCOS      | <b>Authorized by:</b><br>For:<br>Audrey Serret,<br>Senior Administrative Officer<br>Office of the Director of Mission Support<br> |



## Management Response

Audit of air operations in United Nations Multidimensional  
Integrated Stabilization Mission in Mali

| Rec. no. | Recommendation  | Critical <sup>1</sup> /<br>Important <sup>2</sup> | Accepted?<br>(Yes/No) | Title of<br>responsible<br>individual                  | Implementation<br>date | Client comments  |
|----------|---|---|-----------------------|--|------------------------|--|
| 1        | MINUSMA should enforce the special flight request policy and create awareness among civilian and military personnel of the flight planning and tasking procedures for cost-effective air asset utilization. | Important   | Yes                   | Special Representative of the Secretary General (SRSG) | Implemented            | The Mission concurs with the recommendation. To re-enforce the special flight request (SFR) policy, the Mission issued the SRSG-signed Circulars No. 02/2022 'New Aviation Support Request Procedures' dated 16 March 2022, and No. 04/2022 'Judicious Utilization of Aviation Assets' date of 29 April 2022. To create awareness of the flight planning and tasking procedures among its personnel, the Mission broadcasted these circulars to all civilian, military, and police personnel. The strict compliance is already in effect; any SFRs submitted in non-compliance with the policy are not accepted for processing. Moreover, the majority of routine SFRs are combined with regular flights to exercise cost-effective utilization of air assets. This is duly recorded in the special e-tool, where the optimized flight time is translated into saved costs. Evidence has been provided to the OIOS team. |
| 2        | MINUSMA should establish performance indicators to monitor  | Important   | No                    | Director of Mission                                    |                        | MINUSMA does not concur with this recommendation. There is no UN regulatory regime or specific UN policy on performance  |

<sup>1</sup> 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.

<sup>2</sup> 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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|          | cost-effective utilization of air assets. |   |                       | Support (DMS)                         |                        | <p>indicators to monitor the economic utilization of air assets at the Field Mission level. In the absence of formal UNHQ guidelines and methodology, the Mission finds such recommendation unimplementable for the following reasons:</p> <p>1) Conducting monitoring using performance indicators-based calculations for assessing capability, tasks, and cost is possible only for a single type of aircraft, generally done in commercial aviation.</p> <p>2) In UN field missions with a variety of assets, including different types of fixed-wing aircraft, categories of helicopters, manned/unmanned ISR platforms performing other tasks, normal and emergency in both task groups (common/admin/logistics and military/tactical/combat/surveillance) that are bounded/obligated by different types of contractual provisions in Charter Agreements, Service Contacts with civil contractors and LOAs with TCCs makes the use of performance indicators-based monitoring/evaluation highly complex and requires research and technology capacity which is not available at the Mission level.</p> |

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|----------|----------------|--|--------------------|---------------------------------|---------------------|--|
|          |                |  |                    |                                 |                     | <p>The Mission has statistics for the last four (4) fiscal years demonstrating that every kind of fixed-wing aircraft is the most cost-effective among the MINUSMA fleet. Nevertheless, the Mission monitors, records, and analyzes economic indicators for optimal aircraft planning/tasking to ensure effective and efficient aircraft utilization. MINUSMA regularly monitors economic indicators for air operations of a similar category of aircraft (e.g., fixed-wing aircraft that performed administrative/ logistic tasks for passengers or cargo transportation) and compares their economic indicators based on one of the methods used/practiced in the commercial aviation industry. This is called the “Relevant efficiency indicator for transportation of one passenger per 100km distance”. This indicator is prepared once a year (FY), and it is factoring direct and indirect expenditures (actual contractual costs, capital cost (for Military Units), actual flown hours, actual consumed fuel, actually paid fees for air navigation, landings, ground handling, air terminal fees, crew hotel/transportation, etc.) for transported number of passengers and kg of cargo on each type of the compared aircraft. To monitor economic indicators and ensure effective and efficient aircraft utilization, the Mission established and</p> |

