



INTERNAL AUDIT DIVISION

OFFICE OF INTERNAL OVERSIGHT SERVICES

AUDIT REPORT

Air operations and aviation safety management in UNMIS

14 June 2007

Assignment No. AP2006/632/04

United Nations  Nations Unies

INTEROFFICE MEMORANDUM



MEMORANDUM INTERIEUR

INTERNAL AUDIT DIVISION · DIVISION DE L'AUDIT INTERNE
OIOS · BSCI

TO: Mr. Taye Zerihoun
A: Acting Special Representative to the Secretary-General
United Nations Mission in the Sudan

DATE: 14 June 2007

REFERENCE: AUD-7-5:16 (07-00257)

FROM:  Dagfinn Knutsen, Acting Director
DE: Internal Audit Division, OIOS 

SUBJECT: **Assignment No. AP2006/632/04: Air operations and aviation safety**
OBJET: **management in UNMIS**

1. I am pleased to present the report on the above-mentioned audit, which was conducted from July – October 2007.

2. Based on your comments, we are pleased to inform you that we will close recommendations 2 to 5, 7, 9 and 10 in the OIOS recommendations database as indicated in Annex 1. In order for us to close the remaining recommendations, we request that you provide us with the additional information as discussed in the text of the report and also summarized in Annex 1.

3. Please note that OIOS will report on the progress made to implement its recommendations, particularly those designated as critical (i.e., recommendations 6, 7, 11 and 14), in its annual report to the General Assembly and semi-annual report to the Secretary-General.

4. IAD is assessing the overall quality of its audit process and kindly requests that you consult with your managers who dealt directly with the auditors and complete the attached client satisfaction survey form.

cc: Mr. Kiplin Perkins, Director of Administration, UNMIS
Mr. Swatantra Goolsarran, Executive Secretary, UN Board of Auditors
Mr. Jonathan Childerley, Chief, Oversight Support Unit, Department of Management
Mr. Byung-Kun Min, Programme Officer, OIOS
Mr. Elias Kedir, OIC, Office of the Resident Auditors, UNMIS

INTERNAL AUDIT DIVISION

FUNCTION

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EXECUTIVE SUMMARY

Air operations and aviation safety management in UNMIS

OIOS conducted an audit of air operations and aviation safety in UNMIS during July-October 2006. The main objectives of the audit were to assess: (i) the Mission's compliance with aviation safety standards and requirements; (ii) the adequacy of aviation staffing and training; (iii) the economic use of air assets; and (iv) the Mission's capability in handling casualty evacuation (CASEVAC) and medical evacuation (MEDEVAC) cases. The audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.

There were significant opportunities for the Mission to improve the management of air operations and aviation safety. For example:

- Based on the results of OIOS' analysis for a sample period of three months during the financial year 2005/06, the Mission had only used 48 per cent of the total flight hours available under the various contracts and Letters of Assist for the lease of aircraft. The Mission needs to thoroughly review its requirements for air assets and reconfigure its air fleet to ensure that the Mission's air assets are used in a cost-effective manner;
- The Aviation Section and the Aviation Safety Unit were significantly understaffed at the time of the audit, with the former having a vacancy rate of 47 per cent and the latter, 78 per cent. As a result, certain functions were not properly discharged;
- The Mission had not recovered costs, totaling \$482,766, for special flights taken by staff of various UN agencies and other entities;
- Certain aviation safety plans and reports were not prepared, and procedures were not performed in accordance with the Aviation Safety Manual. For example, periodic surveys of the helipads in Malakal and Abyei were not conducted. Also, an aviation safety audit had not been conducted since the inception of the Mission. The Mission transported 283 personnel on cargo aircraft, which had been prohibited.

OIOS made a number of recommendations to address the above weaknesses.

TABLE OF CONTENTS

Chapter	Paragraphs
I. INTRODUCTION	1 – 7
II. AUDIT OBJECTIVES	8
III. AUDIT SCOPE AND METHODOLOGY	9 – 10
IV. AUDIT FINDINGS AND RECOMMENDATIONS	
A. Human resources	11 – 24
B. Under-utilization of air assets	25 – 32
C. Efficiency of air operations	33 – 43
D. Aviation safety	44 – 65
V. ACKNOWLEDGEMENT	66
ANNEX 1 – Actions needed to close audit recommendations	

I. INTRODUCTION

1. The Office of Internal Oversight Services (OIOS) conducted an audit of air operations and aviation safety management in the United Nations Mission in the Sudan (UNMIS) from July to October 2006.

2. Three sections manage the air transport function at the Mission: Aviation, Movement Control (MovCon) and Aviation Safety. The Aviation Section is responsible for the management and use of the Mission's air assets, which includes the planning of a coordinated air support system, implementation of standard operating procedures (SOPs) on aviation, controlling air operations and assuring quality of service. The Aviation Section is also responsible for various administrative functions such as invoice processing, fuel accounting, air asset utilization reviews, and management of aviation contracts. MovCon is mainly responsible for managing the transportation of passengers and cargo, and facilitating customs clearance of incoming and outgoing cargo. The Aviation Safety Unit is responsible for advisory services to the Mission on air safety matters. It plans and coordinates the safety of passengers, cargo and air assets and is responsible for promoting air safety awareness, implementing accident prevention programmes and monitoring aviation-related incidents and accidents.

