



## **INTERNAL AUDIT DIVISION**

### **AUDIT REPORT 2013/066**

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#### **Audit of the pre-implementation activities of the United Nations Joint Staff Pension Fund's Integrated Pension Administration System**

**Overall results relating to the pre-implementation activities of the United Nations Joint Staff Pension Fund's Integrated Pension Administration System were initially assessed as satisfactory**

**FINAL OVERALL RATING: SATISFACTORY**

**19 August 2013**

**Assignment No. AT2012/800/01**

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# AUDIT REPORT

## Audit of the pre-implementation activities of the United Nations Joint Staff Pension Fund's Integrated Pension Administration System

### I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of the pre-implementation activities of the United Nations Joint Staff Pension Fund's Integrated Pension Administration System (IPAS). These activities included the governance and oversight of the initiative, planning, system development, design and testing, procurement and recruitment.
2. In accordance with its mandate, OIOS provides assurance and advice on the adequacy and effectiveness of the United Nations internal control system, the primary objectives of which are to ensure (a) efficient and effective operations; (b) accurate financial and operational reporting; (c) safeguarding of assets; and (d) compliance with mandates, regulations and rules.
3. The IPAS project was endorsed by the Pension Board of the United Nations Joint Staff Pension Fund (UNJPSF or the Fund) at its 55th session in 2008. UNJPSF presented a high level business case (HLBC) for the implementation of IPAS. The HLBC report (JSPB/55/R.22) proposed the replacement of the legacy pension entitlement system (Pensys), the financial accounting system (Lawson), the content management system, as well as other stand-alone information and communications technology support systems with a fully integrated system.
4. The Fund developed a new target operating model for the implementation of IPAS, centered on 27 re-engineered processes.
5. An IPAS Steering Committee and a Project Direction Team (PDT) were established for governing the initiative. The Steering Committee provided strategic guidance and oversight of the project, and monitored progress against plans. PDT provided tactical advice, resolved conflicts, decided on work priorities and helped manage changes. The Steering Committee, reporting to the Chief Executive Officer (CEO) of UNJSPF, included representatives from each of the Fund's functional groups. An external system integrator was engaged for supporting the integration of the business process with the newly acquired system software.
6. In 2009, the Pension Board approved the initial resources required for starting the project, including resources for hardware, software, contractual services, system integrators, external consultants, and temporary staff costs.
7. In 2011, the Pension Board, and subsequently the General Assembly, approved the resources required for the project. The approved budget for the implementation of IPAS was \$22,660,300.
8. The IPAS Project Team was staffed with 18 posts. Following the approval of the initial resources, the Fund recruited a full time project manager and staggered the recruitment of a broad multidisciplinary project team.
9. The execution of the project was divided into four phases: (i) planning and design; (ii) pre-implementation and procurement; (iii) implementation; and (iv) testing, training and deployment. As of 31 March 2013, the project was in the implementation phase.

10. The Fund adopted the standard project management methodology “Projects in Controlled Environments” (PRINCE II), for managing IPAS implementation.

## II. OBJECTIVE AND SCOPE

11. The audit was conducted to assess the adequacy and effectiveness of the UNJSPF governance, risk management and control processes in providing reasonable assurance regarding the **effectiveness of the pre-implementation activities of IPAS**.

12. This audit was included in the 2012 OIOS risk-based annual work plan in consideration of the significant risks associated with the migration, testing, and integration of data in IPAS, which are critical to the successful implementation of the system.

13. The key controls tested for the audit were: (a) strategic planning and risk management; (b) project management capacity; (c) change management; and (d) information and communications technology (ICT) support system. For the purpose of this audit, OIOS defined these key controls as follows:

(a) **Strategic planning and risk management** - controls that provide reasonable assurance that an effective strategy has been established, with related risk management mechanisms in place for the implementation of IPAS;

(b) **Project management capacity** - controls that provide reasonable assurance that there is sufficient project management capacity to achieve the strategic goals of IPAS, including: (i) adequate financial resources; (ii) adequate and competent human resources; and (iii) appropriate project management tools, methodology and systems;

(c) **Change management** - controls that provide reasonable assurance that there is a systematic approach to dealing with changes and issues associated with the implementation of IPAS, including awareness, escalation procedures and communication; and

(d) **ICT support system** - controls that provide reasonable assurance that IPAS is supported by an adequate infrastructure for the development, production and disaster recovery environments.

14. The key controls were assessed for the control objectives shown in Table 1.

15. OIOS conducted the audit from 27 November 2012 to 7 June 2013. The audit covered the period from April 2008 to June 2013.

16. OIOS conducted an activity-level risk assessment to identify and assess specific risk exposures, and to confirm the relevance of the selected key controls in mitigating associated risks. Through interviews, analytical reviews and tests of controls, OIOS assessed the existence and adequacy of internal controls and conducted necessary tests to determine their effectiveness.

