



INTERNAL AUDIT DIVISION

REPORT 2018/034

Audit of aviation safety in the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo

There was a need to fill vacancies in the Aviation Safety Unit and ensure that aviation risk management assessments are performed for all infrequently flown to destinations and for military non-combat operational flights

27 April 2018
Assignment No. AP2017/620/01

Audit of aviation safety in the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo

EXECUTIVE SUMMARY

The Office of Internal Oversight Services (OIOS) conducted an audit of aviation safety in the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO). The objective of the audit was to assess the effectiveness of the MONUSCO governance, risk management and control processes over the aviation safety programme in MONUSCO. The audit covered the period from January 2016 to September 2017 and included: oversight of aviation safety; aviation safety programme; aviation risk management process; and accident emergency response planning.

MONUSCO had: established an Aviation Safety Council that was effective in addressing aviation concerns; implemented a Mission Aviation Safety Programme; prepared Mission-wide aviation risk assessment indicators matrices; inspected arriving aircraft and recommended remedial actions; and recorded and investigated aviation safety incidents. However, the Mission needed to fill vacancies in the Aviation Safety Unit and ensure that aviation risk management assessment is performed for all infrequently flown to destinations and for military non-combat operational flights.

OIOS made three recommendations. To address issues identified in the audit, MONUSCO needed to:

- Fill vacancies in the Aviation Safety Unit;
- Enforce procedures to ensure that aviation (operational) risk management is performed for destinations that are infrequently flown to including all military non-combat operational flights; and
- Disseminate the results of the tests and drills of its accident emergency response plan to all relevant stakeholders to ensure timely implementation of recommendations and dissemination of lessons learned to the concerned parties.

MONUSCO accepted the recommendations and has initiated action to implement them.

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Audit of aviation safety in the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo

I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of aviation safety in the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO).
2. The MONUSCO Office of Mission Support is responsible for providing safe, efficient and cost-effective aviation operations in the Mission. The MONUSCO Aviation Safety Unit is responsible for: monitoring the implementation of the aviation safety programme; providing timely advice and recommendations on all aviation safety related matters; and promoting aviation safety awareness and accident prevention in the Mission. The Unit is headed by an officer at the P-5 level and is supported by three international and five national staff. The Unit reports to the Director of Mission Support.
3. In 2017, MONUSCO had 49 aircraft comprising 13 fixed-wing and 33 rotary aircraft and 3 unmanned aerial vehicles. The Mission had nine base locations at Kinshasa, Lubumbashi, Goma, Kalemie Kananga, Bukavu, Uvira, Bunia and Entebbe. The Mission operates regular and irregular flights to 64 airports and 171 helipads in the Democratic Republic of the Congo (DRC) and Uganda.
4. The Aviation Safety Unit's budgets for travel and training were \$30,000 and \$22,500 in 2015/16 and 2016/17 respectively.
5. Comments provided by MONUSCO are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

6. The objective of the audit was to assess the effectiveness of the MONUSCO governance, risk management and control processes over the aviation safety programme in MONUSCO.
7. This audit was included in the 2017 risk-based work plan of OIOS due to safety and operational risks related to air operations.
8. OIOS conducted this audit from September to December 2017. The audit covered the period from January 2016 to September 2017. Based on an activity-level risk assessment, the audit covered high and medium risk areas in aviation safety, which included: oversight of aviation safety; the aviation safety programme; aviation operational risk management process; and accident emergency response planning.
9. The audit methodology included interviews of key personnel, reviews of relevant documentation, analytical reviews of data and testing of a random sample of 31 non-regular flights to ensure that aviation operational risk assessments were conducted. Site visits were undertaken in Goma, Beni and Bunia.
10. The audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.

III. AUDIT RESULTS

A. Oversight of aviation safety

The Mission had established an Aviation Safety Council that was effective in addressing aviation safety concerns

11. The Department of Peacekeeping Operations/Department of Field Support (DPKO/DFS) Aviation Safety Manual requires MONUSCO to establish a Mission Aviation Safety Council (MASC) chaired by the Director of Mission Support. The Council should meet quarterly to: discuss the Mission's risk mitigation strategies related to aviation operations; develop safety recommendations for the Mission's staff to keep the risks or consequences of identified and potential hazards at or below the acceptable level; and promote aviation safety awareness.

