

INTERNAL AUDIT DIVISION

REPORT 2024/003

Audit of acquisition of aviation services in United Nations peace operations

The management of acquisition of commercial and military aviation services can be further enhanced with more strategic and integrated planning

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Audit of acquisition of aviation services in United Nations peace operations

EXECUTIVE SUMMARY

The General Assembly in its resolution 72/266 B of 5 July 2018 requested the Secretary-General to entrust the Office of Internal Oversight Services (OIOS) with continuing to monitor United Nations procurement and report thereon biennially. Pursuant to this resolution, OIOS conducted an audit of acquisition of aviation services in peace operations at the United Nations Headquarters in New York and selected field missions. The audit assessed the adequacy and effectiveness of activities and controls in the acquisition of these services.

Aviation services are key enablers for peace operations deployed across vast territories with lengthy logistical lines and difficult terrains. They provide peace operations with mobility, support and information to implement mandates, including for troop rotation, special military operations, medical/casualty evacuations and passenger and cargo transportation.

During the audit period, 1 January 2019 to 30 June 2023, the Secretariat acquired commercial and military aviation services valued at \$2.3 billion. The audit concluded that there was adequate process in place for the Organization to communicate its needs for military aviation services and for Member States to respond. However, the efficiency and effectiveness of the management of acquisition of commercial and military aviation services can be further enhanced with more strategic and integrated planning, including assessing the benefits of investing in aviation infrastructure and finding the best mix of commercial and military aircraft to be deployed. Despite targeted outreach to commercial air operators and addition of new vendors, most of the solicitation exercises reviewed by OIOS during the audit attracted between four and six vendor responses. However, implementation of phase 1 of a new concept of non-exclusive aircraft charter agreements for utility helicopter services, which eliminated the need to conduct separate procurement exercises for each field mission, showed potential for more favourable vendor response rates. The Office of Supply Chain Management in the Department of Operational Support was considering adopting this new concept for acquisition of other types of aircraft after an assessment of the implementation results.

Commercial evaluation criteria for vendor registration that were introduced during pandemic did not adequately measure vendors' financial capacity and needed to be reassessed. Also, the process for technical evaluation of prospective vendors for registration and of submitted bids for contract awards required strengthening. In addition to reviewing the appropriate utilization of the request for proposal solicitation method to achieve best value for money, more granular analysis of aircraft utilization by destination, and of passenger and cargo performance indicators would allow the Department of Operational Support to validate missions' requirements. Furthermore, there was a need to ensure that safety risks pertaining to military aviation units are adequately assessed during assessment and pre-deployment visits.

OIOS made six recommendations to the Department of Operational Support and two recommendations to the Department of Peace Operations to address issues identified in the audit. Both departments accepted the recommendations and initiated actions to implement them, as indicated in the Annex 1.

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Audit of acquisition of aviation services in United Nations peace operations

I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of acquisition of aviation services in United Nations peace operations.

2. Aviation services¹ are key enablers for peace operations that are deployed across vast territories with lengthy logistical lines and difficult terrains. They cover two main aircraft types – commercial aircraft acquired from companies through long- and short-term charters/procurement contracts and military aircraft acquired from Member States through letters of assist (LOA). Aviation assets are used for troop rotation, special military operations, aeromedical evacuations and passenger and cargo transportation.

3. Over the period January 2019 to June 2023, the Secretariat entered into 265 commercial contracts valued at 1.5 billion and 362 LOAs² valued at 848 million. Table 1 shows the yearly award of aviation contracts and LOAs with troop contributing countries (TCCs).

Table 1: Value of commercial aviation contracts and LOAs established from January 2019 to June 2023	
(in millions of United States dollars)	

Contract		1	Not-to-excee	d values		
type	2019	2020	2021	2022	2023	Total
Commercial	258	755	288	144	70	1,515
LOA	99	218	264	125	142	848
Total	357	973	552	269	212	2,363

Source: Umoja report, air charter contracts and LOAs

4. As of June 2023, there were 163 aircraft in the Secretariat as shown in Table 2.

Mission ³	Со	mmercial	Μ	lilitary	Total
WIISSION	Fixed wing	Rotary wing	Fixed wing	Rotary wing	
MINUSMA	6	11	1	13	31
MONUSCO	5	3	5	16	29
UNSOS	7	11	-	7	25
UNMISS	6	13	-	5	24
MINUSCA	4	1	-	12	17
UNISFA	2	6	-	2	10
UNIFIL	-	-	-	6	6
Others	13	5	-	3	21
Total	43	50	6	64	163

Table 2: Fleet size per mission as of June 2023

Source: electronic Monthly Aviation Report (e-MAR)

¹ Aviation services and aviation assets are used interchangeably in the United Nations Aviation Manual.

² Including costs of military aviation assets and airlift for troop movements/contingent-owned equipment.

³ Abbreviations: MINUSMA - United Nations Multidimensional Integrated Stabilization Mission in Mali; MONUSCO - United Nations Organization Stabilization Mission in the Democratic Republic of the Congo; UNSOS - United Nations Support Office in Somalia; UNMISS - United Nations Mission in the Republic of South Sudan; MINUSCA - United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic; UNISFA - United Nations Interim Security Force for Abyei; UNIFIL - United Nations Interim Force in Lebanon.

5. Several organizational units are responsible for different aspects of the acquisition process, as follows:

(a) The Office of Supply Chain Management (OSCM) of the Department of Operational Support (DOS) for supply chain planning, vendor registration, procurement, logistical support, aviation safety and uniformed capabilities support.

(b) The Office of Military Affairs (OMA) of the Department of Peace Operations (DPO) for the deployment of the most appropriate and effective military capability to the missions.

(c) The Headquarters Committee on Contracts (HCC) in the Department of Management Strategy, Policy and Compliance to ensure that procurement actions are conducted in compliance with relevant guidance.

(d) Directors/Chiefs of Mission Support and Chief Aviation Officers for proper acquisition planning, utilization and operation of aviation assets. Missions are not authorized to arrange for any aviation services directly, except in emergencies after coordination with OSCM.