3. As at 30 June 2006, the Mission had 43 aircraft, comprising 30 commercial-type and 13 military-type aircraft. These aircraft were leased under 16 commercial contracts and 3 Letters of Assist (LOAs) with a combined contract value (not-to-exceed/NTE) \$192.6 million. The contracts for two commercial aircraft expired on 30 June 2006. The 13 military aircraft did not include three Pakistani MI-17s that had just arrived at the Mission at the time of the audit and had not yet been deployed for tasking. In addition, the Mission also used a World Food Programme (WFP) freight forwarding aircraft. Only DPKO has the authority for establishing commercial contracts and LOAs for all aviation support contracts. The Mission can do so only in cases of emergency situations in coordination with DPKO.

4. Air operations cover all of the operational areas in Sudan, at the sector level. The Mission conducts air operations at a few locations in Darfur for humanitarian reasons. Other users of the Mission's air assets include transporting UN country team members and civilians or officials of the Government of Sudan approved by the Mission.

5. The Aviation Section had registered approximately 22,000 flying hours as at 31 May 2006 vis-à-vis the 32,555 planned flying hours. The budget for UNMIS Air Transport Unit for the financial year 2005-2006 was as follows:

Table 1: Air Transport Unit budget for 2005-06

Description of expenses	Estimated cost
Petroleum, oil and lubricants (POL)	\$73,809,663
Helicopter rentals and operational costs	61,941,494
Fixed wing rentals and operational costs	42,112,634
Services	10,368,000

Fixed wing liability insurance	4,984,154
Helicopter liability insurance	3,195,000
Equipment and Supplies	893,550
Landing fees and ground handling services	870,000
Aircrew subsistence	31,680
Total	\$198,206,175

6. Of this budget, the POL component is administered by the Supply Section, while the leasing costs and insurance are handled by UNHQs.
7. Comments made by UNMIS are shown in *italics*.

II. AUDIT OBJECTIVES

8. The major objectives of the audit were to:
- (a) Assess compliance with DPKO aviation and air safety standards and established rules, policies, procedures and guidelines;
 - (b) Confirm adequacy and competencies of the existing staff and the existence of a staff training programme;
 - (c) Verify compliance with periodic technical and performance checks as contained in the contract;
 - (d) Assess whether air assets were utilized in an economical and efficient manner;
 - (e) Assess the reliability of various reports generated in connection with utilization of air assets and management of air safety;
 - (f) Assess the capability of the Mission to handle medical evacuation (MEDEVAC) and casualty evacuation (CASEVAC) cases; and
 - (g) Determine whether: (i) a culture of aviation safety has been established in the Mission; (ii) there is an adequate and effective accident prevention programme to mitigate, reduce and eliminate hazards; and (iii) the Mission has established procedures for the protection of life and assets in the event of an aircraft accident.

III. AUDIT SCOPE AND METHODOLOGY

9. The audit covered the period from July 2005 to June 2006 and the entire Mission area. Since DPKO is responsible for establishing commercial contracts and LOAs and the Mission has no authority to enter into any air service contracts, the acquisition process was not covered in this audit. However, the audit reviewed the implementation of these contracts and arrangements.

10. The audit also involved file review, site visits and interviews with key Mission personnel. OIOS also interviewed contractor personnel and conducted physical verification of certain aviation safety arrangements on a sample basis.

IV. AUDIT FINDINGS AND RECOMMENDATIONS

A. Human resources

Aviation Section staffing

11. At the time of the audit, the Aviation Section had a vacancy rate of 47 per cent. The vacancy rates varied between personnel categories, ranging between 46 and 100 per cent as Table 2 below illustrates. The low mission subsistence allowance (MSA) and difficult living environment in the Mission area were believed to be the causes of the high vacancy rate.

Table 2: Vacancy rate in the Aviation Section as of 28 September 2006

Post level	Authorized	Occupied	Vacancy
P	8	4	4 (50%)
NPO	9	0	9 (100%)
FS	24	13	11 (46%)
NS	56	29	27 (48%)
MIL	12	12	0
Total	109	58	51 (47%)

12. The Aviation Section consists of three units: (a) Air Operations Unit; (b) Technical Compliance Unit, and (c) Air Terminal Unit. The Section had a total of 109 posts, 97 civilian and 12 military.

13. A P-5 post is allocated for the Chief of the Aviation Section. The incumbent has been suspended since February 2006 because of alleged misconduct. The Officer-in-Charge (OIC) is serving on a temporary basis on a P-4 post borrowed from another section. Three P-4 posts are allocated for the Chiefs of the three units. The post of the Chief of the Air Terminal Unit was filled during the audit, while the remaining two posts remained vacant. Recruitment for these posts is underway since 13 July 2006. In the meantime, the Air Operations Unit and the Air Terminal Unit are supervised by staff members at the P-3 level, while the Technical Compliance Unit was managed by an FS-5 level staff.

14. National professional officer (NPO) posts could not be filled because no candidates with the required college degree could be found in the Sudan. The programme manager attested that a college degree was not necessary and that experience could compensate for it. National staff (NS) posts were vacant because, according to the Personnel Section and the programme manager, the Mission's salary scales could not compete with the pay in the local market. In

fact, an increasing number of national staff resigned to join outside firms who paid better. Field service (FS) posts were also vacant for the same reason. Transfers to other missions and rejection of employment offers by candidates in the FS and professional categories have become persistent problems in the Mission. The Aviation Section provides essential services to the Mission. Deficiencies identified in the service including flight delays and cancellations discussed later in the report are attributable mostly to the shortage of staff.

Aviation Safety Unit (ASU)

15. At the time of the audit, ASU had a vacancy rate of 78 per cent, with only 2 out of 9 authorized posts filled (see Table 3). To mitigate the acute staff shortage in the Unit, DPKO authorized the deployment of two military staff officers.

