



## INTERNAL AUDIT DIVISION

### REPORT 2019/038

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Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund

Project management and oversight need to be strengthened for the pension interface programme and monthly contributions project

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Assignment No. AT2018/800/01

# **Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund**

## **EXECUTIVE SUMMARY**

The Office of Internal Oversight Services (OIOS) conducted an audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund (UNJSPF). The objective of the audit was to assess the adequacy and effectiveness of governance, risk management and control processes over data interfaces and the monthly contributions project in UNJSPF. The audit covered the period January 2016 to August 2018 and included a review of risk areas pertaining to data interfaces and the monthly contributions project which included: (i) project management; (ii) cost control; and (iii) interface controls and related processes.

The audit indicated that the UNJSPF Secretariat needs to strengthen project management and oversight for the pension interface programme and monthly contributions project. OIOS made 6 recommendations. To address the issues identified in the audit, the UNJSPF Secretariat needed to:

- Strengthen project management by: (a) ensuring that the pension interface programme and the monthly contributions project are controlled in accordance with the adopted project management methodology; (b) assessing the changes in business processes that are essential for programme implementation; (c) updating the composition of the Programme Direction Team (PDT) to include UNJSPF business and strengthening the PDT's role in programme oversight; (d) verifying the business case and updating the programme definition document for the interface programme; (e) establishing schedules in collaboration with member organizations for implementing the pending interface projects and rollout of the monthly contributions project to other member organizations; and (f) developing performance indicators for measuring the benefits expected from the pension interface programme;
- Establish a cost budget for the pension interface programme and the monthly contributions project and update it on a biennial basis; and track the actual costs to mitigate the risk of cost overruns;
- Finalize the service level agreement with the Fund's member organizations to ensure effective implementation of pension interfaces;
- Ensure effective implementation of its change and release management process for pension interfaces; review all pending interface-related changes for resolution; and ensure that member organizations are involved in the pension interface change management process;
- Develop detailed ICT security requirements for pension interfaces and implement controls to address the security weaknesses identified by the audit; and
- Establish a process to ensure timely processing of interfaces including investigation and resolution of errors; simplify and validate all error messages for ease of understanding; and document all process algorithms required for accurate processing of interfaces.

The UNJSPF Secretariat accepted the recommendations and has initiated action to implement them.

# CONTENTS

	<i>Page</i>
I. BACKGROUND	1-2
II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY	2
III. AUDIT RESULTS	2-12
A. Project management	2-5
B. Cost control	6-7
C. Interface controls and related processes	7-12
IV. ACKNOWLEDGEMENT	12
ANNEX I      Status of audit recommendations	
APPENDIX I   Management response	

# **Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund**

## **I. BACKGROUND**

1. The Office of Internal Oversight Services (OIOS) conducted an audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund (UNJSPF).
2. UNJSPF was established in 1948 by a resolution of the General Assembly to provide retirement, death, disability and other related benefits for staff upon cessation of their services with the United Nations and the Fund's 23 other member organizations. The United Nations is one member organization comprising the United Nations Secretariat and related entities<sup>1</sup>.
3. The Fund established a pension interface programme in August 2012 with the approval of the United Nations Joint Staff Pension Board (or "Pension Board"). The objective of the programme was to establish a new "common" pension interface<sup>2</sup> (also called as data interface) between member organizations and the Fund. Accordingly, the Fund prepared a programme definition document. The scope of the programme included two main interfaces: (a) the Human Resources (HR) interface that captures the necessary HR-related information for participants at each member organization; and (b) the Financial interface that automates the collection of contribution-related information for the participants monthly by replacing the manual and time-consuming annual process of collecting the contribution-related information.
4. The pension interface programme was expected to centrally oversee some 42 interface "projects" (21 relating to the HR interface and 21 relating to the Financial interface) and monitor/change them collectively in accordance with the widely-used project management methodology. The Fund also documented a business case for the programme indicating several long-term anticipated outcomes including: (i) improved data quality; (ii) accurate benefit estimates; (iii) up-to-date information availability that will improve the timeliness of separation processing; (iv) monthly reconciliation of contributions; (v) availability of monthly contribution statements; and (vi) significant cost savings.
5. The pension interface programme was established under the direction of the Fund's Deputy Chief Executive Officer. A Programme Board (also called Programme Direction Team or PDT) was established to oversee the programme. Additionally, the Fund's Chief Information Officer was designated as the Project Executive responsible for ensuring that each interface project established under the pension interface programme achieves its objectives and the intended benefits.
6. In 2016, the Fund started working towards implementing the monthly financial contributions interface<sup>3</sup> to enable the monthly reconciliation of financial data by comparing the expected and actual contribution amounts. The pension reconciliation exceptions (PRE) process involves the comparison of the actual contributions received on behalf of an individual with the estimated contributions. PREs are created when actual data does not match the estimates, which is provided back to the member organization in form

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<sup>1</sup> These include the United Nations International Children Emergency Fund (UNICEF), the United Nations Office for Project Services (UNOPS), the United Nations Development Programme (UNDP), the United Nations High Commissioner for Refugees (UNHCR), and the United Nations Relief and Works Agency for Palestine Refugees (UNRWA).