6. DOS and DPO developed the United Nations Aviation Standards (AVSTADS) for Peacekeeping and Humanitarian Air Transport Operations together with the World Food Programme to establish common aviation standards for peacekeeping and humanitarian air transport operations in line with the International Civil Aviation Organization (ICAO) standards. DOS and DPO also developed aviation manuals to guide the acquisition and use of commercial and military aviation assets.

7. Comments provided by DOS and DPO are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

8. The objective of the audit was to assess the adequacy and effectiveness of activities and controls in the acquisition of commercial and military aviation services.

9. The General Assembly in its resolution 72/266 B of 5 July 2018 requested the Secretary-General to entrust the Office of Internal Oversight Services (OIOS) with continuing to monitor United Nations procurement and report thereon biennially. In accordance with the plan to implement this resolution, OIOS selected an audit acquisition of aviation services in New York and selected field missions due to financial and operational risks related to acquisition of aviation services.

10. OIOS conducted this audit at Headquarters from December 2022 to September 2023. The audit covered the period from 1 January 2019 to 30 June 2023. Based on an activity-level risk assessment, the audit covered higher and medium risk areas related to: (a) planning for acquisition of aviation services; (b) outreach activities, vendor registration and implementation of the procurement process for commercial aviation services; and (c) assessment of Member States' readiness to provide military aviation services. The audit scope excluded unmanned aerial vehicles and intelligence, surveillance and reconnaissance aircraft.

11. The audit methodology included: (a) interviews of key personnel at Headquarters and in four field missions;⁴(b) review of relevant documentation; (c) analysis and reconciliation of data across data sources, including Umoja, Aircraft Information Management System, procurement toolkit and iAviationSafety system and Contract Performance Reporting Tool; and (d) detailed review of 23 procurement actions (15 long-term contracts and 8 short-term cargo contracts) valued \$236 million and 8 LOAs valued \$175 million.

⁴ UNMISS, MINUSCA, MINUSMA and MONUSCO

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

III. AUDIT RESULTS

A. Planning for acquisition of aviation services

Need for integrated planning to determine the optimal mix of commercial and military aircraft capabilities

13. Missions outline commercial aviation service requirements in statements of work (SOWs) for review by OSCM and inclusion in solicitation documents, while military capability studies conducted by OMA serve as the basis for identifying requirements for military aviation services. DOS and DPO identified several improvement initiatives as part of aviation category management, including the need for early integrated planning involving OSCM, OMA and missions to determine the best mix of commercial and military aircraft capabilities. This initiative is at the development stage. OIOS observed that variations between flight hour costs of commercial and military aircraft presented opportunities for potential cost savings as indicated below.

a. Considering flight hour costs under commercial contracts when determining demand for military aviation services

14. The cost structure of a military aircraft (Mi-17) obtained under LOA with a similar commercial aircraft (Mi-8MTV)⁵ are shown in Table 3. OIOS review of 10 LOAs and 11 commercial contracts involving these aircraft indicated that the actual flight cost per hour for the commercial aircraft was 27 per cent lower than under LOAs (\$3,303 vs. \$4,194). This was without considering additional reimbursement costs to which TCCs were entitled under LOAs and memoranda of understanding, such as for positioning and de-positioning of aircraft when they were moved by TCC, actual cost for firing ammunitions, and troop costs. Higher costs under LOAs were justified due to risks associated with operating military aircraft in danger zones and the built-in equipment and capabilities.

15. However, analysis of tasking for all Mi-17 assets showed that only 13 per cent were related to military operations, such as patrol and observations, and the remaining 87 per cent were tasked for passenger movement (45 per cent), cargo (23 per cent) and aeromedical evacuation and other tasks (19 per cent). Field missions needed to review if commercial utility helicopters could be utilized for non-military tasks with potential cost savings, taking into consideration operational and security contexts and the main purpose and operating framework of military aircraft. DPO commented that military aircraft in general had fewer restrictions and afforded missions more flexibility, for example for night flights.

Table 3: Comparative annual cost of LOA and commercial con	ntract per helicopter
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Details		Contra	ict type
Details		LOA	Commercial
Model offered		Mi-17	Mi-8MTV
Fixed cost	One time and base cost	\$20,308	\$2,106,528
Variable cost	Hourly rate	\$4,150	\$298
	Flight hours operated (A)	454	701
Total cost (B)		\$1,904,408	\$2,315,426
Actual cost per	r hour (B)/(A)	\$4,194	\$3,303

⁵ Mi-8MTV is a commercial version of Mi-17 and the base structure (excluding arms) of the helicopter is the same

b. Reviewing hourly flight cost for commercial helicopter with specialized capabilities against military aircraft when planning demand for commercial aviation services

16. MINUSMA⁶ required commercial rotary wing aircraft with specialized capabilities (search and rescue, night vision imaging system, forward looking infrared cameras, ballistic protection) for one region. The hourly flight cost for military aircraft and commercial aircraft with specialized capabilities was \$6,000 and \$8,628, respectively. An analysis of tasking between September 2022 and June 2023 when both aircraft types were in use in the Mission indicated that 51 patrol and observation tasks (43 per cent) were conducted by military helicopters and 69 patrol and observation tasks (57 per cent) by commercial helicopters out of 120 operations. This translated to 8 monthly flight hours for the military helicopter and 47 flight hours for the more expensive commercial helicopters with specialized capabilities. Field missions needed to assess whether using military air assets in danger zones is more cost effective than having commercial air assets with specialized capabilities.

c. Reviewing availability of military assets when planning demand for commercial aviation services

17. OIOS review showed that demand planning for commercial aviation services did not always consider spare capacities of available military aircraft. For example, UNIFIL had six military helicopters of Bell 212 type under LOA, and each helicopter had low utilization, averaging 14.6 hours per month. UNIFIL also required one commercial helicopter, which operated on average 36.3 hours monthly in the same location. The hourly cost was \$2,200 and \$4,640 for military and commercial aircraft, respectively. The cost of the commercial aircraft for the audit period was \$10.6 million for 1,635 total flight hours.