Table 3: Staffing of the Aviation Safety Unit

Post level	Authorized	Occupied	Vacancy
P-4	1	0	1 (100%)
P-3	2	1	1 (50%)
NPO	2	0	2 (100%)
FS	1	0	1 (100%)
NS	3	1	2 (67%)
Total	9	2	7 (78%)

16. Two suitable candidates, an external and an internal, were identified at different times for the P-4 Unit Chief post. However, both rejected the offers. They mentioned to the OIC that the low MSA was their reason for rejecting the offers. In the meantime, a staff member at the P-3 level has served as the OIC of the Unit since July 2006.

Recommendation 1

(1) The UNMIS Administration should take steps to attract candidates to apply for the vacant posts in the Aviation Section and the Aviation Safety Unit, and immediately fill these vacancies.

17. *The UNMIS Administration accepted recommendation 1 and stated that recruitment is an ongoing process. The Mission added that the Aviation Section and Aviation Safety Unit have taken appropriate steps to fill vacant international posts, judiciously selecting the best candidates.* Recommendation 1 remains open pending receipt of documentation from UNMIS showing that the vacancies have been filled.

Lack of training for Aviation Section staff

18. The audit found that the Aviation Section did not develop a training plan for 2005-06. There was also no evidence that any training was given to the Section's staff during the period although the aviation SOPs prescribe: (1) on-

the-job training; (2) specialized aviation training; (3) initial induction course for staff and aircrew; and (4) monthly refresher briefings for aviation personnel.

19. The Aviation Section did not have a training officer during the financial year 2005-06. The OIC, Aviation Section, after his arrival in the Mission in May 2006, designated a training officer effective June 2006. The OIC informed OIOS that the development of the training plan for the year 2006-07 was underway. He added that a two-week induction course comprising one-week in-class programme and one-week field orientation was conducted in July 2006. Also, a fire fighting course was given by an external consultant in July 2006. However, no documentary evidence could be found as the designated training officer had died without leaving any documentation.

Training of the Aviation Safety Unit staff

20. The Aviation Safety Unit staff did not receive any training during the period covered by the audit. According to the Aviation Safety Manual: (a) each aviation staff should enroll in one training course every other year; (b) all aviation safety personnel should attend the five-day aviation safety seminar at UNLB; and (c) the Mission Management, DOA/CAO and CISS, should attend the 2-day aviation safety seminar every two years in UNFICYP. There was no budgetary provision for this purpose during the period under review. No Section Chief was on board to prepare and submit the budget proposal.

Recommendations 2 to 5

The UNMIS Administration should:

- (2) Take immediate steps to appoint a training officer in the Aviation Section;**
- (3) Ensure that the Aviation Section develops a training plan for the financial year 2006-07 and subsequent years;**
- (4) Ensure that all official documents relating to aviation training are filed in such a way that they are always available for others to use, especially during the absence of the primary record custodian; and**
- (5) Ensure that the Aviation Safety Unit prepares and submits a training budget for the financial year 2007-08, in compliance with the Aviation Safety Manual.**

21. *The UNMIS Administration accepted recommendation 2 and stated that two Training Officers were appointed from the staff in the Aviation Section in January 2007 to ensure that the section's training needs are met. In addition to training, the officers provide quality assurance for the section (please see response to recommendation 17). Based on OIOS' review of documentation provided by the Mission, recommendation 2 has been closed.*

22. *The UNMIS Administration accepted recommendation 3 and stated that a training program for the Aviation Section is in place for the financial year 2006-07 and the programme for 2007-08 is in draft format. Based on OIOS' review of documentation provided by the Mission, recommendation 3 has been closed.*

23. *The UNMIS Administration accepted recommendation 4 and stated that the Training Unit has established a records system and is maintaining files of all training previously carried out and projected. One of the two trainers will always be available in the Mission. Based on OIOS' review of documentation provided by the Mission, recommendation 4 has been closed.*

24. *The UNMIS Administration accepted recommendation 5 and stated that a training program for the Aviation Safety Unit has been prepared for the financial year 2007-08. Based on OIOS' review of documentation provided by the Mission, recommendation 5 has been closed.*

B. Utilization of air assets

Unutilized flight hours/seats

25. Based on the results of OIOS' analysis of a sample period of three months during the financial year 2005-06, the Mission used its air assets' capacity at a level considerably lower than what was available under the various aviation contracts, as shown in Table 4. While the Mission had 42 aircraft during the period under review, the identified underutilization rate implied that the Mission had a sizeable number of aircraft in excess of its needs and that a significant portion of the Mission's approximately \$200 million aviation budget could be saved if the number of air assets was adjusted to the Mission's operational requirement.

Table 4: Utilization of air assets (2005-06)

	Total available hours	Hours flown	Balance/ unused hours	% unused hours
February 06	4,027	1,593	2,434	60.44%
April 06	3,927	2,139	1,788	45.53%
June 06	4,290	2,131	2,159	50.33%
Total	12,244	5,863	6,381	52.12%

26. OIOS further analyzed selected days from the above months to identify the factors that have contributed to the under-utilization of the air assets (see Table 5). Based on the analysis, the following are the primary reasons identified: (i) the aircraft was not needed to fulfill any operational requirement; (ii) scheduled maintenance; (iii) unavailability of air crew; (iv) technical problems; (v) aircraft were positioned only to stand by for potential requirement which did not materialize. In 58 per cent of the time, the aircraft was not needed for any operational flight, and in 26 per cent of the time, the aircraft were undergoing

maintenance. OIOS is concerned that in 36 per cent of the time, the inability to use the aircraft was caused by the contractor, i.e., scheduled maintenance, unavailability of air crew and technical problems.