12. A review of minutes of MASC meetings conducted in 2016 and 2017, implementation of the MASC recommendations, and OIOS attendance at the 12 September 2017 meeting showed that:

(a) The MASC met four times during the audit period instead of the required seven quarterly meetings due to other operational priorities. However, the Chief Aviation Safety Officer held meetings with the Director of Mission Support, the Chief Aviation Officer, and Movement Control as needed, to address issues and implement the Mission's aviation safety plan and support aviation operations;

(b) The MASC discussed risk mitigation strategies related to aviation operations and made safety recommendations;

(c) MONUSCO had implemented 74 per cent of the MASC recommendations. The outstanding recommendations were those to be implemented by: the Congolese Civil Aviation Authority (RVA) on air traffic control, calibration and certification of equipment and airport incursions; and the United Nations Headquarters on air crew qualifications, particularly those related to the operation of unmanned aerial vehicles; and

(d) The Director of Mission Support chaired the MASC meetings that were attended by all key stakeholders such as Service Delivery, Air Operations, Aviation Safety, Engineering, Medical and the RVA. Other air regional locations also joined the meetings via video teleconference.

13. OIOS concluded that the MASC was effective in assisting management in addressing aviation safety concerns.

MONUSCO was implementing recommendations of DFS Aviation Safety Assessment Visits

14. The DPKO/DFS Aviation Safety Programme requires MONUSCO to implement recommendations of the DFS Aviation Safety Section arising from periodic technical assessment visits to missions to enhance the level of safety in the Mission's aviation operations.

15. The DFS Aviation Safety Section conducted an aviation safety assessment of MONUSCO from 2 to 4 August 2016 and issued the report with nine recommendations to the Mission on 30 June 2017. A review of the report and the implementation of its recommendations indicated that MONUSCO had: implemented two of the recommendations; continued to collaborate with relevant functions at United Nations Headquarters for the implementation of three recommendations involving policies and standards

for unmanned aerial vehicles and amendments to letters of assist and the contracts of service providers; and was in the process of implementing four other recommendations which included staffing of the MONUSCO Aviation Safety Unit, lessons learned from the Accident Emergency Response Plan and runway incursions.

16. OIOS concluded that MONUSCO was taking action to implement the recommendations from the DFS Aviation Safety Section's technical assessment mission.

Need to fill vacancies in the Aviation Safety Unit

17. The DPKO/DFS Aviation Safety Manual requires MONUSCO to staff its Aviation Safety Unit based on the number of air assets and base locations. MONUSCO, which has 49 aircraft and nine base locations should have 10 posts in the Aviation Safety Unit comprising a Chief at the P-5 level, one P-4, six professional staff and two general service staff.

18. The Mission had nine posts for the Aviation Safety Unit; however, two professional posts were vacant for more than one year due to ineffective recruitment actions. The recruitment was cancelled due to non-compliance with United Nations requirements for the type of personnel that were identified for appointment and the posts were still vacant as at February 2018. The Aviation Safety Section of the DFS Logistics Support Division had also raised this in their aviation safety assessment visit to MONUSCO in August 2016. Additionally, at the time of the audit, another staff in the Unit went on a four months' sick leave and another started separation procedures as he had reached the retirement age.

19. As a result, there was increased overload of tasks on the professional staff which increased the risk of essential work such as investigation of incidents and accidents not being carried out satisfactorily to learn lessons and mitigate aviation safety risks, and to adequately and timely follow up on implementation of recommended actions.

(1) MONUSCO should take steps to fill vacancies in the Aviation Safety Unit.

MONUSCO accepted recommendation 1 and stated that it: was in the process of recruiting two National Professional Officers; and would start filling the vacant P-3 post in May 2018. Recommendation 1 remains open pending receipt of evidence that MONUSCO has filled the vacancies in the Aviation Safety Unit.

B. Mission aviation safety programme

The Mission Aviation Safety Programme was developed and implemented

20. The DPKO/DFS Aviation Safety Manual requires MONUSCO to develop and implement a Mission Aviation Safety Programme (MASP) approved by the Director of Mission Support. The Manual stipulates that the programme should include activities such as: visits and surveys of airfields and helipads; dissemination of aviation safety information to staff to promote awareness using safety journals and electronic bullets; briefing of air crews upon arrival in the Mission; and development and testing of the accident emergency response plan.