18. Despite of the availability of military helicopters with lower hourly cost, the commercial helicopter supported military tasks by conducting 1,291 out of 3,766 patrol and observation tasks and transporting 12,700 out of 23,631 military passengers. The Organization could have saved around \$7 million if UNIFIL had used military helicopters with low utilization instead of acquiring the additional commercial helicopter. After withdrawal of the commercial helicopter in 2023 due to the ICAO significant safety concern, the Mission's requirements were met by military helicopters. OSCM stated that the commercial helicopter had larger capacity for passenger and cargo transport and the Mission may still require a larger helicopter.

19. OMA commented that missions were free to use underutilized military aviation capacity if they were more cost-effective in line with efforts to optimize available aviation assets.

(1) The Department of Peace Operations should, in consultation with the Department of Operational Support and taking into consideration mandate delivery, associated costs and operational and security context, remind field missions to: (a) monitor tasking data to identify opportunities for optimal utilization of military and commercial aviation services; and (b) periodically review the best mix of commercial and military aircraft when planning demand for aviation services.

DPO accepted recommendation 1.

Need to assess potential cost savings from improvement of aviation infrastructure

20. The availability and quality of aviation infrastructure such as runways are crucial in logistics planning and demand requirements for aviation services. Poor infrastructure may require specific types of aircraft and increase the cost of aviation services. OIOS' recent audits of air operations in two missions

⁶ The Security Council, in its resolution 2690, decided to terminate the mandate of MINUSMA as of 30 June 2023.

(MONUSCO and UNMISS) identified systemic gaps including inadequate and poor conditions of runways and helicopter landing sites. The audit of air operations in UNMISS (OIOS report 2022/086) indicated that poor runway conditions prevented the operation of fixed wing aircraft, negatively impacting troop rotations and transportation of mission personnel, especially during the rainy season, and resulting in increased costs to operate rotary wing aircraft. To implement OIOS' recommendation, UNMISS conducted a cost-benefit analysis estimating that it would need \$21 million to construct a runway and apron with asphalt for Bentiu, compared to the current annual maintenance cost of \$1.2 million for labour and material. The Mission indicated that it would take 17 years to recoup investment for asphalting. However, OIOS noted that the analysis was incomplete because the Mission did not factor in: (a) difference in cost between fixed and rotary wing aircraft contracts; (b) fuel cost and flight time using rotary wing aircraft with less passenger and cargo capacity, requiring more trips; and (c) impact on mandate delivery during six months of rainy season that results in frequent flight cancellations.

21. Actions taken by MINUSMA with support from OSCM to address infrastructure challenges could serve as a blueprint for other missions. MINUSMA initiated construction of an airstrip and related facilities in Kidal, Mali to allow military and commercial aircraft to operate more effectively and safely. The North Sector Regional Office in Kidal had supported one of the key operational areas in the Mission; however, this location could only be reached by helicopters with logistical support provided from Gao and Tessalit, 286 and 206 kilometres away from Kidal, respectively. To facilitate operation of flights by medium- to large-sized fixed wing aircraft directly to and from Kidal, MINUSMA began construction of a 1.8-kilometre airstrip in September 2019 and conducted test flights for both military and commercial between February and March 2023. As shown in Table 4, this had the potential for generating cost savings of up to \$40 million during the period under review, as a typical medium-sized fixed wing aircraft can carry four more passengers and 2,000 kilograms more cargo, can fly a longer distance and has much less stringent weather limitations than a medium-sized helicopter.

	Without airstrip (Actual)	With airstrip (Scenario)
Type of air asset	Medium helicopters	Medium fixed wing
Passenger capacity	20	24
Cargo capacity (kg)	4,000	6,000
Total contract cost	\$53,640,542	\$8,401,898*
Construction cost of dirt airstrip	-	\$5,500,000
Total	\$53,640,542	\$13,901,898
Possible cost savings	\$39,7	38,644

Table 4: Capacity and cost of medium helicopters vs. medium fixed wing aircraft from January 2019 toJune 2023

*Calculated based on average cost of four contracts for medium propeller fixed wing established in audit scope. Source: Kidal airfield project report and procurement files

22. As noted in Figure 1 below, there are more registered air operators for fixed wing than rotary aircraft that can contribute to improving competition and best value. In addition to possible cost savings and improved operations, investing in aviation infrastructure would benefit host countries when the mandate for peace operations ends. However, such investments require missions to consider the financial implications, operating environment including the security situation, project duration, logistical challenges of bringing materials and equipment to remote locations and predict the duration of missions' mandates, which are commonly reviewed and renewed by the Security Council annually.

(2) The Department of Operational Support should remind field missions, through the Controller's budget instructions, to conduct cost-benefit analysis for aviation

infrastructure projects as part of acquisition planning for aviation services, taking into account quantitative and qualitative factors.

DOS accepted recommendation 2.

B. Acquisition of commercial aviation services

Strategy to expand international competition and vendor diversity was evolving

23. The United Nations Secretariat aims to foster effective international competition and obtain responses to bid solicitation exercises from as many diverse vendors as possible. As part of its outreach activities, OSCM invites all registered air operators in the relevant categories to participate in bid solicitation exercises, including those who are not registered for the required aircraft type. The purpose of this is to educate the market about the needs of United Nations peace operations and provide them with information for decision-making for acquiring new aircraft types. OSCM also implemented an aviation vendor registration and outreach strategy in 2020, including revising the technical and financial registration criteria. In 2022, it attended five aviation expos and organized nine business seminars for air transport in the Africa, Middle East and Asia-Pacific regions, which were attended by around 250 air operators. Nevertheless, out of a sample of procurement cases reviewed by OIOS for fixed and rotary wing aircraft, most solicitation exercises attracted between four and six vendor responses during the audit period. According to OSCM, the effect of recent outreach activities will become visible over time.

24. During the audit period, 82 new vendors had completed the registration process, including vendors from 23 new applicant countries. This was partly negated in June 2022 following a significant safety concern identified by ICAO pertaining to the airworthiness of aircraft provided by one of the top-5 countries in the master vendor list that remains unresolved. This resulted in removal of 11 vendors with 23 aircraft types from the master vendor list and missions were expected to cease business with those vendors except for special operational requirements. This impacted field missions' operations as there were 22 contracts with the affected Member State at the time of ICAO significant safety concern.