Table 5: Reasons for low air asset utilization rate on selected days in 2006

Date of flights	No. of aircraft available	No. (%) of aircraft utilized	No. (%) of aircraft unutilized	Remarks
06/02/06	40	26 (65)	14 (35)	<ul style="list-style-type: none"> • 8 aircraft unused because of reason (i) in paragraph 26 • 4 aircraft because of reason (ii) • 1 aircraft because of reason (iii) • 1 aircraft because of reason (iv)
03/04/06	39	24 (62)	15 (38)	<ul style="list-style-type: none"> • 12 aircraft because of reason (i) • 2 aircraft because of reason (ii) • 1 aircraft because of reason (iv) • 1 aircraft because of reason (v)
21/06/06	43	22 (51)	21 (49)	<ul style="list-style-type: none"> • 9 aircraft because of reason (i) • 8 aircraft because of reason (ii) • 2 aircraft because of reason (iv) • 2 aircraft because of reason (v)
Average	41	24 (59)	17 (41)	

27. Looking at under-utilization in terms of empty seats, OIOS' analysis showed that empty seats on aircraft flown on selected days in 2006 ranged between 42 and 94 percent (see Table 6). The review was conducted on the basis of flight data on Monday, 6 February 2006; Monday, 3 April 2006; and Wednesday, 21 June 2006. Mondays and Wednesdays were generally heavy travel days according to the Aviation Section.

28. The OIC, Aviation Section attributed the underutilization of the Mission's air assets, in part, to the former programme managers' lack of experience in managing the air operations of a large mission as they came either from smaller missions or from UNHQ. The OIC also referred to such factors as cargo weights, temperature, runway limitations, terms of contracts, and operational requirements necessitating flights with fewer passengers as the reasons for the high percentage of empty seats in each flight. Sometimes aircraft carried passengers one way and returned empty, which happens when an aircraft cannot stay overnight at the destinations mainly for safety reasons.

Table 6: Aircraft capacity utilization in terms of seats

Aircraft type	Seat capacity	Average no. of passengers	% unoccupied seats
Beach 200	10	5.8	42.0
Let-410	14	7.4	47.1
Dash 8	50	23.3	53.4
AN 74 TK 200	52	3.3	93.7

B737	109	16	85.3
MD-83	140	43.9	68.6
AS 332 (Puma)	15	4.8	68.8

29. OIOS also analyzed the number of passengers for the month of January 2006 and found that there were 44 flights with only one passenger, 32 flights with only two passengers, 37 flights with only three passengers and 24 flights with only four passengers. There were 55 return flights between two destinations with less than four passengers during the selected month. The Mission explained that flights carry a small number of passengers because flights were used: (a) to facilitate the movement of VIPs; (b) for CASEVAC/MEDEVAC cases; (c) for maintenance or test flights; (d) for delivery of cash in the sectors; and (e) movement of communication technicians to meet urgent requirements.

30. OIOS understands that UNMIS air operations are not similar to the operations of a commercial airline, which are directed by considerations of economy. However, in OIOS' opinion, the Mission needs to examine the causes of the large percentage of aircraft under-utilization and take steps to ensure a more optimal utilization of its air assets.

Recommendations 6 and 7

The UNMIS Administration should:

(6) Conduct a comprehensive review of the Mission's requirements for and actual utilization of air assets with a view to adjusting its air fleet to ensure that air operations are conducted in a cost-effective and optimal manner; and

(7) Enforce the relevant contract provisions calling for reimbursement of costs when an aircraft is not available because of the contractor's fault.

31. *The UNMIS Administration accepted recommendation 6 and stated that a comprehensive review of the Mission's requirements on the aircraft utilization and appropriate mix had been conducted in May 2006 with the arrival of the new Chief of Aviation Section, taking into consideration the impact of climate on the serviceability of aircraft. The mix came together on 15 January 2007 with the assignment of a third DHC-8. The mix of aircraft will continue to evolve as the airlift requirements change, as well as a result of the continuous assessment of utilization and budgetary factors. In OIOS' opinion, UNMIS' response did not adequately address the issue of excess capacity in the Mission's air fleet, the high rate of unoccupied seats, and the aircraft downtime resulting from the absence of operational requirements, the shortage of aircrew and technical problems. OIOS continues to believe that there is a need to re-examine the current air fleet size and/or configuration. Therefore, OIOS will keep recommendation 6 open and will pursue this issue further in its comprehensive review of air operations in peacekeeping missions to be conducted in the third quarter of 2007.*

32. The UNMIS Administration accepted recommendation 7 and stated that payments to aircraft vendors are done by the Aviation Transport Section in UNHQ on behalf of UNMIS; thus, the authority to withhold payments and apply penalties lies also with UNHQ. However, the UNMIS Aviation Section continues to inform UNHQ of contractors' non-performance for down time, exceeding authorized maintenance days, failure to position on time, provision of UN fuel for vendor paid flights, etc. The data is submitted to UNHQ electronically and by fax, where the reimbursement is determined and deducted from the contractor's payment. Management has provided a copy of such report. Based on OIOS' review of documentation provided by the Mission, recommendation 7 has been closed.

C. Efficiency of air operations

Delays in the delivery of aircraft to the Mission

33. Table 7 below summarizes the instances of delays in the delivery of aircraft to the Mission. None of the 29 aircraft that arrived between 1 July 2005 and 30 June 2006 was delivered on time. There were delays that extended up to and over 100 days, with one aircraft arriving 249 days late. Reasons for the delays included the need to seek a waiver from the Government of Sudan to operate aircraft older than 20 years. As arrival of the aircraft was scheduled on the basis of anticipated operational needs, the delays could have impaired the Mission's operations. Some of the delays, according to the Mission, were due to subsequent amendments to the relevant contracts, but OIOS could not confirm this assertion.