<sup>2</sup> A "common" interface refers to a solution that can be used by the Fund to process data from all member organizations.

<sup>3</sup> See the proposed programme budget for the biennium 2016-2017 (A/70/325) where it was stated that "the Fund wishes to put in place a monthly process and related technology for the reconciliation of participant contributions reported by the member organizations."

of the PRE report for timely resolution. At the time of the audit, a pilot of the monthly contributions project was in progress with the International Civil Aviation Organization (ICAO).

7. The Fund has spent approximately \$5.4 million between 2014-2018 on the pension interface programme. The Fund has not prepared estimates for future costs.

8. Comments provided by the UNJSPF Secretariat are incorporated in italics.

## **II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY**

9. The objective of the audit was to assess the adequacy and effectiveness of governance, risk management and control processes over data interfaces and the monthly contributions project in UNJSPF.

10. This audit was included in the 2018 risk-based work plan of OIOS due to the risk that potential weaknesses in management of the common data interfaces and the monthly contributions project.

11. OIOS conducted this audit from September 2018 to March 2019. The audit covered the period from January 2016 to August 2018. Based on an activity-level risk assessment, the audit covered risk areas pertaining to data interfaces and the monthly contributions project which included: (i) project management; (ii) cost control; and (iii) interface controls and related processes.

12. The audit did not cover interfaces that are internal to the Fund's Integrated Pension Administration System (IPAS), such as the bank interface, the 'V3 interface to EBS error', exchange rate interface, and disbursement interface. Additionally, the proposed UNJSPF-United Nations Joint Separations Interface was not covered in this audit because this initiative was in a very preliminary stage.

13. The audit methodology included: (a) interviews with key personnel; (b) review of relevant documentation; (c) analytical review of data; (d) test of controls; and (e) survey and walk throughs.

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

## **III. AUDIT RESULTS**

### **A. Project management**

15. The pension interface programme and related pension interface projects were to be managed in accordance with the widely-used project management methodology "Projects in Controlled Environments" (PRINCE2) to achieve the programme objectives within the expected performance targets for time, cost, quality, scope, benefits and risk.

16. OIOS' review of 12 out of the 42 projects within the pension interface programme and the pilot of the monthly contributions project indicated the following.

#### Projects relating to the pension interface programme

17. The Fund was expected to verify and maintain the business case (documented in the programme definition document) at various stages of the pension interface programme to ensure that the interface programme and related projects remain justified and that the business objectives and benefits being sought

can be realized. However, the business case established for the programme was not reviewed and revalidated since 2013 to ensure that the programme remains justified and that the business objectives and benefits being sought can be realized.

18. The PDT that was established to oversee the programme did not meet to review the programme status, project plans, risks, open issues, and cost. Furthermore, the PDT did not have any representation from the UNJSPF business (Accounts and Operations). Some high-level updates were provided to the Pension Board as well as the Fund's Information Technology Executive Committee (ITEC). However, these were informational in nature rather than for review and oversight purposes.

19. Further, the Project Board constituted for each project under the umbrella of the pension interface programme did not monitor the project's status. Four out of the 12 pension interface projects reviewed had not yet started even though they had passed their defined completion deadlines. Similarly, there was a delay in the completion of four other pension interface projects.

20. No timeframe was established for the full implementation of the pension interface programme. As of October 2018, 14 member organizations were enabled for the common HR interface, while only 8 member organizations were enabled for the Financial interface.

21. Several important project control procedures (such as project risk register, benefits review plan exception reports, quality register, end of project report and lessons logs) were not implemented.

22. According to the configuration management strategy documented in the Project Initiation Document (PID), all project-related documents and deliverables were to be maintained in a secure document repository which was accessible by the member organizations for their respective projects. Accordingly, the Fund had established a document repository to store all project deliverables and made it available to the member organizations. However, with time, this repository became unusable because it was not updated. It also became inaccessible because the Fund disabled all access following a cyber-attack. Furthermore, the specification documents for the pension interfaces were outdated. The Fund stated that it was in the process of re-establishing the document repository.

23. Project assurance<sup>4</sup> had not been defined. Project assurance plays a major role in monitoring the changes to the project plan to identify any impact on the needs of the business, the business case, and for undertaking an impact assessment of potential changes on the business case and the project plan. Further, the projects faced challenges from the departure of the project manager for the Financial interface, which might cause project delays.

24. The Fund expected several benefits from the pension interface programme, including: (i) improved data quality; (ii) replacement of year-end financial reconciliation process with a monthly process; (iii) accurate and timely information; (iv) accurate benefit estimates; and (v) significant costs savings. However, the Fund had not developed any performance indicators to measure the achievement of the expected benefits.

25. The Fund did not define the resourcing strategy for the pension interface programme and projects, which were managed on a part-time basis. The same ICT staff were responsible for managing the projects, developing and maintaining the interface application, and resolving errors. Besides interfaces, the same ICT staff were also responsible for supporting IPAS. The Fund had requested temporary assistance and

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<sup>4</sup> PRINCE2 describes project assurance as a discipline that provides an independent view of how the project is progressing. There are three views of assurance: business, user and specialist. Each view reflects the interests of the three Project Board members.

procured the professional services from a United Nations agency (“Agency A”) each year for developing and maintaining the interfaces but did not evaluate the need for the resources to ensure continuous support and maintenance of the pension interfaces.