25. There was also a need to expand further the number of vendors offering certain aircraft classifications such as rotary wing and combi aircraft (passenger and cargo), which were in high demand by missions. As shown in Figure 1, there was a disproportionate number of vendors providing these aircraft classifications compared to the number of contracts currently in force. For example, following the ICAO significant safety concern and deregistration of some of vendors, OSCM had 25 registered vendors for rotary wing aircraft versus 31 contracts, a 1:1.24 ratio as of June 2023. Similarly, the ratio for combi aircraft was 1:2.5, i.e., two registered vendors versus five contracts. The ratio for passenger fixed wing aircraft was 1:0.36, i.e., 78 registered vendors versus 28 contracts, which allowed for more diversity and flexibility.





Source: e-MAR and Master vendor list

26. OSCM had conducted targeted outreach to three major vendors of strategic rotary aircraft with one completed registration; and nine vendors of large cargo aircraft with capacity of 19 tons or more. OSCM had also held registration kick-off meetings with 45 rotary aircraft operators, 11 of which subsequently registered, and 13 cargo aircraft operators, 4 of which subsequently registered. OSCM analyses showed that over the past three years, there has been an increasing trend towards awarding contracts to more recently registered vendors, with 53 per cent of contracts established in 2022 awarded to vendors registered between 2020 and 2022.

27. OSCM introduced several initiatives to address the ICAO significant safety concern, including nonexclusive aircraft charter agreements to meet immediate needs in 10 missions to replace aircraft reserve services for utility helicopters. In November 2022, OSCM invited 57 rotary aircraft operators to bid on "Aircraft Segment 1" for capacity of 8-15 passengers or "Aircraft Segment 2" for 16 or more passengers. The goal of the invitation to bid (ITB) was to award at least five contracts per mission per aircraft segment and to award contracts to technically compliant bidders within 50 per cent of the lowest cost offer per mission per segment.

28. Twenty-three vendors from 16 countries submitted bids (40 per cent response rate). After bid evaluations 14 vendors were awarded non-exclusive aircraft charter agreements for aircraft reserve services with not-to-exceed (NTE) value of \$67.7 million each for maximum of four years after review by HCC. Seven of the 14 vendors were newly registered. Service contracts against the non-exclusive aircraft charter agreements for aircraft reserve services will be awarded based on offers obtained through secondary bidding exercises from the reserve fleet vendors, at rates not exceeding those established under reserve fleet contracts.

29. The arrangement will be conducted in three phases to replace over 22 utility helicopter services. Phase 1 and the related secondary bidding was conducted in July 2023. OSCM is considering adopting the new concept for the acquisition of aviation services for other aircraft types after results of the secondary bidding are assessed. Since secondary bidding and the implementation of the reserve fleet contracts is outside the scope of this audit, OIOS will review procurement and contract management of non-exclusive aircraft charter agreements for aircraft reserve services in future audits.

Vendor registration arrangements needed strengthening

30. Prior to participating in solicitations, prospective air operators are required to register at Level 2 (for contracts above \$500,000) in the United Nations Global Marketplace, a procurement portal that United Nations system organizations use for vendor registration and circulating procurement information. They are also required to register in the Air Operator Vendor Registration (AOVR) system. In addition to registering 82 new vendors during the period under review, OSCM removed 47 vendors due to the ICAO significant safety concern and for failure to submit updated financial information among other reasons. As of June 30, 2023, OSCM had 108 registered vendors with 311 aircraft types.

31. Vendor registration in AOVR requires technical evaluation of air operators' operational management and aviation control systems, and commercial evaluation of their financial position to ensure vendor's suitability to participate in United Nations bidding processes for air charter agreements. These detailed reviews at the vendor registration stage enable OSCM to reduce the time needed to technically evaluate bids submitted in response to solicitation exercises by focusing the evaluations on the suitability of offered aviation assets against technical criteria stipulated in the statement of work.

a. Inadequate records management of technical evaluation for vendor registration

32. OSCM conducted technical evaluations based on its established technical and operational evaluation criteria (TOEC) and applied the four-eyes principle, which requires review of documentation by two staff members to ensure adequate due diligence. Due to the COVID-19 pandemic, OSCM implemented expedited TOEC in April 2020.

33. A review of technical evaluations of eight vendors showed inadequate records management, which limited OIOS' ability to conclude whether OSCM technical evaluation process was effective. OIOS was not able to review key documents such as air transport license, continuing airworthiness management organization approval certificate and operations specifications. In some instances, technical evaluation results were not fully supported due to missing checklists confirming completion of the review against TOEC. OSCM commented that records of air operators that had been technically cleared before 2020 consisted of mainly paper files and were not easily retrievable. OSCM stated that it had since initiated a restructuring of its technical records management system and currently maintains records electronically.

34. OIOS further noted that the expedited TOEC, which was used to register 29 vendors with 83 aircraft types in support of continued operations during the COVID-19, changed documentation submittal procedures, documentation to be provided, and the required joint on-site flight service vendor audit. OSCM commented that these changes could be made because of the compensating stringent review and monitoring of air operators by their respective civil aviation authorities. However, after expiration of the expedited TOEC in March 2022, OSCM reinstated the documentation requirements in the latest edition of TOEC. OSCM needed to assess what evaluation criteria can be waived permanently and the extent of reliance that can be placed on the procedures of civil aviation authorities. This would reduce the time and resources used to register vendors.

35. The technical evaluation function for vendor registration entails a review of both quality and safety arrangements in line with TOEC and guidance outlined in the Aviation Manual. However, the capacity to conduct technical evaluations in OSCM was limited, as there was only one full-time staff responsible for technical evaluation of air operators in Aviation Safety Section and one additional staff in Air Transport Service (ATS) who performed this function as part of other duties. In 2021 and 2022, it took an average of 74 days to complete technical evaluation for new aircraft of new air operators. OSCM commented that technical vendor registration could only be completed when the vendor provides full documentation and was beyond its control. Furthermore, during the period under review, the two staff responsible for this function had other competing priorities, including addressing the ICAO significant safety concern, amending AVSTADS and implementing category management.

36. Additionally, effective 1 July 2023, the technical evaluation function was reassigned to the Enabling and Outreach Service, which did not have aviation safety expertise to review and monitor the activities. As the technical evaluation during registration of air operators is a complex process, sometimes requiring on-site visits to vendors, it needed to be supervised by staff with the necessary technical skills.