## III. AUDIT RESULTS

17. In the opinion of OIOS, the UNJSPF governance, risk management and control processes examined were **satisfactory** in providing reasonable assurance regarding the **effectiveness of the pre-implementation activities of IPAS**.

18. The IPAS project had been managed on the basis of good control practices and procedures in governance and project management, system development, and business users' involvement. However, OIOS identified some opportunities for improvement in documenting the total cost of ownership, strengthening IPAS performance management, complementing the human resources strategy, generating financial dashboards, and forecasting long-term support requirements.

19. The initial overall rating was based on the assessment of key controls presented in Table 1 below. The final overall rating is **satisfactory**.

**Table 1: Assessment of key controls**

Business objective	Key controls	Control objectives			
		Efficient and effective operations	Accurate financial and operational reporting	Safeguarding of assets	Compliance with mandates, regulations and rules
<b>Effectiveness of the pre-implementation activities of IPAS</b>	(a) Strategic planning and risk management	Satisfactory	Satisfactory	Satisfactory	Satisfactory
	(b) Project management capacity	Satisfactory	Satisfactory	Satisfactory	Satisfactory
	(c) Change management	Satisfactory	Satisfactory	Satisfactory	Satisfactory
	(d) ICT support system	Satisfactory	Satisfactory	Satisfactory	Satisfactory
<b>FINAL OVERALL RATING: SATISFACTORY</b>					

### **A. Strategic planning and risk management**

#### Expected project costs and benefits

20. The Fund's strategic framework for the period 2014-15 identified IPAS as one of the five key priorities for the biennium.

21. The HLBC of the IPAS project had been documented, and the initiative was approved by the Pension Board and the General Assembly. The HLBC defined the high level requirements of IPAS and their logical linkages with the strategic framework of the Fund. The HLBC contained the overall objectives of the project, high level scope, schedule, resources, anticipated outcomes, and benefits in terms of expected value to the Fund. In accordance with PRINCE II, the Fund had conducted periodic reviews of the project initiation document throughout the life cycle of the project, to justify the continued validity and justification of the IPAS project.

22. The anticipated outcomes of the project were documented in the HLBC and in the budget submission for the 2014-2015 biennium.

23. The Fund estimated that the total cost of the project for the period 2010-2015 would be \$22.6 million. An amount of \$2.3 million has been estimated as cost savings per annum commencing from the time the new system and associated processes go live. The Fund expected to derive these savings from the reduced costs associated with the elimination of the current mainframe hosting arrangements and

efficiency gains in staff capacity with an estimated savings equated to approximately 8 staff members. Given that adequate procedures were put in place for the calculation of the costs and benefits associated with the IPAS initiative, OIOS did not make any recommendations in this area.

## **B. Project management capacity**

### Governance and oversight roles

24. The IPAS project was managed with adequate controls to ensure that adequacy of : (i) financial resources; (ii) competent human resources; and (iii) project management tools, methodology and systems.

25. The IPAS project was managed by two entities, a Steering Committee and the PDT. The Steering Committee provided strategic guidance and oversight of the financial and human resources, as well as of the project management and monitoring tools and methodologies. PDT provided tactical advice, resolved conflicts, decided on work priorities, and helped manage changes. However, this governance structure was not aligned with the standard governance roles defined in PRINCE II, which requires that only one entity is accountable for the success of the project.

26. The presence of two entities managing the project prevented UNJSPF from having one single point of oversight and direction of the initiative. Although the Steering Committee was accountable for the project, the PDT was the body that monitored the progress of the project on a regular basis.

27. In direct response to the interim audit observations made by OIOS, the Fund updated: (i) the terms of reference of the PDT, to serve as the main oversight mechanism for the project; and (ii) the terms of reference of the IPAS Steering Committee, to serve as a stakeholder engagement group. In view of the action already taken, OIOS did not make any recommendations in this area.

### Project planning

28. The Fund adopted PRINCE II as the project management methodology, and the Agile methodology for system implementation. In accordance with these methodologies, reports, documents, interfaces and batch development were managed using a waterfall-based approach.

29. A series of detailed project plans had been documented as a basis for planning, implementing, and monitoring the development of IPAS. These documents included the project plan and schedule, with milestones, and the test and acceptance plan. In particular, the Fund included a project plan for the work stage level within a document called the sprint plan. The sprint plan provided a breakdown of the work stages by project segments, dates, and logical groups of functionalities (tracks). Tracks were further broken down into smaller tasks called sprints. The project plan contained details of the milestones, their description, and related deliverables and acceptance criteria. Given that the details of the project plans and their associated documents were adequate, OIOS did not make any recommendations in this area.