Table 7: Delays in the delivery of aircraft (2005-06)

Length of delay (in days)	Aircraft call sign	Number of aircraft delivered late
1 – 20	UNO 509, 519, 526, 527, 534, 560, 561, 562, 563, 564, 565, 580, 581, 582, 583	15
21- 40	UNO 511,524,525	3
41- 60	UNO 528, 529, 573, 574, 575	5
61 – 80	UNO 549	1
81 – 100	UNO 507	1
101+	UNO 422, 505, 535	3
Unknown	UNO 506	1
		29

Deviation from flight schedules

34. Table 8 below shows flight delays, early departures and flight cancellations. The review revealed that flight schedules were not adhered to. There were considerable delays and early departures. Out of the 227 flights reviewed: 87 (or 38 per cent) were delayed, up to 8 hours; 25 (or 11 per cent) took off before the schedule; and 10 (or 4 per cent) were cancelled.

Table 8: Flight delays, early departures and flight cancellations

Date of flights	No. of flights	Flight delays		Early departures		Flight cancellations	
		No.	%	No.	%	No.	%
6/2/06	75	33	44	9	12	1	1.3
3/4/6/06	71	24	34	9	13	0	0
21/6/06	81	30	37	7	9	9	11
Total	227	87	38	25	11	10	4.4

35. There was no system for reporting the causes of deviations from flight schedules or for monitoring and addressing these deficiencies. A spot inspection conducted by OIOS identified boarding procedures to be a major cause of the delays. Non-adherence to flight schedules can adversely affect staff confidence in the aviation service and negatively affect Mission operations.

Recommendations 8 to 10

The UNMIS Administration should:

(8) Ensure that aircraft are delivered to the Mission in accordance with the schedule indicated in the contracts and that the necessary government clearances and/or waivers and other causes of delays are resolved in advance;

(9) Establish a system to monitor the actual against planned flight departures and arrivals, including the causes for deviation from the schedule to assist the Mission in analyzing flight delays and taking corrective actions, where possible; and

(10) Review the current boarding procedures and introduce changes to facilitate the timely departure of flights.

36. *The UNMIS Administration accepted recommendation 8 and stated that the Aviation Section follows a technical compliance procedure to clear aircraft. The Mission provided evidence illustrating most of the delays had occurred due to the internal procedures within the various ministries of the Government of Sudan.* While OIOS acknowledges that delays in obtaining government clearances are outside the Mission's control, OIOS encourages the Mission to seek the help of the government in expediting the clearance of aircraft. Alternatively, the Mission could analyze the number of days needed to obtain a clearance from the government, and factor this period into the planning of an aircraft's delivery to the Mission. Recommendation 8 remains open pending receipt of documentation from UNMIS showing that alternative action plan to address the delays in delivering aircraft to the Mission has been taken.

37. *The UNMIS Administration accepted recommendation 9 and stated that the Aviation Section has initiated a "Delay Management Report" which captures*

all delays and their causes. The reports are reviewed for internal use to improve flight efficiency. The Mission has submitted a copy of the report as a sample. Based on OIOS' review of documentation provided by the Mission, recommendation 9 has been closed.

38. *The UNMIS Administration accepted recommendation 10 and stated that it had reviewed and improved boarding procedures to ensure timely departures of flights. In addition, some other issues that used to cause the delays have been addressed. OIOS was provided a copy of the administrative instructions/information circulars issued to that effect. Based on OIOS' review of documentation provided by the Mission, recommendation 10 has been closed.*

Recovery of aviation charges

39. Table 9 below shows the amounts recoverable from various agencies for the use of UNMIS aviation services, totaling \$482,766. During 2005-06, UNMIS provided 22 special flights for UN and other agencies, at a total cost of \$838,482, of which it was able to recover \$356,016 or 42 per cent.

Table 9: Amounts recoverable from various agencies for the provision of special flights during 2005-06

Requesting Office	Flight hours	Outstanding amount
ESS (UN contractor)		\$354,013
UNMAS	22.60	53,231
World Bank Sudan Office	13.85	43,680
WFP	5.76	12,200
UN-OCHA	14.82	9,007
UNDP Sudan	3.58	5,734
UNICEF/UNOPS	2.16	4,901
Total		\$482,766

Recommendation 11

(11) The UNMIS Administration should ensure that the outstanding amount of \$482,766 for special flights provided during 2005-2006 is recovered from the concerned agencies without further delay.

40. *The UNMIS Administration accepted recommendation 11 and provided OIOS with a copy of invoices and follow-up letters sent to the relevant agencies. The Mission had also sent a fax to UNHQ requesting to settle, as part of the contract closeout, the outstanding amount with ESS, a contractor, which had increased to around \$2.1million from May to October 2006. Recommendation 11 remains open pending receipt of documentation showing that the outstanding amounts pertaining to special flights provided to the concerned agencies/entities have been recovered.*

Incomplete Monthly Aviation Report

41. The Mission's Monthly Aviation Report, required by the DPKO Air Transport Section, is an important document designed to provide information on the positioning of aircraft during the month, including flying hours, details of passengers and cargo etc. OIOS noted inconsistencies between information reported in the Monthly Aviation Report prepared by the Aviation Section and the Summary Report prepared by MovCon on the basis of actual departures for the sample months (see Table 10). The Mission did not reconcile the information contained in the two reports.