(3) The Department of Operational Support should strengthen the technical evaluation process for registration of air operators, through: (a) implementing adequate records management and retention procedures; (b) reviewing technical evaluation criteria that can be waived; and (c) assessing the capacity of the technical evaluation function to ensure an adequate technical supervision mechanism.

DOS accepted recommendation 3 and stated that it would: (a) review and update the record management system to provide effective, robust and traceable management of technical vendor data;

(b) review and analyze technical and operational evaluation criteria to avoid duplication of work and update TOEC accordingly; and (c) assess capacity of the technical vendor registration function.

b. Commercial evaluation criteria for vendor registration needed to be reassessed

37. In January 2022, OSCM implemented new commercial evaluation criteria and scorecard methodology for registered and prospective air operators that included four financial criteria and three qualitative criteria. The methodology did not adequately measure vendors' financial capacity as they could pass the commercial evaluation solely on qualitative criteria without any consideration of the financial metrics. Three out of five prospective air operators qualified on this basis, including one with low profitability and liquidity scores. According to OSCM, new commercial evaluation criteria were implemented during pandemic when many air operators faced operational and financial challenges due to border closures and restrictions on travel.

(4) The Department of Operational Support should reassess its commercial evaluation criteria for registration of air operators to place appropriate emphasis on metrics that measure the financial strength of air operators, following the conclusion of the COVID-19 emergency.

DOS accepted reccommendation 4.

Effectiveness in implementing United Nations procurement procedures

a. Developing statement of work based on data analysis

38. SOWs should be prepared based on an analysis of historical information such as passengers and cargo per flight to indicate the right aircraft size and flight hours, together with future operational requirements to address logistical needs and specific movement specifications. ATS reviews and analyzes mission mandates, support plans, concepts of operations and technical justifications for aviation assets requested. ATS also examines historical utilization of dedicated aircraft reported monthly through e-MAR.

39. While cognizant that the goal of the Organization's air operations is service delivery and that operational imperatives and other contextual factors impact aircraft utilization, OIOS noted a trend of low occupancy rates, which should be monitored for potential cost savings and consideration in SOW preparation. OIOS reviewed passenger tasks for all contracts active between 1 January 2019 and 30 June 2023, except for aeromedical evacuation tasks, against maximum passenger capacity of the aircraft. As shown in Table 5, in 2019, there were seven contracts with passenger occupancy rates below 30 per cent. This increased to 13 and 15 contracts during 2020 and 2021 due to the pandemic. However, the situation did not significantly improve in 2022 and six months of 2023 when the number of contracts with passenger occupancy rates below 30 per cent reduced to 13 and 12, respectively. Table 5 provides NTE values of contracts active between 1 January 2019 and 30 June 2023 and the related occupancy rates.

Passenger occupancy		No	o. of contra	cts		Average NTE
rates (percentage)	2019	2020	2021	2022	2023*	(in million \$)
0-30	7	13	15	13	12	93
31-60	41	43	48	45	30	520
61-90	23	17	17	21	15	254
90 above	6	6	4	4	7	106
Total	77	79	84	83	64	973

Table 5: Passenger occupancy rates and average contracts values from 1 January 2019 to 30 June 2023⁷

Source: e-MAR

40. There was also inadequate assessment of aviation needs for downsizing missions. For example, UNAMID could have achieved potential savings of \$8.5 million with a proper reassessment of its aviation needs. UNAMID had one contract dated 30 November 2017 that covered two helicopters with capacity for 20 passengers each. It also replaced an expired contract in December 2018 that provided two additional helicopters, also with capacity of 20 passengers each, for an NTE value of \$12.6 million. The cumulative passenger capacity for four helicopters under two contracts was 80 passengers. However, an analysis of passenger tasks from January 2019 to February 2021 indicated that there was no need for the second contract. As shown in Figure 2, all passenger tasks could have been met by the two helicopters contracted in November 2017, except for three months, when they could have been covered by five additional helicopters available in the same location. Although OSCM requested a reduction of flight hours for existing contracts, which were amended in December 2018, this had minimal impact on expenditures due to the high fixed costs inherent in commercial contracts as discussed below.





Source: e-MAR

41. Underutilization of aviation assets due to low occupancy rates or underutilized flight hours is costly due to the inherent high fixed costs in the contracts. In 12 of the 15 contracts reviewed, fixed costs⁸ amounted to more than 85 per cent of the total bid cost as shown in Figure 3 and Table 6. This resulted in payments close to the contracted amounts even though there were significant variations between anticipated occupancy rates and flight hours and those used.

⁷ OSCM provided three examples when larger aircraft were selected because they were cheaper than the smaller aircraft required in SOW, indicating passenger occupancy in these cases would be lower.

⁸ Fixed costs consist of: (a) one-time costs (positioning/de-positioning/painting); and (b) annual operating costs (base costs, crew, accommodation, meals, transport).

42. In terms of flight hours, 4 out of 15 contracts had flight hour utilization rates⁹ of between 0 and 50 per cent, including one with a 1 per cent utilization rate (17 flight hours in 30 months vs. 1,700 in the contract). More realistic estimation of flight hours and passenger occupancy by field missions would lead to acquisition of air assets with capacity more in line with the requirements. OSCM commented that the relationship between flight hours and aircraft capability requirement was not linear. Certain capabilities were required irrespective of use depending on the situation on the ground.



Figure 3: Fixed costs component in commercial bids and utilization rates

Source: Procurement files and e-MAR

Contracts	Estimated flight	Utilization rate*		iing bid amou n \$ millions)	int	Fixed
Contracts	hours per annum	(%)	Fixed costs	Variable costs	Total	costs ratio (%)
Contract 1	1,200	70	26.8	2.5	29.3	91
Contract 2	960	56	14.6	2.0	16.6	88
Contract 3	1,200	38	20.8	1.7	22.5	93
Contract 4	620	1	6.1	0.4	6.5	94
Contract 5	1,200	72	18.0	3.1	21.1	85
Contract 6	960	52	11.2	1.4	12.6	89
Contract 7	720	95	36.2	1.1	37.3	97
Contract 8	720	35	25.7	1.0	26.7	96
Contract 9	960	30	13.0	1.7	14.7	88
Contract 10	600	71	34.5	3.1	37.6	92
Contract 11	600	68	4.7	0.6	5.3	89
Contract 12	840	65	22.6	2.5	25.1	90

Table 6: Fixed costs component in commercial bids and utilization rates

⁹ The utilization rate is computed as the ratio of actual flight hours to estimated flight hours apportioned over the contract utilization period.