21. Visits to airfields, review of the MASPs and work plans for 2016 and 2017, survey reports, accident emergency response plans and drill reports showed that MONUSCO: prepared and approved the MASP that included all the required activities; conducted survey visits of airfields and helipads; disseminated aviation safety information to staff of the Aviation and Movement Control Sections; briefed air crews upon

arrival in the Mission; and tested the accident emergency response plan at five airfields where the national civil aviation authorities did not provide emergency rescue services.

22. OIOS concluded that MONUSCO had implemented effective controls to ensure that it developed and implemented an MASP.

C. Aviation risk management process

Need to fully implement aviation risk management process

23. The DPKO/DFS aviation (operational) risk management (ARM) policy requires MONUSCO to conduct a risk assessment of non-regular civilian and military (non-combat) operational flights to reduce the risk of incidents or accidents resulting from hazardous conditions at airfields and helipads including incursions, bird strikes and unfriendly fire by armed groups. This is particularly pertinent for locations that are not regularly flown to and whose conditions and hazards may not be well known.

24. The Mission Aviation Operations Centre did not perform ARM assessments in the electronic Special Flight Request (eSFR) system for all non-combat military operational flights conducted during the period. For civilian non-regular flights, a review of 31 such flights processed in eSFR for flights conducted during the audit period indicated that the Mission did not perform ARM assessments in eSFR for: four flights to locations that were not regularly flown to. However, the cooperative working relationship between the Aviation Section, Aviation Safety Unit and Movement Control acted as a mitigating measure. For instance, when the eSFR notified the Aviation Safety Unit, the Unit provided timely advice on known risks such as likelihood of hostile fire based on actual incidents recorded in the European Coordination and Centre for Accident and Incident Reporting Systems (ECCAIRS).

25. The above exceptions occurred because MONUSCO management had not effectively enforced established procedures to ensure that ARM was consistently applied to all non-regular operational civilian and military non-combat flights.

26. Consequently, there was an increased risk of accidents that could result in damage to property, loss of life or injury, and reputation damage for the United Nations.

(2) MONUSCO should take steps to ensure that aviation (operational) risk management is performed for destinations that are not frequently flown to and for all non-combat military operational flights.

MONUSCO accepted recommendation 2 and stated that it was in the process of implementing ARM for destinations not frequently flown to, including all military non-combat operational flights. Recommendation 2 remains open pending receipt of evidence that the Mission performs ARM assessments for all destinations that are infrequently flown to and for all non-combat military flights.

MONUSCO prepared a Mission-wide aviation risk assessment indicators matrix on a quarterly basis

27. The DPKO/DFS Aviation Safety Manual requires MONUSCO to prepare a mission-wide aviation risk assessment indicators matrix on a quarterly basis. The matrix has 15 risk assessment indicators. Additionally, MONUSCO is required to conduct quarterly visits/surveys of airports with regular flights and upon request from the Mission Air Operations Centre for helipads.

28. MONUSCO had implemented the 15 risk assessment indicators, which included senior management aviation safety awareness, emergency response capability, meteorology and weather, aprons, runways and air traffic services for the safety programme and to support air operations. Quarterly, the Aviation Safety Unit visited and surveyed the airports and used the findings to update the risk assessment indicators. MONUSCO assessed 12 of the indicators as low risk and 3 as medium to high risk. The medium to high risks were the responsibility of the RVA and included: meteorological and weather systems; aprons, runways and facilities; and air traffic services because of lack of trained air traffic controllers and essential equipment in the country. Nonetheless, MONUSCO put in place mitigating measures such as regular meetings and contact with the RVA and constructing and/or equipping of air traffic towers. For example, in Beni and Bunia, MONUSCO used contingent personnel for air traffic control and MONUSCO staff provided support to the RVA in Goma in weather and meteorological services. In addition, MONUSCO provided fire engines in some locations for emergency rescue.

29. OIOS concluded that MONUSCO had implemented effective controls to ensure that it regularly prepared a Mission-wide aviation risk assessment indicators matrix and surveyed airports frequently flown to.