#### Pilot of the monthly contribution project

26. One of the long-term anticipated outcomes of the pension interface programme was to replace the year-end contribution reconciliation process with a monthly contribution reconciliation process.

27. In the proposed programme budget for the biennium 2016-2017 (A/70/325), the Fund requested \$3.6 million to execute a project to design and implement a technical solution as well as the supporting administrative processes for monthly reconciliations. The Fund proposed to do the initial implementation with ‘early adopter’ member organizations that have already established electronic interfaces with the Fund to be able to deliver the contribution data monthly. However, this project failed to take off in 2016-2017 and no subsequent update on this project was reported, including on the use of the \$3.6 million allocated to this project.

28. In 2018, the Fund started a pilot project with ICAO to develop a monthly contributions interface, with a planned completion date of January 2019. This project was delayed and a new completion date was determined as June 2019. Further, the pilot project included the development of a business intelligence dashboard (monitoring of contributions and exceptions) which was outsourced to Agency A at a total cost of \$447,850 to facilitate the monitoring of contributions.

29. The Fund needed to strengthen the internal controls over the monthly contributions project in several areas as follows:

(a) The Project Board constituted for this project had never met since its inception in July 2018. Status updates on this project were provided in the Fund’s quarterly ITEC meetings but these were informational in nature and did not include the representatives from the participating member organization.

(b) The PID for the monthly contributions project stated that the project will have a major impact on the business processes, with reconciliations occurring on a monthly basis. The pilot project required new business processes to be put in place and tested prior to go-live in 2019. At the time of the audit, the Fund had not taken any steps to assess the impact on business processes.

(c) The Fund did not define any performance indicators to monitor the achievement of expected project benefits (i.e., improved data quality, significant reduction in discrepancies, accurate and timely information, and significant cost savings). Further, it was unclear whether the expected benefits were identified by the Fund in consultation with ICAO.

(d) Project documents were not maintained in a common repository accessible by the Fund as well as ICAO. ICAO received the project documents by email and there was no way to ensure that it had the latest version of the documents.

(e) The risks related to attrition of key members of the project team was not considered in the risk register. The initial project manager left in June 2018 which contributed to the delay in the project.

(f) Project assurance is crucial for project management but the person designated for project assurance was not involved in the project at all.

(g) The testing strategy was not adequately defined. The responsibility for testing was initially assigned to the Accounts Unit as a senior user, but in January 2019 the ICT project team assumed the responsibility. This was not appropriate as project managers and product developers (i.e., the ICT team) should not assume the responsibility of senior users. Furthermore, ICAO was unable to perform testing because of connection problems.

30. The monthly contributions project has been projected as the future of interfaces. The Fund stated that though there were some member organizations who had expressed interest in implementing the project, such discussions had not been formalized. There were no plans for upscaling the project. Some member organizations with a large number of participants (e.g., the United Nations Secretariat) had not yet established a common financial interface with the Fund, which is a prerequisite to start the project.

**(1) The UNJSPF Secretariat should strengthen project management by: (a) ensuring that the pension interface programme and the monthly contributions project are controlled in accordance with the adopted project management methodology; (b) assessing the changes in business processes that are essential for programme implementation; (c) updating the composition of the Programme Direction Team (PDT) to include UNJSPF business and strengthening the PDT's role in programme oversight; (d) verifying the business case and updating the programme definition document for the interface programme; (e) establishing schedules in collaboration with member organizations for implementing the pending interface projects and rollout of the monthly contributions project to other member organizations; and (f) developing performance indicators for measuring the benefits expected from the pension interface programme.**

*The UNJSPF Secretariat accepted recommendation 1 and stated that: (a) the Fund will strengthen the pension interface programme by reviewing the membership of its PDT, as well as the short and long-term organizational goals. The monthly contributions project will maintain adequate documentation to cover key project management controls in accordance with the relevant best practices; (b) for the ICAO roll out, the business process change is minimal due to the relatively limited scope of data. For subsequent rollouts, business process changes and resource requirements will be addressed with in the relevant sections within the Fund; (c) the Fund will review and update as needed the business case and programme definition document for the interface programme; (d) the Fund will establish schedules with those member organizations that commit to the programme. Several member organizations expressed interest in pursuing the rollout project and two of them have already been identified for the 2019/2020 rollout; and (e) to establish a baseline and relevant indicators, business units will identify and measure various processing times in the current processing that are expected to improve in accordance with the implementation of the monthly financial interface, such as processing of the year-end schedule files; and paper-based separation notifications.*

Recommendation 1 remains open pending receipt of evidence that: (i) the pension interface programme and the monthly contributions project are controlled in accordance with the project management methodology; (ii) business process changes essential for programme implementation have been assessed; (iii) composition of the PDT has been updated; (iv) business case and the programme definition document have been updated; (v) schedules for pending interface projects and roll out of the monthly contributions project to other member organizations have been established; and (v) performance indicators for measuring the benefits expected from the pension interface programme have been established.