*Flight hours apportioned through the period ending 30 June 2023 Source: Procurement files and e-MAR

43. OSCM also stated that it did not have an adequate management tool to validate missions' aviation requirements for commercial aviation services because e-MAR was primarily used for budgeting and payment purposes and did not: (a) provide information on the number of passengers per flight; or (b) incorporate contextual factors such as areas of operation, distance, field elevation, availability of diversion airfields, prevailing weather conditions, airport infrastructure, navigational aids, fuel availability, and missions' decision to task an aircraft type, whether fully occupied or not. According to OSCM, the existing Aircraft Information Management System was functional to some extent, but it did not provide granular data to support comprehensive aircraft utilization analysis at the aggregate level.

44. OSCM further indicated that it provides comments on missions' resourcing priorities, including fleet composition, utilization pattern and rate, changes in assets and flight hours and needs assessment during downsizing and liquidation if requested by missions. However due to the implementation of delegation of authority this practice was less common as full responsibility and authority over the resources rest with missions.

(5) The Department of Operational Support should take steps to enhance aviation information system and improve capability to monitor trends such as passenger occupancy data and flight hours and validate missions' aviation requirements for commercial aviation services, taking into consideration the operational environment.

DOS accepted recommendation 5 and stated that it was working on a project to improve the aviation management system from planning and scheduling to operational tracking and reporting.

b. Request for proposal solicitation method not sufficiently used

45. In April 2014, the Procurement Division announced a transition in the solicitation method for longterm aircraft charter from ITB to request for proposal (RFP). ITBs define the minimum requirements to be met and bids are assessed based on pass/fail criteria in SOW. On the other hand, proposals under RFPs allow air operators to provide the Organization with solutions that best address operational requirements based on their logistical expertise, which are then evaluated against mandatory criteria and weighted and ranked.

46. An external consultant study dated 30 October 2020 concluded that the RFP method for acquisition of aviation services better reflected the United Nations procurement principles. The consultant study further recommended among others to enhance the vendor management process and data and analytics capabilities and monitor vendors during contract execution to enable capacity adjustments. Since the conclusion of the consultancy, however, there has been no solicitation for long-term aviation services using RFP; instead ITB was used. OSCM commented that using the RFP method is a complex and resource driven exercise as it requires more effort to prepare SOW (e.g., requiring granular logistics data to establish and assign costs to the requirements), define technical evaluation criteria and conduct technical evaluations, which would also result in longer procurement. OIOS also noted that missions were not submitting aviation requirements to OSCM timely to allow for solicitations using the RFP method. In 15 solicitations reviewed, requirements were received on average 3.6 months before the service was needed. Reliance on ITB may hinder costsaving opportunities and finding best solutions for the Organization. OSCM further commented that it had put in place mechanisms to initiate timely procurement actions, including regular monitoring of the contract portfolio and expiry dates and communicating them to the missions, reminding missions to submit SOWs timely.

(6) The Department of Operational Support should initiate relevant activities as per the external consultant study, including utilizing the request for proposal method where appropriate to source air transportation solutions that provide best value.

DOS accepted recommendation 6 subject to implementation of recommendation 5.

c. Inadequate review and approval of technical evaluation of bids

47. A technical evaluation committee consisting of at least two members from ATS conducts technical evaluations to assess vendors' offers based on pre-defined technical evaluation criteria. The results are detailed in a technical evaluation report, including any safety concerns.

48. OIOS reviewed 15 solicitations and identified five cases where bids were assessed as acceptable even though relevant information was not provided, or where bids were rejected without adequate justification. Missing information included incomplete or inadequate details on pilot experience for the offered aircraft type and evidence that a selected air operator for an air medical evacuation standby aircraft charter agreement (SACA)¹⁰ could operate in all the required locations. In addition, one air operator was assessed as technically unacceptable due to inability of their offered aircraft to load the vehicle that required transporting. This was despite the air operator providing a photograph of the vehicle loaded in the cargo cabin of the aircraft. OSCM commented that the mission confirmed based on physical examination that the aircraft was unable to load the vehicle. However, OSCM could not provide evidence of the examination conducted by the mission. The commercial offer of the winning vendor was higher by \$21 million or 167 per cent than that of the disqualified air operator.

49. Furthermore, past performance of existing or returning air operators should also be assessed as part of the technical evaluation. Around 27 of 175 contracts (or 15 per cent) were awarded to the same vendor providing services with the same aircraft type in the same mission. However, there was no evidence of performance assessments at the end of the previous contracts in 19 of the 27 cases. This posed a risk of continued engagement of vendors with poor performance. For example, a long-term charter agreement was renewed for MINUSMA in November 2020 without finalization of the performance evaluation, although a partially complete evaluation had assessed the air operator's performance as unsatisfactory for technical reasons such as malfunction of electrical control system and flaps control, and poor standards of maintenance. OSCM commented that missions communicate vendor performance issues to them for resolution and it was the missions' responsibility to conduct end of contract performance evaluations and upload evaluation reports in the Contract Performance Reporting Tool (CPRT). However, it is OSCM responsibility to ensure satisfactory vendor performance before contract award.

(7) The Department of Operational Support should provide guidance to technical evaluation teams on documenting justifications for the results of technical evaluation based on statement of work requirements.

DOS accepted recommendation 7.

d. Short-term cargo aviation services considerations

50. OSCM engaged with four brokerage companies to provide short-term cargo aviation services during the audit period. However, the use of brokers posed safety and reputational risks to the Organization because brokers often did not provide the tail number of the offered aircraft to enable OSCM to review the

¹⁰ SACA is a system contact arrangement that does not involve separate and iterative formal solicitation process for each mission.

safety record of air operators engaged by brokers. However, at the time of this report, an OSCM working group was finalizing a requirement for brokers to submit tail numbers of proposed aircraft.