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|          |   |   |                       |                                       |                        | <p>maintained two e-tools. One of them is mentioned in comments to Recommendation 1, and another is above.</p> <p>For an unknown reason, such MINSUMA practices were not considered by Audit.</p> <p>Till the legal framework for such recommendation is made available, Mission will continue monitoring, recording, and analyzing economic indicators for optimal aircraft planning/tasking to ensure effective and efficient aircraft utilization. Evidence has been provided to the OIOS team.</p>  |
| 3        | MINUSMA should evaluate cost-effectiveness of the various options of deploying medical and casualty evacuation capabilities to enable implementation of an efficient casualty and medical evacuation concept. | Important   | No                    | DMS                                   |                        | <p>The Mission does not concur with the recommendation. MINUSMA conducts CASEVAC missions to save precious lives by integrating the effectiveness of the response, cost-benefit, and risk transfer solutions: like specialized CASEVAC assets with highly advanced equipment for night flights, armored hulls, medical modules/supplies, and integrated aeromedical evacuation team (AMET). MINUSMA's evacuation concept is based on available capabilities and the required speed of action. The Mission has already created and is using the CASEVAC performance control application. Also, existing/ forecasted gaps in medical and CASEVAC capabilities have already been identified.</p> |

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|          |   |   |                       |  |                        | <p>Moreover, a working group is currently reformulating an effective evacuation concept based on the review of best practices of UNHQ and Military Organizations (namely, NATO). The Mission will take the necessary measures based on its conclusions to enhance the effectiveness of the emergency response.</p> <p>It is essential to mention that Members States are contributing or planning to deploy their troops/police and personnel to MINUSMA and have a strong demand for robust emergency response/ casualty evacuation and medical facility capability in the Mission-based on effectiveness, not cost-efficiency.</p> |
| 4        | MINUSMA should ensure regular coordination between the Engineering and Aviation Sections to improve monitoring of timely completion of aerodrome infrastructure maintenance, repair, and construction projects. | Important   | Yes                   | Chief Service Delivery Management (CSDM) | Implemented            | MINUSMA concurs with this recommendation. A system of coordination between the Engineering and Aviation Sections for monitoring the completion of aerodrome infrastructure maintenance, repair, and construction projects is already established and being strengthened to ensure the timely completion of projects based on timeline maintenance sheets kept by both sections, followed by regular meetings, reports, and field visits. Evidence has been provided to the OIOS team.  |

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|----------|---|---|-----------------------|---------------------------------------|------------------------|--|
| 5        | MINUSMA should prepare a disabled aircraft recovery plan taking into consideration the existing aircraft recovery system and integrate it with the aviation emergency response plan.  | Important   | Yes                   | DMS                                   | 31 December<br>2022    | The Mission concurs with the recommendation. MINUSMA has a road map in place for a disabled aircraft recovery standard operating procedure (SOP) with clear instructions and guidelines on how to prepare the disabled aircraft recovery plan, as well as procedures and processes to execute recovery of disabled aircraft using purchased equipment and trained personnel across the area of operations in North Mali. The SOP will be developed and integrated into the MINUSMA Aviation Emergency Response Plan (2022 edition). The disabled aircraft recovery plan would be prepared once the AERP is activated, based on the accident aircraft's location, type, and layout. |
| 6        | MINUSMA should strengthen monitoring mechanisms to ensure that aircraft arrival inspections and all operator performance evaluation reports are timely completed, and significant issues are communicated to DOS for remedial action. | Important   | Yes                   | DMS                                   | 31 December<br>2022    | DOS currently has visibility on significant issues highlighted in inspection and evaluation reports on both platforms: Aviation safety and CPRT. Important issues outside the evaluation cycle are always communicated to DOS for remedial action (i.e., request for termination of service contract for unmanned ISR platform and charter agreement for two commercial utility helicopters). Moreover, effective 3 June 2022, DOS upgraded the CPRT Platform, adding a "Comments" section and "Rating" portion at Chief Aviation Officer's level, which will be   |

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|          |   |   |                       |                                       |                        | shared with ATS and PD at UNHQ and consequently with the contracted operator.   |
| 7        | MINUSMA should take prompt action to ensure proper quality assessments are conducted and develop adequate guidance and provide the required capacity building to the Aviation Section staff on implementing the aviation quality assurance work plan. | Important   | Yes                   | DMS                                   | 31 December 2022       | <p>MINUSMA concurs with this recommendation. The Mission will make the necessary amendments to the Aviation SOP to strengthen personal accountability and implement monitoring mechanisms that ensure timely completion of the aircraft arrival inspections and performance evaluations. The Mission concurs with the recommendation. The Mission has developed an Aviation Quality Audit Program and is implementing a Quality Audit Plan in 2021-22. Currently, six(6) quality assurance audits in the Air Regions are being conducted. Today, 49 aviation personnel went through the audit capacity building specialized courses and are engaged in the ongoing audits.</p> <p>To develop adequate guidance, the Mission relies on the Aviation Quality Policy, Aviation Quality Manual, and Quality Assurance Program that are to be developed by ATS/LD at UNHQ. The Mission will follow up with ATS/LD through a formal facsimile on the status of these pending guidance documents and ensure that guidance is provided accordingly.</p> |