

United Nations  Nations Unies

INTEROFFICE MEMORANDUM

MEMORANDUM INTERIEUR

OFFICE OF INTERNAL OVERSIGHT SERVICES · BUREAU DES SERVICES DE CONTRÔLE INTERNE
INTERNAL AUDIT DIVISION · DIVISION DE L'AUDIT INTERNE

TO: Mr. Shaaban Muhammad Shaaban
A: Under-Secretary-General
Department for General Assembly and Conference
Management

DATE: 19 March 2009

Mr. Soon-hong Choi
Assistant Secretary-General
Chief Information Technology Officer

REFERENCE: IAD: 09-0203

FROM: Fatoumata Ndiaye, Acting Director
DE: Internal Audit Division, OIOS



SUBJECT: **Assignment No. AT2008/550/01 - Audit of Information and Communication Technology (ICT)**
OBJET: **Governance and Security at the Department of General Assembly and Conference Management (DGACM)**

Deviations from established procedures and methods, although pre-approved, limited the ability of DGACM to ensure effective monitoring of ICT systems development within originally envisioned budgets and time frame.

1. I am pleased to present the report on the above-mentioned audit which was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.
2. Based on your comments, we are pleased to inform you that we will close recommendation 2 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 high risk (i.e., recommendations 4 and 5), in its annual report to the General Assembly and semi-annual report to the Secretary-General.

I. INTRODUCTION

4. The Office of Internal Oversight Services (OIOS) conducted an audit of ICT Governance and Security at DGACM. The audit focused on the governance and project management aspects of the Integrated Conference Management System (iCMS) project. This project is an initiative to modernize and integrate several core ICT applications that are currently used by DGACM's four conference-servicing duty stations. In addition, the audit conducted a cursory review of the initiative to enhance the Official Documents System (ODS), which stores parliamentary documents produced by the Organization and provides

the final repository of documents produced by DGACM, and of certain other official documentation.

5. Each of the four conferences-servicing duty stations (New York, Geneva, Vienna and Nairobi) currently deploys and uses its own ICT tools, which are not fully compatible, and are not integrated. This places a burden on DGACM's operations. Likewise, the ODS, which is a major repository for parliamentary and some other official documents has reached its capacity and needs to be technologically modernized in order to provide an acceptable level of service. The iCMS system would provide an integrated and standardized tool for supporting the DGACM business process, which includes meetings and documentation services.

6. ICT operations at DGACM are supported by the ICT Section (ICTS) at Headquarters, and by ICT units at the other three duty stations. Following recommendations made in a consultancy report¹, a dedicated departmental information technology governance board (ITGB) was established for the development of iCMS, and later endorsed by the Advisory Committee on Administrative and Budgetary Questions (ACABQ)².

7. The iCMS project was initially defined in broad terms and budgeted at \$1.4 million³. Based on estimates made in the consultancy report mentioned above it was subsequently estimated at \$4.7 million, and divided into three sub-projects which were each assigned to the responsibility of a duty station., as follows:

a. "Project 1 - Global Reporting Data Warehouse" was assigned to NYHQ and UNON and was estimated at \$0.7M;

b. "Project 2 – Meeting Planning and Servicing" was assigned to UNOV and estimated at \$2M; and

c. "Project 3 – Document Planning and Processing" was assigned to UNOG and estimated at \$2M.

8. An amount of \$648,700 for contractual services was requested for the 2008-09 biennium. However, no additional funds were requested or approved: iCMS would be funded from existing appropriations for information technology at DGACM.

9. In his report⁴ the Secretary-General established a time line for the completion of "Project 1" (within one year), and for the task of integrating, re-engineering and migrating the meetings management system to an "...updated standard open platform across the duty stations" (within the scope of "Project 2", also within one year). A time line of 12-18 months was provided for a prototype of "Project 3", as indicated in the ACABQ report on the proposed programme budget for the biennium 2008-2009⁵.

¹ The Dalberg Consultancy Report dated 19 August 2006.

² A/62/7 First Report on the Proposed Programme Budget for the Biennium 2008-2009, Section 2, Paragraph I.42.

³ A/60/7 - First Report on the Proposed Programme Budget for the Biennium 2006-2007, Section 2, Paragraph I.42 and Table I.6.

⁴ A/61/129, entitled "Pattern of Conferences", dated 7 July 2006.

⁵ A/62/7, dated 6 August 2007, Chapter II(A), Part 1, Section 2, paragraph I.39(c).

-
10. Comments made by DGACM are shown in *italics*.