## B. Cost control

### Cost of the pension interface programme was not tracked

31. One of the long-term anticipated outcomes of the pension interface programme was to expect significant cost savings at the Fund as well as member organizations by automation of the related administrative tasks (i.e., HR, contribution data processing, and new pension number assignment).

32. The Fund did not prepare a cost budget for implementing the pension interface programme. The programme definition document stated that every two years as part of the biennial budget preparation, a strategy document will be prepared indicating the potential member organizations that could implement the interfaces in the coming biennium, as well as the estimated costs and benefits. The programme definition document was to be updated accordingly each biennium. However, the pension interface programme document was never updated.

33. The Fund did not track the cost of the pension interface programme. Further, the PDT never reviewed the programme's cost. At the request of OIOS, the Fund prepared an estimate of expenditures (internal and external) incurred in the development of interfaces from 2014 to 2018 including one-time costs as well as the costs incurred in maintaining the interfaces. The total cost incurred as of December 2018 was at least \$5.4 million. These costs did not include interface-related infrastructure costs and the license fees. The Fund has not estimated the costs to be incurred during future years.

34. The Fund lacked the tools to monitor the cost and implementation of various interface-related project agreements awarded to Agency A. The Fund stated that it was working with Agency A to develop a dashboard to control the costs relating to services provided by Agency A. For example, the Fund signed a project agreement with Agency A in 2016 to implement HR and Financial interfaces with the four entities (UNDP, UNHCR, World Intellectual Property Organization – WIPO and International Fund for Agricultural Development – IFAD) at a cost of \$645,323. The duration of this project was 18 months with expected completion in the fourth quarter of 2017. There was a delay in implementing common HR interface for one entity (UNHCR), while the Financial interface was yet to be deployed in three other entities (UNDP, UNHCR and WIPO).

35. In June 2018, the Fund signed a new project agreement with Agency A at a one-time cost of \$430,275. The scope of this project included the onboarding of member organizations and entities to the Financial interface. This project agreement did not explicitly exclude the entities where implementation under the 2016 project agreement was still pending. Besides, a service delivery agreement was signed with Agency A at a recurring annual cost of \$359,940 for provision of production support and maintenance of interface operations. The cost of the recurring service delivery agreement itself could exceed \$1 million in the next three years. Inadequate oversight may cause cost overruns.

36. Furthermore, full implementation of the monthly contributions project upon completion of the current pilot project in ICAO may require significant investment from the Fund and member organizations.

37. OIOS is of the view that the Fund needs to strengthen its cost control of the pension interfaces programme and the monthly contributions project by enhancing transparency and ensuring that the risk of cost overruns is adequately mitigated.

**(2) The UNJSPF Secretariat should: (a) establish a cost budget for the pension interface programme and the monthly contributions project and update it on a biennial basis; and (b) track the actual costs to mitigate the risk of cost overruns.**

*The UNJSPF Secretariat accepted recommendation 2 and stated that currently, estimates about external and internal costs are reported at the quarterly meetings of ITEC. For the external cost, third party service providers have started to include in their periodic charges a reference to specific changes/tasks, with actual time spent. In particular, Agency A is developing dashboards that will show charges related to applications and infrastructure support, with actual time spent. For internal costs, the Fund is looking into a system that will include timesheets for recording the actual time spent by the internal staff members. Recommendation 2 remains open pending receipt of evidence that the Fund Secretariat: (i) has established a cost budget for the pension interface programme and the monthly contributions project; and (ii) is tracking the actual costs to mitigate the risk of cost overruns.*

### **C. Pension interface controls and related processes**

#### Need to finalize the service level agreement between UNJSPF and member organizations

38. Effective interface processing procedures would require that the ownership, responsibility for processing the interfaces, and correcting interface errors are clearly assigned. Further, exception reports would need to be produced, reviewed and resolved on a regular basis.

39. Pension interface processing is a collaborative process between the Fund and its member organizations. This was recognized by the Fund secretariat when the Chief Executive Officer suggested (during the Pension Board's sixty-third session in 2016) the need for a service level agreement (SLA) between the Fund and the member organizations to improve coordination and the quality of information sent to the Fund.

40. In April 2018, the Fund drafted a SLA and distributed it to member organizations. This draft contained detailed provisions to ensure the timely and accurate processing of interfaces. However, the draft SLA has not yet been accepted by member organizations.

41. OIOS conducted a survey which indicated that 70 per cent of member organizations who responded were not sure of the existence of the SLA. In the absence of a SLA, it is difficult to ascertain the quality of pension interface services in terms of availability, incomplete/missing transmissions, errors and their timely resolution.

42. The Fund explained that to address concerns, it had started a series of monthly webinars in March 2019 with the member organizations. Further, the Fund and its member organizations have initiated a process to mutually agree on the SLA. OIOS is of the view that SLAs need to be established with member organizations to effectively operate the pension interfaces and fully realize the intended benefits.