51. OIOS reviewed 8 of 47 short-term aviation cargo contracts valued \$54.2 million and noted that cargo aviation services were required on average within 38 days from the date of request due to urgent requirements. Establishing SACAs for these services would help to facilitate their acquisition within the short turnaround time they are usually required. This concept proved to be useful for aeromedical evacuations during the pandemic as it provided the Organization with immediate availability of aviation services to support mission requirements. OSCM conducted two SACA solicitations using ITBs, one of which was for a large, fixed wing cargo aircraft. Procurement was incomplete due to the ineligibility of bidders because of the ICAO significant safety concern. The second solicitation was for a medium fixed wing aircraft, which was reissued due to zero response from first ITB, and the procurement is currently in technical evaluation stage. Considering the efforts by OSCM, OIOS does not raise a recommendation.

C. Acquisition of military aviation services

Adequate process in place for communicating military aviation services requirements

52. New requirements for military aviation services are included in quarterly uniformed capability requirements (UCR) for United Nations Peacekeeping and disseminated to Member States through various methods. OMA assesses and ranks TCC capabilities and readiness to meet Member States' pledges for UCR through assessment and advisory visits (AAVs). This process was adequate to provide a transparent mechanism for the Organization to communicate its needs and for Member States to respond. As of June 2023, there were 24 pledges for aviation-related capabilities from 17 countries.

Pre-deployment visits did not fully assess safety risk

53. OMA conducts two formal visits to TCCs to ensure readiness and preparedness before deployment of their military aviation units. AAVs are conducted to obtain an understanding of the ability and readiness of TCCs wishing to contribute and, after LOA negotiations, pre-deployment visits (PDVs) are conducted to verify military aviation assets in accordance with LOA. During the visits, OMA teams are expected to assess potential safety issues and verify the flight safety programme. OIOS review indicated that unavailability of equipment critical for air operations and aviation safety were not consistently addressed in PDV verifications. This led to a ground proximity warning system not being deployed in MINUSMA and a weather radar and a traffic collision avoidance system (TCAS)11 not deployed or included in the LOA for MINUSCA. OIOS also noted that TCAS was only included as a requirement in one out of five statements of user requirement reviewed.

54. OMA commented that the United Nations accepts some deviations from statements of user requirement if they do not present serious operational shortcomings and shortfalls. Also, some missions, such as MINUSMA, provided military aviation units with necessary equipment and access to systems, such as satellite tracking system.

55. Aviation Safety Officers, either from OSCM or mission, were not part of the visiting teams in 10 (6 AAVs and 4 PDVs) out of 14 visits reviewed due to unavailability of staff or travel funds. This increased the risk of military aircraft subsequently failing to meet key safety requirements. The DOS Quarterly Aviation Safety Occurrences and Hazards Review reported 14 accidents and 25 serious incidents related to the operation of military aviation assets for the period from January 2019 to 30 June 2023. Therefore,

¹¹ TCAS is an aircraft collision avoidance system designed to reduce the likelihood of mid-air collision between aircraft.

assessing safety risks and the availability of essential equipment are critical during AAV and PDV. DPO commented that technical experts from OSCM were always invited and PDVs were funded by the missions' budgets. DOS commented that when it was not possible to include aviation safety officers in the visits, an aviation expert from ATS conducted the aviation safety assessment. However, efforts should be made to include aviation safety experts either from OSCM or field missions in AAVs and PDVs.

(8) The Department of Peace Operations should, in coordination with the Department of Operational Support and field missions, take measures to include technical experts in assessment and advisory and pre-deployment visits to improve their effectiveness.

DPO accepted recommendation 8 and stated that it would issue guidance to implement the recommendation.

Excessive aircraft's 'not available' days was being addressed

56. The LOAs signed between the United Nations and TCCs for the provision of military aviation assets specify the agreed effective operation dates. The units have an allowance for 'not available' days of approximately eight days each month for maintenance and crew rest. An analysis of data for 'not available' days in nine missions for 63 LOAs during the audit period indicated that 70 per cent of aviation assets did not meet the availability requirement of 23 days (21 days in February) per month at least once. This included 68 assets that were not available for 347 months out of 4,202 available months (or 8 per cent) for all assets. Unavailability of military aircraft may impact mission operations. The audit of air operations in UNMISS (OIOS report 2022/086) indicated that for military aircraft, unavailability totalled 756 days; however, the Mission ensured that the required minimum number of aircraft was always available for tasking to minimize operational disruptions. According to LOA terms, TCCs are paid on actual hours flown in addition to the stipulated fixed costs. In October 2022, the Military Performance Evaluation Taskforce in OMA, in coordination with ATS, rolled out to missions, military aviation unit performance standards (task, standards, and indicators) per the United Nations Military Aviation Unit Manual. Availability and serviceability of military air assets, ground service and special equipment are covered as part of the assessment. Therefore, OIOS does not raise a recommendation.

IV. ACKNOWLEDGEMENT

57. OIOS wishes to express its appreciation to the management and staff of DOS and DPO 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 acquisition of aviation services in United Nations peace operations

Rec. no.	Recommendation	Critical ¹² / Important ¹³	C/ O ¹⁴	Actions needed to close recommendation	Implementation date ¹⁵
1	The Department of Peace Operations should, in consultation with the Department of Operational Support and taking into consideration mandate delivery, associated costs and operational and security context, remind field missions to: (a) monitor tasking data to identify opportunities for optimal utilization of military and commercial aviation services; and (b) periodically review the best mix of commercial and military aircraft when planning demand for aviation services.	Important	0	Receipt of evidence of actions implemented to optimize the utilization and mix of military and commercial aviation services.	31 March 2026
2	The Department of Operational Support should remind field missions, through the Controller's budget instructions, to conduct cost-benefit analysis for aviation infrastructure projects as part of acquisition planning for aviation services, taking into account quantitative and qualitative factors.	Important	0	Receipt of instructions to field missions to conduct cost-benefit analysis for aviation infrastructure projects during acquisition planning for aviation services.	31 March 2025
3	The Department of Operational Support should strengthen the technical evaluation process for registration of air operators, through: (a) implementing adequate records management and retention procedures; (b) reviewing technical evaluation criteria that can be waived; and (c) assessing the capacity of the technical evaluation function to ensure an adequate technical supervision mechanism.	Important	Ο	Receipt of evidence that the record management system has been updated, TOEC revised and capacity of the technical vendor registration function and its supervision assessed.	31 March 2026

¹² 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.