### Concurrent projects and system dependencies

30. The design of the new processes was adequately documented, and all specifications including interfaces and system integrations were clearly defined.

31. With regard to the Fund's ICT infrastructure, there were three concurrent projects and on-going enhancements of the Fund's ICT infrastructure, which all had dependencies with the IPAS project,

including: (i) data integration/warehousing system; (ii) security authentication/authorization system; and (iii) document scanning system.

32. The plans supporting the IPAS project included a detailed definition of milestones, sprints, target operating model, process flows, verification points, test libraries, and test and acceptance criteria.

33. The interrelationships between these three projects and an assessment of the impact deriving from the implementation of concurrent and interrelated ICT initiatives were documented in the IPAS project plan and adequately managed. Given that the interrelationships between projects were adequately identified and managed, OIOS did not make any recommendations in this area.

#### Performance management

34. The PDT monitored the progress of the IPAS project team during its weekly meetings. The presentations documented during these meetings showed that the progress of the project had been measured against the verification, validation, user acceptance and end-to-end testing phases and milestones defined in the sprint plan. Testing statistics presented the number and percentage of cases completed, remaining, passed, and failed.

35. Attention items were discussed by PDT with the IPAS Project Manager. Major decisions were communicated through emails, central repositories, team meetings, quarterly newsletters, and town hall meetings. In addition, the CEO included IPAS implementation as a standing item for discussion in his performance review meetings with Operations, Financial Services, and the Geneva Office.

36. The contract with the system integrator was on a fixed time and material basis. Its progress was measured against successful delivery of the validations tests, executed by the business users, and confirming that the design and performance of the system was consistent with the requirements. The results of the validation tests were produced on a daily basis, and the exit criteria defined for each validation point were used for monitoring the performance of the system integrator and to ensure that all critical and high rated defects were corrected prior to considering the validation point complete. These criteria were defined in accordance with a structured rating of defect definitions. Given that the control mechanisms established by UNJSPF for managing the performance of the IPAS Team and system integrator were adequate and well documented, OIOS did not make any recommendations in this area.

#### Human resources planning and forecasting

37. Following the approval of the initial funding of the IPAS project by the Pension Board, the Fund recruited a full time project manager. The recruitment of the remaining members of the project team was scheduled in stages, in accordance with the timeline of the project, for ensuring that staff with the required expertise would have been engaged only when needed.

38. The staggered recruitment approach and human resources plan detailed types of resources (i.e., operations, finance, and ICT), activities, and dates. The human resources plan included 19 subject matter experts (i.e., IPAS implementation coordinators) for accounts, cashiers and treasury, client services, payments, pension entitlements, and Geneva operations.

39. The criteria and mechanisms for determining the number of posts and skill-set required by the IPAS project had been defined in the sprint plans, with validation points and corresponding resources needed.

40. Process owners had been identified for benefit calculations, payroll/payments, participants' accounts, separation master, contributions collection, financial statements, accounting/annual statements, and participants' records. OIOS concluded that the control processes established by UNJSPF in this area were adequate, and did not make any recommendations in this area.

#### Budget monitoring, burn rates, and dashboards

41. Monthly budget reviews had been conducted by the Project Manager with the CEO of the Fund. In direct response to the interim audit observations made by OIOS, the Fund also added budget reviews as an item in the agenda of the PDT monthly meetings.

42. As of the time of the audit, \$11.7 million (52%) had been used out of the total budget of \$22.6 million. The latest budget review conducted by the Fund concluded that the project was within the overall estimates and it was expected to be completed at 99% of the allocated budget. Given that adequate budget reviews were established, OIOS did not make any recommendations in this area.

### **C. Change management**

#### Change management and escalation procedures

43. A change management strategy is a comprehensive and systematic plan developed by the Organization to build awareness, manage the escalation of issues, and communication of changes deriving from the implementation of a new information system.

44. The external system integrator and provider of the software solution made an initial presentation at the project kick-off meeting on change management, along with a document prepared by the IPAS project team on change management. The Fund's approach for managing change was supported by:

(i) A recently created change management working group that met on a bi-weekly basis and was represented by all areas of the Fund, including Operations, Financial Services, Information Management, Legal, Executive Office, Geneva Office, Front Office and IPAS Team. The meetings of this working group were facilitated by a qualified change management professional of the external system integrator;

(ii) An escalation procedure (i.e., IPAS issue escalation procedure) for issues identified by the business, IPAS Team, and the external system integrator respectively; and

(iii) Regular communication among the members of the working group, CEO and staff. A communication matrix had been developed to guide a process that included periodic newsletters, town hall meetings, and – when required – structured walkthroughs conducted on key aspects of the new system.

45. Given that the procedures established by UNJSPF for change management, escalation of issues, and communication were adequate, OIOS did not make any recommendations in this area.