II. AUDIT OBJECTIVES

11. The main objectives of the audit were to assess:
- (a) The adequacy of the governance structure and process for the development of iCMS;
 - (b) The effectiveness of the iCMS development project, and of the ODS enhancement project; and;
 - (c) The adequacy of information security measures during the iCMS development phase.

III. AUDIT SCOPE AND METHODOLOGY

12. The audit reviewed the evolution of the iCMS project by reviewing information gathered through meeting and interviews with DGACM personnel, documents, and web content that were provided or referenced. Brief telephone interviews were also held with personnel of the Office of Information and Communication Technology (OICT), which absorbed the former Information Technology Services Division (ITSD), mostly concerning the ODS review.

IV. OVERALL ASSESSMENT

13. In OIOS' view, DGACM drew plans to develop iCMS which were both overly ambitious and lacking a sufficiently detailed programme and cost planning. As a result, the iCMS development project entailed time and budget overruns, and monitoring its progress became more challenging than what would be necessary.

V. AUDIT FINDINGS AND RECOMMENDATIONS

A. Formulation of the iCMS project

Unrealistic planning of the iCMS development project

14. The initiative to modernize and integrate the ICT tools used at DGACM was introduced with the intention to enhance the quality of conference services and to ensure their timely provision, as mandated by General Assembly in its Resolutions 57/283 B and 59/265 Section II B.

15. Notwithstanding its endorsement of the iCMS project, the ACABQ expressed among its concerns that information technology projects at DGACM need to have realistic goals and time frames to achieve them⁶.

⁶ A/60/7, chapter II, Section 2, paragraph I.45.

16. The almost three fold increase in the cost estimate of the iCMS project during the two years interval between the ACABQ reports A/60/7 and A/62/7 (from \$1.7 million to \$4.7 million) as well as the reduction in scope (from full implementation to prototype and/or proof of concept) and the extension of the development time are indicative of overly ambitious planning. Doing so sets unrealistically high expectations and is therefore imprudent.

Recommendation 1

(1) The Department of General Assembly and Conference Management should re-evaluate its plans to develop the iCMS application and update them based on experience to date in terms of budgeting and time line to achieve the project goals.

17. *DGACM accepted recommendation 1 and stated that the iCMS project plans will be re-evaluated and updated at the next ITGB meeting, to which the Chief Information Technology Officer (CITO) and focal points of the OICT will also be invited. Recommendation 1 remains open pending receipt by OIOS of updated development plans of the iCMS project.*

B. Project oversight and monitoring

Deviation from established project development methodology

18. The iCMS project meets the criteria set in ST/AI/2005/10 for preparation, submission and review of a High Level Business Case (HLBC). Nevertheless, DGACM did not prepare or submit an HLBC for this project. This was recognized in the ITGB meeting of 14 March 2008, when the project was already in progress for approximately one year (the three sub-projects started formally in March 2007).

19. DGACM informed OIOS that instead of an HLBC, several other project and software development methodologies were used (for example: MPMM, PMI-PMBOK and Agile). However, OIOS is of the opinion that the use of these methodologies did not allow a consistent review and monitoring of the three sub-projects, and detracted from opportunities to coordinate the project development with Organization-wide ICT initiatives. This pertains in particular to “Project 3” which should have a direct relationship with the “ODS enhancement” project and with the Electronic Content Management (ECM) initiatives, both under the aegis of ITSD (now part of the OICT).

20. DGACM clarified that the prototype of “Project 3” was built on the same technological platform as that of ODS. However, this was done as part of an initiative to explore the feasibility of extending the ODS platform to include “Project 3”. Developing an HLBC for “Project 3” is still due.

Recommendation 2

(2) The Department of General Assembly and Conference Management should prepare a High Level Business Case (HLBC) for the iCMS project as soon as practicable. The HLBC should consolidate the information about the project from the various

methodologies that have been used to date, and provide a consistent basis for ongoing monitoring of the project progress.

21. *DGACM accepted recommendation 2 and stated that an HLBC for the iCMS project had been submitted to the Project Review Committee (PRC) in November 2008, and was being considered by PRC. DGACM added that "Project 3" and the ODS enhancement each warranted an HLBC of their own due to their size. DGACM further clarified that the prototype of "Project 3" was completed, and will be evaluated in March 2009, and that an HLBC will be prepared and submitted for its further development. Based on the action taken by DGACM, recommendation 2 has been closed.*

Insufficiently detailed project plans

22. Our review of the materials provided to OIOS indicated that project plans were not sufficiently detailed. This is demonstrated as follows:

a. "Project 1" provided a project plan dated 16 March 2007, which included a general description of the deliverables, risks and budgetary framework, but lacked a detailed and specific time-line for achieving project tasks.

b. "Project 2" provided a detailed budget for 2007-2008 for the development of prototypes of conference management tools (assigning facilities and interpreters) and other information related to the project, but not a plan of tasks and time-lines; and

c. While "Project 3" did contain a detailed plan for developing a prototype of a "Document Planning and Production" system, this plan was not dated, and provided with a significant delay in response to OIOS' request for the project documentation.