MONUSCO inspected and recommended remedial actions on all arriving aircraft

30. The DPKO/DFS Aviation Safety Manual requires the MONUSCO Aviation Safety Unit to inspect all aircraft, prepare reports on their condition, recommend remedial action of any defects before the aircraft can start operating, and log reports in the Aircraft Inspection and Recommendations database.

31. A review of the documentation and technical inspection reports in the Aircraft Inspection and Recommendations database for all the 41 aircraft that arrived in the Mission in the period from January 2016 to July 2017 indicated that the Aviation Safety Unit in collaboration with the Aviation Technical Compliance Unit inspected and reported on all the 41 aircraft comprising: 3 unmanned aerial vehicles; 15 fixed-wing and 23 rotary aircraft. OIOS concluded that MONUSCO had implemented effective controls to ensure that it inspected all its arriving aircraft.

MONUSCO reported, recorded and investigated all aviation safety incidents

32. The DPKO/DFS Aviation Safety Manual requires MONUSCO to report, record and investigate incidents and accidents to enhance aviation safety quality assurance. It also requires MONUSCO to record the incidents and accidents in ECCAIRS.

33. MONUSCO had recorded in ECCAIRS all reported incidents and investigated serious incidents and accidents. For instance, MONUSCO conducted investigations related to the five accidents that occurred during the audit period related to: three unmanned aerial vehicles, one fixed-wing aircraft and a helicopter which were all due to technical reasons. MONUSCO also investigated incidents that could have potentially resulted in an accident. These involved: a non-MONUSCO aircraft (owned by a local operator) that did not have serviceable transponders to provide information on the position of other aircraft near them; air traffic control failure to replace old equipment; and lack of trained air traffic controllers in the host country. MONUSCO analysed the incidents to identify common occurrences and took remedial action, for example, on bird control by installing bird control systems at airports and provided support to the RVA in constructing and/or equipping air traffic towers. Also, based on the incident analysis, the Aviation Safety Unit provided advice to the Aviation Section and Mission Air Operations Centre in the ARM process especially for flights to high risk locations.

34. OIOS concluded that MONUSCO had implemented a mechanism to report, record and investigate all aviation safety incidents.

D. Accident emergency response plan

Need to update the accident emergency response plan

35. The DPKO/DFS Aviation Safety Manual requires MONUSCO to develop and regularly update an accident emergency response plan (AERP), and perform desktop and practical drills to ensure effective response to save life and property. It also requires the Mission to provide emergency crash and rescue capability at airports where the host government lacks it.

36. MONUSCO had not implemented an AERP at airports where such responsibility rested with the national civil aviation authorities of Uganda and the DRC, such as Entebbe, Kinshasa and Goma. However, for a number of other locations, MONUSCO developed and implemented an AERP and ensured that these locations had emergency crash and rescue capabilities. MONUSCO was also providing support to the DRC by donating equipment such as fire engines for AERP and emergency crash and rescue operations in Kinshasa, Goma and Kisangani.

37. However, the reports of the AERP drills and related recommendations, which the Aviation Safety Unit prepared, were sent only to the Field Office Managers instead of all key participants responsible for implementing recommendations such as the Fire Units and the Medical, Aviation, Security and Movement Control Sections. Also, the AERP, which had been prepared and approved in February 2011 had not been updated to reflect the current operating environment and to incorporate lessons learned from the results of AERP drills. During the audit, the Aviation Safety Unit updated the AERP and the Director Mission Support approved it on 27 February 2018.

38. The above resulted because the Aviation Safety Unit was of the view that it was not necessary to widely circulate the emergency drill reports to those responsible for implementing recommendations as it conducted debriefs of the drill participants and sent copies of the reports to the Director of Mission Support and Field Office Managers. However, this process increased the risk that the Aviation Safety Unit's recommendations such as the need for participation by all key players and timely response to emergencies may not be implemented due to lack of awareness.

(3) MONUSCO should disseminate the results of the tests and drills of its accident emergency response plan to all relevant stakeholders to ensure timely implementation of recommendations and dissemination of lessons learned to the concerned parties.

MONUSCO accepted recommendation 3 and stated that it: communicated the results of the AERP drills to the Director of Mission Support and all relevant stakeholders in the field including Field Operational Managers; and would communicate the results to the concerned section chiefs. Recommendation 3 remains open pending receipt of evidence that MONUSCO circulates the results of AERP drills and related recommendations to all key participants responsible for implementing the recommendations.