### **D. ICT support system**

46. In December 2010, the Fund completed the relocation of its primary data centre from the New York Headquarters, to the North America data-centre in Piscataway, New Jersey. While the infrastructure for the development environment of IPAS was deployed, the full deployment of the production and



disaster recovery infrastructure was planned for the latter part of 2013 to coincide with the user acceptance testing and the 2014 go-live phase. This approach was justified to avoid support costs of the hardware and software infrastructure when the system was not yet ready for testing. Given that adequate project plans, status reports, and Steering Committee approvals were in place with regard to the ICT infrastructure, OIOS did not make any recommendations in this area.

#### Access control and security requirements of the new system

47. The definition and configuration of security controls had been included in the “sprint plan J, No.4, role based security setup”. The Fund’s access controls and security requirements were expected to be defined, configured and tested via multiple sprints scheduled for the third and fourth quarter of 2013 (i.e., role-based security for the IPAS system and Oracle database).

48. The consulting firm utilized by the Fund recommended the conduct of tests on access control and security at least once before the actual user acceptance test, for identifying potential security issues. The Fund planned to perform these tests as part of the user acceptance testing that will include security and access controls. Given that access control and security requirements were adequately planned and documented, OIOS did not make any recommendations in this area.

#### Testing plans and redesigned processes

49. In November 2012, a consulting firm engaged by the Fund finalized a comprehensive testing strategy and approach document with new design scenarios, rules, business processes and data sources, providing the foundation for specific testing plans. OIOS reviewed a sample of the testing scenarios and test data which showed that the IPAS Team implemented the specific testing plans recommended by the consulting firm. There was also evidence of a plan to execute a thorough testing process with multiple parallel runs with Pensys, including the monthly payroll cycle and benefits calculations.

50. The processes planned by the IPAS Team included monthly payroll processing and calculation of each benefit type, on the basis of a library of test scenarios being compiled using real cases covering a spectrum of cases from simple to extremely complex. Given that adequate tests of the redesigned processes were executed and a plan for additional ongoing parallel tests was in place, OIOS did not make any recommendations in this area.

#### Long term support and maintenance needs

51. The Fund had signed a five year support and maintenance contract with the external solution provider from the acceptance date. A decision had not been made as to the long term intentions of the Fund concerning support after the initial five year contract expires. Given that adequate provisions were included in the five year support and maintenance contract with the solution provider, OIOS did not make any recommendations in this area.

## **IV. ACKNOWLEDGEMENT**

52. OIOS wishes to express its appreciation to the Management and staff of UNJSPF for the assistance and cooperation extended to the auditors during this assignment.

*(Signed)* David Kanja  
Assistant Secretary-General for Internal Oversight Services

# **APPENDIX I**

## **Management Response**

UNITED NATIONS



NATIONS UNIES

UNITED NATIONS JOINT STAFF PENSION FUND  
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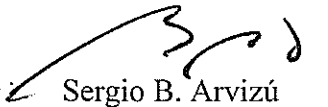
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## MEMORANDUM

Ref:

New York, 12 August 2013

To / A: Mr. G. Kumar, Deputy Director  
Internal Audit Division, OIOS

From / De :   
Sergio B. Arvizú  
Chief Executive Officer  
United Nations Joint Staff Pension Fund

Subject / Objet: Draft report on an audit of the pre-implementation activities of the United Nations Joint Staff Pension Fund's Integrated Pension Administration System  
(Assignment No. AT2012/800/01)

1. Reference is made to your memorandum of 29 July 2013 providing the overall results relating to the above-mentioned audit.
2. Thank you very much for this very comprehensive and well thought-out review. The Fund observes that the four categories analyzed (i) efficient and effective operations, ii) accurate financial and operational reporting, iii) safeguarding of assets, and iv) compliance with mandates, regulations and rules, have all been assessed as satisfactory and that the Fund has established processes and internal controls that provide reasonable assurances regarding the efficient and effective implementation of this important project and that there were no audit observations issued. As noted, "the IPAS project had been managed on the basis of good control practices and procedures in governance and project management, system development, and business users' involvement."
3. However, OIOS identified some opportunities for improvement in documenting the total cost of ownership, strengthening IPAS performance management, complementing the human resources strategy, generating financial dashboards, and forecasting long-term support requirements. These opportunities for improvement will be appropriately analyzed and reviewed by the Project Direction Team (PDT) and, in its case, implemented.
4. Thank you again for this comprehensive audit report, thoughtful assessment of this important topic and the constructive discussions with the Fund Secretariat.

cc: Mr. F. DeTurreis  
Mr. P. Dooley  
Mr. K.-L. Soll  
Mr. A. Kapoor  
Ms. K. Manosalvas  
Ms. A. Halasan