23. In addition, the Project Coordinating Team provided the three projects with templates for developing project documents and periodic progress reports. OIOS noted that these were used by the project teams at a minimal level, if at all.

24. In the absence of detailed work plans which include specific tasks and time-lines, it is not possible to monitor progress and achievement of tasks, and to address potential risks and challenges that could prevent the Organization from achieving the expected goals and objectives.

25. DGACM provided additional documentation which included project narratives and detailed plans for all three sub-projects. DGACM acknowledged that project documents submitted hitherto were lacking basic information related to their issuance dates, version and authorship.

Recommendation 3

(3) The Department of General Assembly and Conference Management should update its detailed project plans for all three sub-projects, and monitor progress according to predefined time lines.

26. *DGACM accepted recommendation 3 and stated that plans were already established for the sub-projects, which are being monitored on a regular basis. DGACM*

clarified, however, that the plan for “Project 3” will need to be revised based on the evaluation of the project prototype, currently underway. Recommendation 3 remains open pending finalization of an updated project plan for “Project 3”.

A minor security breach occurred during the project development work

27. A security breach that had occurred during the development of “Project 2” was brought to the attention of OIOS. In order to access the iCMS development site at the United Nations Office at Vienna (UNOV), authentication of users was set to use the United Nations ePAS directory (an enterprise-wide application), but information was allowed to travel online (on the internet) without proper security. In this situation, there was potential to compromise the security of remote access to the ePAS application, and other applications that might use the same user authentication data.

28. The above security breach was resolved in two steps: first by creating a generic user identification for accessing the iCMS development site (within a day), and then by applying the standard secure access measures to accessing the site, identifying the potentially affected 28 users and providing them with remedial instructions (from 13 February until 8 March 2008).

Recommendation 4

(4) The Department of General Assembly and Conference Management should establish procedures for the development and testing of applications, based on professional security standards that require secure links and mechanisms for the authentication of user access to all systems.

29. DGACM accepted recommendation 4 and stated that the iCMS technical team will work with OICT security experts to agree on the security standards and authentication mechanism for iCMS. Recommendation 4 remains open pending receipt by OIOS of the security and authentication standards agreed upon between DGACM and OICT.

C. Topical issues pertaining to the project development process

Issues related to the interactive capability among document-tracking systems in use are still under review

30. OIOS noted that the ACABQ emphasized over three consecutive reports on the proposed programme budget the need to deploy tools that will ensure interactive capability among the various document-tracking systems in use in the four main duty stations. OIOS also noted that the ACABQ stressed that “...information technology development ... must be based on a shared commitment among the duty stations to a single platform”⁷.

31. In the context of the iCMS development, the above ACABQ requirements are significant in particular for “Project 3 – Document Planning and Processing” where the United Nations Office at Geneva (UNOG) was the leading duty station. UNOG initially opted for implementing an off-the-shelf product with some customization. However, in a 14 March 2008 ITGB meeting, UNOV contested this concept, and suggested to consider

⁷ A/62/7, chapter II(A), part 1, Section 2, paragraph I.41.

instead an in-house redevelopment of an existing application. ITGB deferred the decision of which approach to adopt pending the development by UNOG of a prototype to be evaluated within four months. At the time of this report, the prototype evaluation is still in progress.

32. OIOS remains concerned about achieving the interactive document-tracking capability among duty stations. However, no recommendation is being made at this time, pending the results of the “Project 3” prototype evaluation.

33. *DGACM stated that interactive document tracking capability among duty stations can be achieved, subject to business process engineering and availability of adequate hardware and software architecture of the (future) ECM system. DGACM added that deploying a common ICT system in all duty stations and regional commissions would allow a single point of document submission, which will result in significant savings. DGACM stated that this idea should be studied further.*

D. The ODS enhancement project

The ODS enhancement project should be governed and monitored by a sub-committee on Information Management

34. DGACM explained that the ODS enhancement project was not within the iCMS scope. The enhancement of ODS on the basis of an off-the-shelf software package was prototyped by DGACM in 2007. If “Project 3” will be based on the prototyped software package (subject to the evaluation results of the “Project 3” prototype, currently underway) then the whole process of documents production and publishing will be integrated into one system.