42. The Monthly Aviation Report did not contain complete information on air asset utilization. For example, the reports for December 2005, March 2006 and June 2006, which OIOS selected for review did not show the number of non-UNMIS or UN military passengers who traveled during the month. The report also did not specify CASEVAC and MEDEVAC information.

Table 10: Comparison of Monthly Aviation Report and MovCon Summary Report

Passengers	Monthly aviation report	MovCon summary	Difference
December 2005			
UN Civilian passengers	10,178	2,029	8,149
UN Military passengers	14	2563	(2,549)
Non-UN passengers	0	581	(581)
Other passengers	0	1,467	(1,467)
Total passengers during December 2005	10,192	6,640	3,552
March 2006			
UN Civilian passengers	12,827	3,285	9,542
UN Military passengers	0	4,372	(4,372)
Non-UN passengers	0	502	(502)
Other passengers	0	1,547	(1,547)
Total passengers during March 2006	12,827	9,706	3,121
June 2006			
UN Civilian passengers	14,456	3,361	11,095
UN Military passengers	0	3,830	(3,830)
Non-UN passengers	0	783	(783)
Other passengers	0	1,954	(1,954)
Total passengers during June 2006	14,456	9,928	4528

Recommendation 12

(12) The UNMIS Administration should ensure that the Monthly Aviation Report is complete and accurate, and that relevant supporting analyses used to prepare the report are

reconciled. Moreover, the report should provide sufficient breakdowns of information such as the category of passengers (civilian or military) and CASEVAC/MEDEVAC flights.

43. *The UNMIS Administration accepted recommendation 12 and stated that the Aviation Section and Movement Control were in the process of developing a system of crosschecks to accurately report the breakdown of passenger and cargo figures. This system is expected to be implemented by June 2007. Recommendation 12 remains open pending receipt of documentation from UNMIS showing that the system has been implemented.*

D. Aviation safety

44. Efforts to ensure aviation safety include, among others, the Aviation Safety Council (ASC), the Mission aviation safety assistance visits and surveys, the preventive safety and accident prevention programme, the emergency response plan, and the accident/incident reporting and investigation system.

Periodic survey of aviation sites

45. The Aviation Safety Manual specifies that the Mission Aviation Safety Officer (MASO) is required to carry out periodic surveys of helipads. The audit found that the helipads in Malakal and Abiye were not surveyed during 2005-06. The MASO explained that the task had been transferred to the Air Terminal Unit of the Aviation Section, which confirmed that these surveys had not been conducted in 2005-06.

Recommendation 13

(13) The UNMIS Administration should ensure that helipads are regularly and independently surveyed by the Mission Aviation Safety Officer, to keep the sites in safe and proper condition for air operations.

46. *The UNMIS Administration accepted recommendation 13 and stated that in a large mission such as Sudan, the Air Terminal Unit of the Aviation Section, not the Aviation Safety Unit, conducts thorough helipad surveys. There are about 300 documented helipads scattered throughout the country and the Mission tries its best to ensure that helipads are surveyed regularly. The Aviation Safety Unit deals only with the survey of airfields/airstrips. Management has submitted a draft program to regularly survey the structure of helipads and ensure the protection of equipment for safe air operations. Recommendation 13 remains open pending receipt of documentation from UNMIS showing the finalization and implementation of the programme.*

Emergency response plan

47. The UN Aviation Safety Manual requires each Mission to develop an emergency response plan for the management of aircraft accidents. The plan serves as a guide in managing an aircraft accident by ensuring maximum protection of life and equipment and coordinated investigative action.

48. The Mission prepared and distributed the plan at the end of October 2006, but had not yet developed an emergency response plan specific to the sectors. The absence of sector-specific plan may hamper the capacity of sectors to effectively manage emergencies, or may result in an uncoordinated response. Furthermore, the Security Section has not yet provided the security component of the plan.

Search and rescue

49. The search and rescue plan is an essential component of the emergency response plan. OIOS found that the Mission had not prepared a Search and Rescue Plan. Also, the Mission had not acquired rescue kits and accident investigation kits comprising essential emergency equipment and supplies. The MASO explained that the procurement of the kits was underway at the time of the audit. The sheer magnitude of the Mission area of operation, coupled with the remoteness of some of the locations, could impair the Mission's ability to respond to emergencies. The unavailability of the required kits could aggravate the execution of an immediate and correct response in the event of an emergency.

Recommendations 14 to 16

The UNMIS Administration should:

(14) Develop emergency response plans specific to the sectors, to ensure the Mission can respond to emergencies in an effective and coordinated manner;

(15) Ensure that the Security Section completes the security module of the emergency response plan and that the security module is properly integrated into the emergency response plan; and

(16) Develop a search and rescue plan and expedite the procurement of the required rescue and accident investigation kits, to ensure that the Mission can respond effectively to emergencies.

50. *The UNMIS Administration accepted recommendation 14 and provided evidence that emergency response plans had been developed for three sectors, Abyei, Juba, and Malakal, and explained that the plans would be completed for the remaining sectors by the end of April 2007. Recommendation 14 remains open pending receipt of documentation from UNMIS showing the completed emergency response plans for all sectors.*

51. *The UNMIS Administration accepted recommendation 15 and stated that the Security Section was still working on the security module of the emergency response plan and that the Mission would ensure the proper integration of the security module into the emergency response plan. Recommendation 15 remains open pending receipt of documentation from UNMIS showing the security module's integration into the emergency response plan.*

52. *The UNMIS Administration accepted recommendation 16 and provided OIOS with documentation showing that a Search and Rescue (SAR) plan had been developed. The Mission added that crash and accident kits were being procured and items were being transferred from the UN Mission in Burundi. The items are expected to arrive by June 2007. Recommendation 16 remains open pending notification of the receipt of the crash and rescue equipment.*