IV. ACKNOWLEDGEMENT

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

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

STATUS OF AUDIT RECOMMENDATIONS

Audit of aviation safety in the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo

Rec. no.	Recommendation	Critical ¹ / Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
1	MONUSCO should take steps to fill vacancies in the Aviation Safety Unit.	Important	O	Receipt of evidence that MONUSCO has filled the vacancies in the Aviation Safety Unit.	31 December 2018
2	MONUSCO should take steps to ensure that aviation (operational) risk management is performed for destinations that are not frequently flown to and for all non-combat military operational flights.	Important	O	Receipt of evidence that MONUSCO performs aviation risk management assessments for all destinations that are infrequently flown to and for all non-combat military flights.	31 October 2018
3	MONUSCO should disseminate the results of the tests and drills of its accident emergency response plan to all relevant stakeholders to ensure timely implementation of recommendations and dissemination of lessons learned to the concerned parties.	Important	O	Receipt of evidence that MONUSCO circulates the results of aviation emergency response planning drills and related recommendations to all key participants responsible for implementing the recommendations.	31 October 2018

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

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

³ C = closed, O = open

⁴ Date provided by MONUSCO in response to recommendations.

APPENDIX I

Management Response



Mission de l'Organisation des Nations Unies
pour la Stabilisation en République
démocratique du Congo

United Nations Organisation Stabilization
Mission in the Democratic Republic of Congo

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PROTECT

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CONSOLIDATE PEACE

INTEROFFICE MEMORANDUM

Date: 19 April 2018
Ref. ODMS-18-IM-01230

To: Mr. Arnold Valdez, Officer-in-Charge
Peacekeeping Audit Services
Internal Audit Division, OIOS

From: Ms. Leila Zerrougui
Special Representative of the Secretary-General
United Nations Organisation Stabilization Mission in the
Democratic Republic of Congo

**Subject: Management Response to Draft Audit Report – Aviation Safety in MONUSCO
(Assignment No. AP2017/620/01)**

1. Reference is made to your interoffice memorandum reference no. OIOS-2018-06 dated 12 April 2018, requesting the Mission to provide comments on the recommendations in the draft audit report on Aviation Safety in MONUSCO.
2. Please find attached Appendix I - Management Response, for your consideration.
3. The supporting documents will be provided to the Resident Audit Team.

Thank you,

Cc: Ms. Safia Boly, Acting Director of Mission Support, MONUSCO
Mr. Virendra Chhikara, Chief Aviation Safety Officer, MONUSCO
Mr. Azzam Ayatt, Chief Aviation Officer, MONUSCO
Ms. Kerry Zillner, Audit Focal Point, MONUSCO
Mr. James Okwakol, Chief Resident Auditor, MONUSCO, Internal Audit Division, OIOS
Ms. Cynthia Avena-Castillo, Professional Practices Section, Internal Audit Division, OIOS

Attachment: Appendix I - Management Response

Peace it!

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Management Response

Audit of aviation safety in the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	MONUSCO should take effective steps to fill vacancies in the Aviation Safety Unit.	Important	Yes	Director of Mission Support	31 December 2018	MONUSCO has acted on the recommendation and is presently in the process of recruiting two vacant NPO-C posts. The recruitment of the vacant P-3 post will only commence in May since there is a recruitment freeze in place in the Mission at present.
2	MONUSCO should enforce procedures to ensure that aviation (operational) risk management is performed for destinations that are not frequently flown to including all military non-combat operational flights.	Important	Yes	Chief Aviation Section.	31 October 2018	MONUSCO has acted on the recommendation. The process to implement Aviation Risk Management (ARM) for destinations not frequently flown to, including all military non-combat operational flights is ongoing.
3	MONUSCO should disseminate the results of the tests and drills of its accident emergency response plan to all relevant stakeholders to ensure timely implementation of recommendations and dissemination of lessons learned to the concerned parties.	Important	Yes	Chief Aviation Safety Officer	31 October 2018	MONUSCO concurs with the recommendation. In addition to routinely communicating the results of the Aviation Emergency Response Plan the Director of Mission Support and all relevant stakeholders at field level including Field Operational Managers, the results will be communicated to respective Section Chiefs as well.

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

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