35. In addition to the document production cycle which is governed by DGACM in its entirety, there is another source of data that feeds the ODS. This data referred to as “Meta data” is the description of the documents stored in ODS. Each document has a series of “Meta data” fields, based on which search and retrieval of the document is performed. The source of this “Meta data” is the Dag Hammarskjold Library (DHL) which is part of the Department of Public Information (DPI).

36. The ODS enhancement project was governed by a working group established in 2005, which included representatives of DGACM, DHL, ITSD and the United Nations Offices at Geneva and at Vienna. This working group dissolved after prototyping the ODS enhancement project. Recently, a Steering Committee on Information Management was created at the OICT.

37. While OIOS is not in the position to recommend action on the ODS enhancement project at his stage (pending, among other considerations, the results of the “Project 3” prototype evaluation mentioned above), OIOS considers it necessary to effectively coordinate and carry out the governance of this project, and to define a project “Owner” and the related accountabilities. This can be achieved by creating a sub-committee of the Steering Committee on Information Management.

Recommendation 5

(5) The Chief Information Technology Officer, in consultation with the Department of General Assembly and Conference Management

and the Department of Public Information, should establish a sub-committee of the Committee on Information Management to oversee the ODS enhancement project.

38. *DGACM accepted recommendation 5 and stated that it will participate in the sub-committee of the Committee on Information Management to be established by the CITO. The CITO did not provide additional comments.* Recommendation 5 remains open pending establishment by the CITO of the sub-committee of the Committee on Information Management, which will include representation from DGACM and DPI.

VI. ACKNOWLEDGEMENT

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

cc: Mr. Swatantra Goolsarran, Executive Secretary, UN Board of Auditors
Ms. Maria Gomez Troncoso, Officer-in-Charge, Joint Inspection Unit Secretariat
Mr. Moses Bamuwanye, Chief, Oversight Support Unit, Department of Management
Mr. Byung-Kun Min, Programme Officer, OIOS
Mr. William Petersen, Chief, New York Audit Service, OIOS

CONTACT INFORMATION:

ACTING DIRECTOR:

Fatoumata Ndiaye: Tel: +1.212.963.5648, Fax: +1.212.963.3388,
e-mail: ndiaye@un.org

CHIEF, NEW YORK AUDIT SERVICE:

William Petersen: Tel: +1.212.963.3705, Fax: +1.212.963.3388,
e-mail: petersenw@un.org

STATUS OF AUDIT RECOMMENDATIONS

| Recom. no. | Recommendation | Risk category | Risk rating | C/O ¹ | Actions needed to close recommendation | Implementation date ² |
|------------|---|---------------|-------------|------------------|--|----------------------------------|
| 1 | The Department of General Assembly and Conference Management should re-evaluate its plans to develop the iCMS application and update them based on experience to date in terms of budgeting and time line to achieve the project goals. | Governance | Medium | O | OIOS should be provided with updated development plans of the iCMS project. | 31/03/2009 |
| 2 | The Department of General Assembly and Conference Management should prepare a High Level Business Case (HLBC) for the iCMS project as soon as practicable. The HLBC should consolidate the information about the project from the various methodologies that have been used to date, and provide a consistent basis for ongoing monitoring of the project progress. | Operational | Medium | C | Action completed | Implemented |
| 3 | The Department of General Assembly and Conference Management should update its detailed project plans for all three sub-projects, and monitor progress according to predefined time lines. | Operational | Medium | O | OIOS should be provided with an updated project plan for developing "Project 3". | 31/03/2009 |
| 4 | The Department of General Assembly and Conference Management should establish procedures for the development and testing of applications, based on professional security standards that require secure links and mechanisms for the authentication of user access to all systems. | Operational | High | O | OIOS should be provided with security and authentication standards agreed upon between DGACM and OICT. | 31/03/2009 |

| Recom. no. | Recommendation | Risk category | Risk rating | C/O ¹ | Actions needed to close recommendation | Implementation date ² |
|------------|---|---------------|-------------|------------------|--|----------------------------------|
| 5 | The Chief Information Technology Officer, in consultation with the Department of General Assembly and Conference Management and the Department of Public Information, should establish a sub-committee of the Committee on Information Management to oversee the ODS enhancement project. | Governance | High | O | OIOS should be provided with documentation establishing the sub-committee of the Committee on Information Management, which will include representation of DGACM and of DPI. | 30/06/2009 |

1. C = closed, O = open

2. Date provided by DGACM in response to recommendations.