#### **(3) The UNJSPF Secretariat should finalize the service level agreement with the Fund's member organizations to ensure effective implementation of pension interfaces.**

*The UNJSPF Secretariat accepted recommendation 3 and stated that the finalization of the SLA with member organizations is in progress, with on-going discussions via monthly webinars and in person meetings. Recommendation 3 remains open pending receipt of the finalized SLA.*

#### Change management needs to be strengthened

43. The Fund's change and release management procedures require that all changes are logged, classified, approved and monitored by the Change Advisory Board (CAB). UNJSPF has used the change

management best practices and international standard for ICT service management (ISO/IEC 20000) to define its change and release management framework.

44. The audit showed that changes to interfaces were not in full compliance with the Fund's change and release management process as explained below:

(a) Changes relating to the main component of the HR interface were logged into the JIRA tracking system. There were 19 such changes logged since August 2016 out of which 16 were still open. These changes were not reviewed by the CAB. Similarly, 19 of the 21 changes logged for the four different components of the Financial interface were still open and there was no evidence that these were reviewed by the CAB.

(b) There were several changes logged in JIRA as enhancements, design or support issues. Some of these were open for a long period of time. For example, JIRA IS-440 relating to interface data rejected by IPAS was open since January 2018. Similarly, JIRA IS-497 concerning exclusion of ineligible staff from participation in the Fund was open since March 2018.

(c) Changes relating to the common HR and Financial interfaces were not grouped together and tracked periodically for closure.

(d) The developers of the pension interface application were also the ones logging the changes, which posed a potential conflict of the two roles. It could not be ascertained whether all changes in the pension interface application code were logged into the change management system.

45. Member organizations were not always involved in the change management process and were not represented on the CAB. There was no process to communicate to member organizations the changes made to the pension interface application. Responses to the OIOS survey indicated that there was a lack of process to periodically collect, analyze and discuss the effectiveness of pension interfaces with member organizations. The lack of involvement in the change management process limited the opportunity of member organizations to evaluate the impact of the change made by the Fund in the interface application on their systems.

46. The Fund explained that from March 2019, it has been holding monthly webinars to provide all Staff Pension Committee (SPC) secretaries of member organizations the opportunity to monitor, review and discuss the Fund's ICT services including the status of pension interfaces.

47. OIOS is of the view that the Fund Secretariat needs to strengthen its change and release management process to ensure timely identification and resolution of interface errors and enhance the effectiveness of the common interfaces.

**(4) The UNJSPF Secretariat should: (a) ensure effective implementation of its change and release management process for pension interfaces; (b) review all pending interface-related changes for resolution; and (c) ensure that member organizations are involved in the pension interface change management process.**

*The UNJSPF Secretariat accepted recommendation 4 and stated that all interface changes are currently recorded and managed with the use of JIRA and the Open-Source Ticket Request System (OTRS). The Fund has already started to share release notes of new and/or updated features (i.e., relevant to IPAS or pension interface during the monthly webinars with member organizations and through a collaboration site (part of the Fund's intranet). In addition, the Fund will use OTRS to collect and record the input and feedback of the member organizations in the change management*

*process.* Recommendation 4 remains open pending receipt of evidence that: (i) all changes related to interfaces are controlled through the change and release management process of the Fund; (ii) all pending interface-related changes have been reviewed for resolution; and (iii) member organizations are fully involved in the change management process.

ICT security of data interfaces need to be strengthened

[Redacted]

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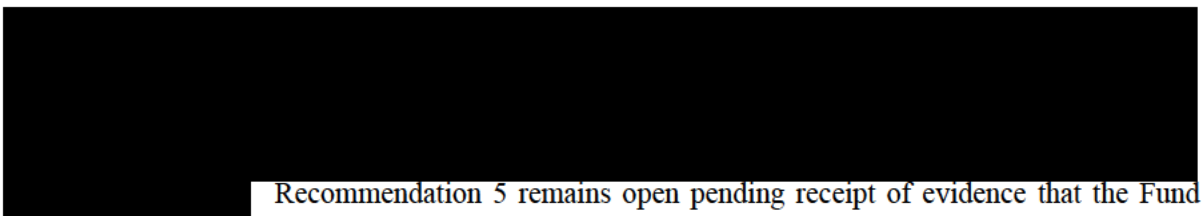
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**(5) The UNJSPF Secretariat should develop detailed ICT security requirements for pension interfaces and implement controls to address the security weaknesses identified by the audit.**



Recommendation 5 remains open pending receipt of evidence that the Fund Secretariat has: (i) documented the ICT security requirements for the pension interfaces; and (ii) implemented controls to address the ICT security weaknesses identified by the audit.

Need to ensure data integrity and reconciliation of information exchanged through data interfaces

50. Best practices recommend that: (i) interfaced data is reconciled between the source and target application to ensure that the transfer is complete and accurate; (ii) errors during the interface processing are identified, promptly investigated, corrected and resubmitted for processing; and (iii) data files are not processed more than once.

51. The HR interface did not provide any reconciliation of data between the information sent by the member organization through the interfaces and the information sent for processing in IPAS. The process algorithms (edit checks) used to validate the data (for example, the edit checks done to determine unique records) in the staging area were not transparent to member organizations. Member organizations did not have any report or dashboard to ascertain as to what data was supposed to be updated in IPAS and what had actually been updated. A service ticket (IS-440) requiring this functionality was pending since January 2018.