Aviation quality audit not performed

53. The Aviation Section had not performed any aviation quality audits since the inception of the Mission. These audits are intended to ensure the Mission's compliance with paragraph 1.1.4 of the Aviation Safety Manual, which specifies the elements of the Quality Assurance Programme: (a) monitoring that the required standards are met through the implementation of applicable policy, directives, rules and procedures by both air crew and Aviation Section staff; and (b) establishing a dependable feedback and reporting system related to concerns and findings about those standards; and (c) implementing the corrective actions whenever needed and performing a follow-up. Moreover, the quality assurance programme, which includes the aviation quality audit, should produce information about the risk assessment of the operations that helps identify technical weaknesses and corrective action. The Chief Technical Compliance Unit advised that the reason for not performing aviation quality audits was the shortage of staff and lack of expertise.

Recommendation 17

(17) The UNMIS Administration should ensure that aviation quality audits are performed in compliance with the Aviation Safety Manual's provisions (paragraph 1.1.4) on the aviation quality assurance programme.

54. *The UNMIS Administration accepted recommendation 17 and stated that quality audits, as part of UNMIS Aviation Quality Assurance Program, were being developed and would be implemented by 30 May 2007 by the Training and Quality Assurance Unit, in accordance with the DPKO Aviation Manual (5.2.1.6). Recommendation 17 remains open pending receipt of documentation showing the implementation of the quality assurance programme.*

Security awareness

55. Aviation security awareness is enhanced through such measures as posting related posters in public places, in-flight announcements, and the inclusion of aircraft security issues during the integrated Mission induction training. However, OIOS observed no relevant posters displayed at the UN Airfield terminal in Khartoum Airport. The MASO said that his Unit had developed and distributed the posters but MovCon had not displayed them in the most conspicuous places and hence they could not be seen by all passengers.

56. In-flight announcements in UN aircraft were inadequate, especially in aircraft operated by crew whose first language was not English. There appears to have been a presumption that all passengers are frequent air travelers. For example, on one flight, passengers were asked to fasten their safety belts to get ready for take-off without any demonstrations, and OIOS observed a passenger on board who could not fasten the belt. Inadequate in-flight briefings place the passengers at undue but avoidable risk.

57. OIOS attended the MASO presentation on aviation safety during the integrated induction training on 28 September 2006. In OIOS' opinion, the briefing was too technical for personnel with no aviation background. The presentation appeared to focus on the activities of the Aviation Safety Unit with minimal reference to areas in which passengers can contribute to air safety.

Recommendation 18

(18) The UNMIS Administration should improve the Mission's air safety awareness programme by displaying posters on air safety matters prominently at UNMIS departure terminals, ensuring that in-flight safety briefings are drawn up and conducted properly during take off and landing, and revising the Aviation Safety Officer's induction briefing materials to address non-technical audiences .

58. *The UNMIS Administration accepted recommendation 18 and stated that aviation safety posters and bulletins had been broadcasted and posted online on UNMIS intranet to increase general safety awareness and that the aviation safety induction brief had been modified. The Mission added that it would try to display posters on air safety matters at the terminals where it has not done so as soon as possible. The Mission further explained that permission from the Government of Sudan, who owns the terminals, might be required in some terminals. Recommendation 18 remains open pending display of posters on air safety matters in all air terminals used by the Mission.*

Reporting of aviation incidents/accidents

59. There were delays (see Table 11) in reporting accidents/incidents to UNHQ which is contrary to the Mission accident and incident reporting protocol

that requires, in part, that Preliminary Accident Occurrence Report (PAORs) be submitted to the UNHQ Aviation Safety Unit within 24 hours.

Table 11: Examples of delays in reporting aviation incidents/accidents

PAOR No.	Date of incident	Date of report
09/05	19 August 2005	22 August 2005
10/05	8 August 2005	22 August 2005
020/06	18 February 2006	9 April 2006
21/06	18 February 2006	7 March 2006
051/06	5 May 2006	22 May2006

Incomplete documentation of accidents/incidents

60. Documentation supporting PAORs and Observed Hazard Reports (OHRs) maintained by the MASU were incomplete. The DPKO Aviation Safety Manual requires that the MASO maintains all PAORs and OHRs as well as documentation on the Aviation Safety Technical Investigations that he/she carried out in the event of an aircraft accident. These reports are to be filed individually.

61. At the time of the audit, the MASO was converting hard copies of all PAORs/OHRs into an electronic format. Most of the PAORs/OHRs were not signed by the officials reporting the incidents/accidents or by the certifying/authorizing officer.

62. OIOS also noted that some reports, for example, PAOR no. 54/05 dated 14 October 2005, did not have any comments by the MASO, such as further actions taken or needed or any follow-up. MovCon was to investigate the occurrence but there was nothing on file to show if MovCon had taken any action on the incident. It should be noted, however, that the MASO has since designed a cover sheet for the reports that includes, among other details, persons informed, how they were informed, date of expected resolution and comments by the MASO.

Recommendation 19

(19) The UNMIS Administration should ensure that all aviation incidents/accidents are reported within 24 hours from the time of the incident/accident, in accordance with the requirements of the Aviation Safety Manual.