¹³ 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.

 ¹⁴ Please note the value C denotes closed recommendations whereas O refers to open recommendations.
¹⁵ Date provided by DOS and DPO in response to recommendations.

STATUS OF AUDIT RECOMMENDATIONS

Audit of acquisition of aviation services in United Nations peace operations

Rec. no.	Recommendation	Critical ¹² / Important ¹³	C/ O ¹⁴	Actions needed to close recommendation	Implementation date ¹⁵
4	The Department of Operational Support should reassess its commercial evaluation criteria for registration of air operators to place appropriate emphasis on metrics that measure the financial strength of air operators, following the conclusion of the COVID-19 emergency.	Important	0	Receipt of evidence of the revised commercial evaluation criteria for registration of air operators.	31 March 2025
5	The Department of Operational Support should take steps to enhance aviation information system and improve capability to monitor trends such as passenger occupancy data and flight hours and validate missions' aviation requirements for commercial aviation services, taking into consideration the operational environment.	Important	0	Receipt of evidence of implementation of the enhanced aviation information system.	31 March 2026
6	The Department of Operational Support should initiate relevant activities as per the external consultant study, including utilizing the request for proposal method where appropriate to source air transportation solutions that provide best value.	Important	0	Receipt of evidence of utilization of the request for proposal solicitation method where appropriate to source air transportation solutions.	31 March 2027
7	The Department of Operational Support should provide guidance to technical evaluation teams on documenting justifications for the results of technical evaluation based on statement of work requirements.	Important	0	Receipt of guidance to technical evaluation teams.	31 March 2026
8	The Department of Peace Operations should, in coordination with the Department of Operational Support and field missions, take measures to include technical experts in assessment and advisory and pre-deployment visits to improve their effectiveness.	Important	0	Receipt of guidance for inclusion of technical experts in AAVs and PDVs .	31 March 2026

APPENDIX I

Management Response



TO:Ms. Fatoumata Ndiaye, Under-Secretary-GeneralDATE:2 February 2024A:for Internal Oversight Services

REFERENCE: DOS-2024-00270

THROUGH: S/C DE:

FROM: Atul Khare, Under-Secretary-Genera DE: for Operational Support

SUBJECT: OBJET: OBJET:

- 1. Thank you for the opportunity to comment on the draft report of the Office of Internal Oversight Services on the audit of the acquisition of aviation services in United Nations peace operations (Assignment No. AH2022-615-03). Please find attached, as Annex I, the comments of DOS and DPO on the recommendations contained in the draft report.
- 2. We appreciate the excellent cooperation between the Office of Internal Oversight Services and the Administration and stand ready to provide any additional clarification that may be required.

CC: Jean-Pierre Lacroix Byung-Kun Min David Nyskohus Jeffrey Lin

A/75/215XXX Annex I

Management response to the recommendations of the Office of Internal Oversight Services

Recommendation	Critical ^a /important ^b	Accepted	? Title of responsible individual	Implementati date	on Comments
Recommendation 1 The Department of Peace Operations should, in consultation with the Department of Operational Support and taking into consideration mandate delivery, associated costs and operational and security context, remind field missions to: (a) monitor tasking data to identify opportunities for optimal utilization of military and commercial aviation services; and (b) periodically review the best mix of commercial and military aircraft when planning demand for aviation services.	Important	Yes	Military Advisor	31 March 2026	DPO, in consultation with DOS, will take the necessary action to implement the recommendation.
Recommendation 2 The Department of Operational Support should remind field missions, through the Controller's Budget Instructions, to conduct cost-benefit analysis for aviation infrastructure projects, as part of acquisition planning for aviation services, taking into account quantitative and qualitative factors.	Important	Yes	Chief, ATS	31 March 2025	DOS will take the necessary action to implement the recommendation.
Recommendation 3 The Department of Operational Support should strengthen the technical evaluation process for registration of air operators, through: (a) implementing adequate records management and retention procedures; (b) reviewing technical evaluation criteria that can be waived; and (c) assessing the capacity	Important	Yes	Chief, EOS	31 March 2026	The comments of DOS are reflected in the report.

A/XX/XXX

Recommendation	Critical ^a /important ^b	Accepted?	Title of responsible individual	Implementation date	Comments
of the technical evaluation function with adequate technical supervision mechanism.					
Recommendation 4 The Department of Operational Support should reassess its commercial evaluation criteria for registration of air operators to place appropriate emphasis on metrics that measure the financial strength of air operators, following the conclusion of the COVID-19 emergency.	Important	Yes	Chief, EOS	31 March 2025	The comments of DOS are reflected in the report.
Recommendation 5 The Department of Operational Support should take steps to enhance aviation information system and improve capability to monitor trends such as passenger occupancy data and flight hours and validate missions' aviation requirements for commercial aviation services, taking into consideration the operational environment.	Important	Yes	Chief, ATS	31 March 2026	The comments of DOS are reflected in the report.
Recommendation 6 The Department of Operational Support should initiate relevant activities as per the external consultant study, including utilizing the request for proposal method where appropriate to source air transportation solutions that provide best value.	Important	Yes	ASG, OSCM	31 March 2027	Subject to the implementation of recommendation 5 above.
Recommendation 7 The Department of Operational Support should provide guidance to technical evaluation teams on documenting	Important	Yes	ASG, OSCM	31 March 2026	The comments of DOS are reflected in the report.

Recommendation	Critical ^a /important ^b	Accepted?	Title of responsible individual	Implementation date	Comments
justifications for the results of technical evaluation based on statement of work requirements.					
Recommendation 8 The Department of Peace Operations should, in coordination with the Department of Operational Support and field missions, take measures to include technical experts in assessment and advisory and pre-deployment visits to improve their effectiveness.	Important	Yes]	Military Advisor	31 March 2026	DPO, in coordination with DOS and field missions, will issue guidance to implement the recommendation.

on the Organization. ^b 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

^o 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.