52. The unique ID number used to determine the unique records in IPAS was communicated back to member organizations in only three cases. There was a need to standardize the pension interface application (both the member organizations' side and the Fund's side) so that all data received and processed through

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<sup>5</sup> Transport Layer Security (TLS) is a cryptographic protocol designed to provide communications security over a computer network.

the interface is processed in a standard manner and based on a unique identifier, eliminating the need for multiple checks.

53. File integrity checks to detect any unauthorized changes in the data files received through the interfaces were not in place to ensure that the data file was not manipulated in an unauthorized manner before processing it in IPAS.

#### Need to ensure timely operation of interfaces

54. Best practice requires that the timing for processing of interfaces should be determined and followed. This was not always the case with the pension interfaces programme. There was no process or dashboard to track the timely processing of interfaces. The interfaces did not operate monthly as planned. One member organization had not submitted the data since 2017 and this problem had not yet been resolved. Further, the Fund freezes the interface operations for long periods due to its internal year-end processes which prevented member organizations from submitting data through the interfaces for new staff, the assignment of pension numbers, and unique pension identity numbers.

55. Timely operation of pension interfaces will be much more critical for the monthly contributions project due to its dependence on timely processing of the HR interface. If HR data is not timely received, the monthly contributions project could fail, leading to a backlog of errors.

#### Need for an efficient and effective error resolution process

56. The common HR interface was configured to return error messages to member organizations upon receipt of erroneous data in the transmission. There were approximately 540 error messages that could be returned by the interface. These error messages were complex and not easily understood by the users. It was unclear whether all error messages returned by the interface had been validated. The error messages were also not reviewed with the member organizations.

57. Further, IPAS was configured to generate service reports containing messages and error information regarding the common HR interface data finally processed in IPAS. The messages from these IPAS service reports and those generated by the interfaces were available in the system for retrieval by member organizations. However, retrieval was possible only if a member organization had the appropriate tools for retrieval and analysis. These service reports and messages regarding the processed data (in IPAS) were not automatically sent by the Fund to the member organizations. In the absence of data, it was unclear as to how many member organizations had retrieved and analyzed the error messages.

58. The Fund did not develop a process to compile a list of exceptions and error messages produced by the HR interface data processed in IPAS. Action on such data would occur if a member organization called in, or the Fund noticed it while processing a case. The common HR interface code in IPAS was not able to accommodate retroactive HR adjustments which created large number of exceptions for manual correction (HR data feed review workflows in IPAS). The Fund explained that: (i) the business and interface team intended to develop an exception report for transactions that could not be resolved through the interface and were therefore not processed; (ii) it would improve workflow management resulting from the interface data feed; and (iii) it would improve the messages from the interface to make them more user-friendly.

59. A process to identify errors during interface processing and promptly investigate, correct and resubmit them for processing is crucial for the successful operation of the pilot of the monthly contributions project because errors need to be tracked and acted upon promptly on a monthly basis to avoid their accumulation. The Fund indicated that it was planning to develop an issue tracking system for this purpose.

**(6) The UNJSPF Secretariat should: (a) establish a process to ensure timely processing of interfaces including investigation and resolution of errors; (b) simplify and validate all error messages for ease of understanding; and (c) document all process algorithms required for accurate processing of interfaces.**

*The UNJSPF Secretariat accepted recommendation 6 and stated that: (a) it is developing (in the context of the ICAO pilot), a user-friendly “Interface process monitoring tool” that will help business users and member organizations to investigate and resolve errors and warnings. Initially, this feature is being deployed for the monthly Financial interface. However, once it is successfully tested, the Fund will investigate extending it to the HR interface; (b) interface errors/warning messages are being reviewed and addressed in collaboration with business users and member organizations. The Fund is planning to simplify the processing of HR data by changing the design of the validation process to update only those fields that are actually “new and/or modified”. Recommendation 6 remains open pending receipt of evidence that: (a) the interface process monitoring tool has been deployed; (b) error messages have been validated and simplified; and (c) process algorithms required for accurate processing of interfaces have been documented.*

#### Need for a disaster recovery plan for pension interfaces

60. The Fund did not designate pension interfaces as a critical system and did not develop a disaster recovery plan. Further, no business impact analysis was performed to evaluate the impact of non-availability of the pension interfaces for extended periods on the enrollment of new participants and benefit processing for newly separated/retired staff. The Fund planned to operationalize the monthly contributions project in near future, which would require timely reconciliation of contributions and error resolution to prevent any backlog.

61. Although the pension interfaces system was not classified as critical, the Fund designated the associated interface servers as mission critical. A previous OIOS audit of business continuity and disaster recovery in the Fund (Report 2017/037) had found that these servers were deployed only in the New York data centre and did not have a disaster recover instance in Geneva. OIOS had recommended that the Fund update its configuration management database with a full inventory of hardware and software directly or indirectly linked to critical systems. In the same audit (Report 2017/037), OIOS had also recommended that the Fund should strengthen its business impact analysis process by assessing the impact of the unavailability of ICT systems and internal/external service dependencies. Therefore, OIOS is not making any additional recommendation in this area.