63. *The UNMIS Administration accepted recommendation 19 and stated that aviation accidents are to be reported in four hours and serious incidents within 24-48 hours (Ref 3.2.2 Aviation Safety Manual). The Mission added that incident/accident reports are transmitted through an electronic reporting system to DPKO. Recommendation 19 remains open pending receipt of documentation from UNMIS showing that aviation incidents/accidents are reported within the prescribed period.*

Passengers on cargo flights

64. MovCon used 15 flights of aircraft UNO504, a cargo plane, in October 2005 and November 2005 to carry 283 UNMIS passengers. The practice is contrary to paragraph 6.1.3.1 of the UNMIS Aviation Section SOP which prohibits transport of passengers in any aircraft tasked as cargo flights, training/familiarization/orientation/maintain proficiency flights, and any flights over areas where known hostile conditions exist, unless part of staff evacuation. According to the Chief, Aviation Section, three to four passengers were needed to handle the cargo on the flight. However, Table 12 below shows more than five passengers on the flights. Two noticeable instances were the: transportation of 60 passengers from Abuja to N'djamena on 21 October 2006, and 65 members of the Indian Contingents from El-Obeid to Kadugli on 29 October 2005.

Table 12: Passengers on cargo plane UNO504 L-100

Flight No.	Date	Route	No. of pax	Remarks
UNO 504	02-Oct-05	EBD/ELF	8	
UNO 504	02-Oct-05	ELF/EBD	6	
UNO 504	12-Oct-05	EBD/ELF	5	
UNO 504	12-Oct-05	ELF/EBD	7	
UNO 504	23-Oct-05	EBD/ELF	11	
UNO 504	23-Oct-05	EBD/UYL	7	
UNO 504	24-Oct-05	KRT/EBD	34	
UNO 504	24-Oct-05	EBD/KRT	5	
UNO 504	29-Oct-05	EBD/KAD	65	Indian TCC
UNO 504	17-Nov-05	EBD/ELF	9	
UNO 504	17-Nov-05	ELF/EBD	12	
UNO 504	02-Oct-05	EBD/ELF	13	
UNO 504	02-Oct-05	ELF/EBD	10	
UNO 504	21-Oct-06	ABUJA/ N'DJAMENA	60	
UNO 504	21-Oct-06	N'DJAMENA/ ELF	31	
Total			283	

Recommendation 20

(20) The UNMIS Administration should ensure that the practice of carrying passengers in cargo planes is discontinued immediately.

65. *The UNMIS Administration accepted recommendation 20 and stated that passengers flying on cargo planes would be limited to a few individuals and exceptional cases, for example, when the cargo being transported needs to be escorted and handled with special care, such as explosives and other dangerous goods or forklifts. Recommendation 20 remains open pending receipt of*

documentation from UNMIS showing that cargo planes are no longer used to transport passengers.

V. ACKNOWLEDGEMENT

66. We wish to express our appreciation to the Management and staff of the UNMIS Administration for the assistance and cooperation extended to the auditors during this assignment.

STATUS OF AUDIT RECOMMENDATIONS

Recom. no.	C/O ¹	Actions needed to close recommendation	Implementation date ²
1	O	Submission to OIOS of documentation showing that the vacancies have been filled	"Ongoing process"
2	C	Action completed	Implemented
3	C	Action completed	Implemented
4	C	Action completed	Implemented
5	C	Action completed	Implemented
6	O	OIOS will pursue the issue of low utilization of aircraft further in its comprehensive review of air operations in peacekeeping missions to be conducted in the third quarter of 2007	January 2007
7	C	Action completed	Implemented
8	O	Submission to OIOS of documentation showing that alternative action plan to address the delays in delivering aircraft to the Mission has been taken	"Ongoing process"
9	C	Action completed	Implemented
10	C	Action completed	Implemented
11	O	Submission to OIOS of documentation showing that the outstanding amounts pertaining to special flights provided to the concerned agencies/entities have been recovered	"Ongoing process"
12	O	Submission to OIOS of documentation showing that the system of crosschecks to accurately report the breakdown of passenger and cargo figures between the Aviation and Movement Control sections has been implemented	June 2007
13	O	Submission to OIOS of documentation showing the finalization and implementation of the helipad and airfield inspection survey programme	"Ongoing"
14	O	Submission to OIOS of documentation showing the completed emergency response plans for all sectors	April 2007
15	O	Submission to OIOS of documentation showing the integration of the security module into the emergency response plan	May 2007
16	O	Submission to OIOS of documentation showing receipt of the crash and rescue equipment	June 2007
17	O	Submission to OIOS of documentation showing the implementation of the quality assurance programme	May 2007
18	O	Submission to OIOS of documentation showing that posters on air safety matters have been displayed in all air terminals used by the Mission	ASAP
19	O	Submission to OIOS of documentation showing that aviation incidents/accidents are reported within the prescribed period	"Ongoing"
20	O	Submission to OIOS of documentation from UNMIS showing that cargo planes are no longer used to transport passengers	March 2007

¹ C = closed, O = open² Date provided by UNMIS in response to recommendations

UNITED NATIONS



OIOS Client Satisfaction Survey

Audit of: Air operations and aviation safety management in UNMIS (AP2006/632/04)

	1	2	3	4	5
By checking the appropriate box, please rate:	Very Poor	Poor	Satisfactory	Good	Excellent
1. The extent to which the audit addressed your concerns as a manager.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The audit staff's understanding of your operations and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Professionalism of the audit staff (demeanour, communication and responsiveness).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The quality of the Audit Report in terms of:					
• Accuracy and validity of findings and conclusions;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Clarity and conciseness;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Balance and objectivity;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Timeliness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The extent to which the audit recommendations were appropriate and helpful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The extent to which the auditors considered your comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your overall satisfaction with the conduct of the audit and its results.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please add any further comments you may have on the audit process to let us know what we are doing well and what can be improved.

Name: _____ Title: _____ Date: _____

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