## **IV. ACKNOWLEDGEMENT**

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

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

## STATUS OF AUDIT RECOMMENDATIONS

## Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund

Rec. no.	Recommendation	Critical <sup>6</sup> / Important <sup>7</sup>	C/ O <sup>8</sup>	Actions needed to close recommendation	Implementation date <sup>9</sup>
1	The UNJSPF Secretariat should strengthen project management by: (a) ensuring that the pension interface programme and the monthly contributions project are controlled in accordance with the adopted project management methodology; (b) assessing the changes in business processes that are essential for programme implementation; (c) updating the composition of the Programme Direction Team (PDT) to include UNJSPF business and strengthening the PDT's role in programme oversight; (d) verifying the business case and updating the programme definition document for the interface programme; (e) establishing schedules in collaboration with member organizations for implementing the pending interface projects and rollout of the monthly contributions project to other member organizations; and (f) developing performance indicators for measuring the benefits expected from the pension interface programme.	Important	O	Receipt of evidence that: (i) the pension interface programme and the monthly contributions project are controlled in accordance with the project management methodology; (ii) business process changes essential for programme implementation have been assessed; (iii) composition of the PDT has been updated; (iv) business case and the programme definition document has been updated; (v) schedules for pending interface projects and roll out of the monthly contributions project to other member organizations have been established; and (v) performance indicators for measuring the benefits expected from the pension interface programme have been established.	31 May 2020
2	The UNJSPF Secretariat should: (a) establish a cost budget for the pension interface programme and the monthly contributions project and update it on a biennial basis; and (b) track the actual costs to mitigate the risk of cost overruns.	Important	O	Receipt of evidence that the Fund Secretariat: (i) has established a cost budget for the pension interface programme and the monthly contributions project; and (ii) is tracking the actual costs to mitigate the risk of cost overruns.	30 June 2020
3	The UNJSPF Secretariat should finalize the service level agreement with the Fund's member organizations to ensure effective implementation of pension interfaces.	Important	O	Receipt of the finalized SLA.	31 December 2019
4	The UNJSPF Secretariat should: (a) ensure effective implementation of its change and release management	Important	O	Receipt of evidence that: (i) all changes related to interfaces are controlled through the change and	31 December 2019

<sup>6</sup> Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

<sup>7</sup> Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

<sup>8</sup> C = closed, O = open

<sup>9</sup> Date provided by the UNJSPF Secretariat in response to recommendations.



## STATUS OF AUDIT RECOMMENDATIONS

## Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund

Rec. no.	Recommendation	Critical <sup>6</sup> / Important <sup>7</sup>	C/ O <sup>8</sup>	Actions needed to close recommendation	Implementation date <sup>9</sup>
	process for pension interfaces; (b) review all pending interface-related changes for resolution; and (c) ensure that member organizations are involved in the pension interface change management process.			release management process of the Fund; (ii) all pending interface-related changes have been reviewed for resolution; and (iii) member organizations are fully involved in the change management process.	
5	The UNJSPF Secretariat should develop detailed ICT security requirements for pension interfaces and implement controls to address the security weaknesses identified by the audit.	Important	O	Receipt of evidence that the Fund Secretariat has: (i) documented the ICT security requirements for the pension interfaces; and (ii) implemented controls to address the ICT security weaknesses identified by the audit.	31 December 2019
6	The UNJSPF Secretariat should: (a) establish a process to ensure timely processing of interfaces including investigation and resolution of errors; (b) simplify and validate all error messages for ease of understanding; and (c) document all process algorithms required for accurate processing of interfaces.	Important	O	Receipt of evidence that: (a) the interface process monitoring tool has been deployed; (b) error messages have been validated and simplified; and (c) process algorithms required for accurate processing of interfaces have been documented.	31 May 2021

# **APPENDIX I**

## **Management Response**

UNITED NATIONS JOINT STAFF PENSION FUND  
CAISSE COMMUNE DES PENSIONS DU PERSONNEL DES NATIONS UNIES

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## MEMORANDUM

Ref:

New York, 4 June 2019

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

From / De : Janice Dunn Lee, Acting Chief  
Executive Officer, United Nations  
Joint Staff Pension Fund

Subject / **UNJSPF response to draft report audit of data interfaces and monthly**  
Objet: **contributions in the UNJSPF (Assignment No. AS2018/800/01)**

1. Reference is made to your memorandum dated 22 May 2019, in which you submitted for the Fund's review and comments, the draft report on the above-mentioned audit.
2. As requested, the Fund's comments to the audit recommendations are included in **Annex I**.
3. The Fund secretariat would like to thank OIOS auditors for a detailed analysis and recommendations to strengthen the pension interface programme, with the involvement of UNJSPF Member Organizations.

cc.: Mr. K. Soll, Chief Financial Officer  
Mr. D. Dell'Accio, Chief Information Officer  
Ms. K. O'Donnell, Chief of Operations  
Ms. J. Sareva, Chief Risk Management and Legal Services Section  
Ms. K. Manosalvas, Risk Officer, Audit Focal Point

## AUDIT RECOMMENDATIONS

## Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund

Rec. no.	Recommendation	Critical <sup>1</sup> / Important <sup>2</sup>	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	The UNJSPF Secretariat should strengthen project management by: (a) ensuring that the pension interface programme and the monthly contributions project are controlled in accordance with the adopted project management methodology; (b) assessing the changes in business processes that are essential for programme implementation; (c) updating the composition of the Programme Direction Team (PDT) to include UNJSPF business and strengthening the PDT's role in programme oversight; (d) verifying the business case and updating the programme definition document for the interface programme; (e) establishing schedules in collaboration with member organizations for implementing the pending interface projects and rollout of the monthly contributions project to other member organizations; and (f) developing performance indicators for measuring the benefits expected from the pension interface programme.	Important	Yes	Financial Services, Operations and IMSS	May 2020	(a) The Fund will strengthen the Pension Interface Programme (The Programme) by reviewing the membership of its Programme Direction Team (PDT), as well as the short and long-term organizational goals. The Monthly Contribution project will maintain adequate documentation in accordance with the relevant best practices. (b) For the ICAO roll out, the business process change is minimal due to the relatively limited scope of data. For subsequent roll outs, business process changes and resource requirements will be addressed with the relevant Sections within the Fund. (c) See (a) (d) The Fund will review, and update as needed the business case and programme definition document for the interface programme. (e) The Fund will establish schedules with those Member Organizations that commit to the Programme. Several Member Organizations

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

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

## AUDIT RECOMMENDATIONS

## Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund

Rec. no.	Recommendation	Critical/ Important <sup>2</sup>	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
						<p>expressed interest in pursuing the rollout project and two of them have already been identified for the 2019/2020 roll out.</p> <p>(f) To establish a baseline and relevant indicators, business Units will identify and measure various processing times in the current processing that are expected to improve in accordance with the implementation of the monthly financial interface, such as processing of the year-end schedule files; and paper-based separation notifications.</p>
2	The UNJSPF Secretariat should: (a) establish a cost budget for the pension interface programme and the monthly contributions project and update it on a biennial basis; and (b) track the actual costs to mitigate the risk of cost overruns.	Important	Yes	Financial Services, IMSS	June 2020	(a) and (b) Currently, estimates about external and internal costs are reported at the quarterly meetings of the Information Technology Executive Committee (ITEC). For the external cost, third party service providers have started to include in their periodic charges, a reference to specific changes/tasks, with actual time spent. In particular, UNICC is developing dashboards that will show charges related to applications and infrastructure support, with actual time spent. For the internal costs, the Fund is looking into a system that will include timesheets for recording the actual time spent by internal staff members.


## AUDIT RECOMMENDATIONS

## Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund

Rec. no.	Recommendation	Critical <sup>1</sup> / Important <sup>2</sup>	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
3	The UNJSPF Secretariat should finalize the service level agreement with the Fund's member organizations to ensure effective implementation of pension interfaces.	Important		IMSS	December 2019	The finalization of the Service Level Agreement (SLA) with Member Organizations is in progress, with on-going discussions via monthly Webinars and in person meetings.
4	The UNJSPF Secretariat should: (a) ensure effective implementation of its change and release management process for pension interfaces; (b) review all pending interface-related changes for resolution; and (c) ensure that member organizations are involved in the pension interface change management process.	Important		IMSS	December 2019	(a) All interface changes are currently recorded and managed with the use of the JIRA and OTRS systems. (b) Agreed. (c) The Fund has already started to share release notes of new and/or updated features (i.e., relevant to IPAS or the Pension Interface): (i) during the monthly Webinars with Member Organizations; and (ii) thru a collaboration site (part of the Fund's Intranet). In addition, the Fund will use its OTRS system to collect and record the input and feedback of the Member Organizations in the change management process.
5	The UNJSPF Secretariat should develop detailed ICT security requirements for pension interfaces and implement controls to address the security weaknesses identified by the audit.	Important	Yes	IMSS	December 2019	[REDACTED]

## AUDIT RECOMMENDATIONS

## Audit of data interfaces and monthly contributions in the United Nations Joint Staff Pension Fund

Rec. no.	Recommendation	Critical <sup>1</sup> / Important <sup>2</sup>	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
						
6	The UNJSPF Secretariat should: (a) establish a process to ensure timely processing of interfaces including investigation and resolution of errors; (b) simplify and validate all error messages for ease of understanding; and (c) document all process algorithms required for accurate processing of interfaces.	Important	Yes	IMSS, Financial Services and Operations	May 2021	<p>(a) The Fund is developing (in the context of the ICAO pilot), a user-friendly “Interface process monitoring tool” that will help business users and Member Organizations to investigate and resolve errors and warnings. Initially, this feature is being deployed for the monthly financial interface. However, once it is successfully tested, the Fund will investigate extending it to the HR interface;</p> <p>(b) Interface errors/warning messages are being reviewed and addressed in collaboration with the business users and Member Organizations.</p> <p>(c) The Fund is planning to simplify the processing of human resources data by changing the design of the validation process, to update only those fields that are actually “new and/or modified”.</p>