

**SP-1
TASK PROPOSAL PART**

1. Task Proposal

- 1.1 Task Proposal ID:** 09/TAU-003 **Date received in SPA:** 2009-03-30
- 1.2 Task Title:** Junior Professional Officer - Support to the Portable and Resident NDA Unit.
- 1.3 Requester / Division / Section:** Lebrun / SGTS / TAU
- 1.4 Is this a CFE task?** No
- 1.5 Task Category:** A
- 1.6 Is this a joint task for MSSPs?** No
- 1.7 Is multiple acceptance required?** No

If 1.6 or 1.7 is yes, indicate the reason:

2. Project

- 2.1 Project ID:** SGTS-007 **Project Type:**
- 2.2 Project Title:** Improved Techniques and Instruments for Spent Fuel Verification and Monitoring
- 2.3 Project Manager / Division / Section:** Lebrun / SGTS / TAU

3. Safeguards Requirement Identification

3.1 What is needed, why and when:

Within the Division of Technical Support, the Portable and Resident NDA (P&R-NDA) Unit of the Section for Attended and Unattended NDA is responsible for the development and deployment of neutron and spent fuel verification attended systems. In addition the P&R-NDA Unit supports the other units of the Section, in particular the Project Engineering Unit involved in large projects (e. g. Rokkasho Reprocessing plant and J-MOX project) and more generally, the Unattended Monitoring System Unit. The P&R-NDA Unit maintains the radiation transport simulation capability of the Department, which is daily used to design, optimize and calibrate selected NDA systems. To maintain its capacity in providing support to the Division of Operations in addressing specific verification issues and to support the other units of the division in meeting their objectives, the P&R-NDA Unit needs extra human resources skilled in the field of numerical simulation of radiation transport, technical writing and physics with emphasis in the detection and measurement of ionizing radiations. To complete these tasks, it is proposed that a Junior Professional Officer is recruited.

3.2 How will the task results be used and by whom:

The task will result in timely delivery of customized NDA instruments addressing specific needs expressed by the Divisions of Operations and in enhanced inter-unit co-operation within the Section of Attended and Unattended NDA. It will also result in maintaining at the highest level the quality control of SGTS deliveries resulting of the use from Monte Carlo simulations.

3.3 Consequences if task is not performed:

Divisions of Operations would face longer delivery time and possible mistakes resulting from lack of tight quality control of SGTS deliveries. Other units of the section would lack valuable support in particular in

numerical simulation of radiation transport which may affect their delivery.

4. IAEA Proposed Work Outline

4.1 Major task stages with timing:

The NDA system engineer will contribute to the programmatic goal to provide technical support to the Department

of Safeguards Operations staff. To do so, the following functions will be performed by the incumbent: To strengthen the SGTS capability to provide technical support for future SG implementations, act as a substantive contributor in the development and implementation of Non Destructive Assay systems and techniques.

- To maintain and improve the methodology and associated documentation related to the quality management of numerical simulations of NDA instruments.
- To apply the methodology in developing, validating and running calculations supporting the development, testing and calibration of selected NDA systems.
- Provide field support for the deployment of selected NDA systems.
- To improve the operational use of Resident NDA equipment, develop and deliver technical support procedures for use in the field by SG Operations staff.
- To address on-going issues involving NDA equipment.
- To facilitate the implementation of the Quality Management System of the Department, review the technical procedures currently in use in the P&R-NDA area for compliance with the QMS guidelines, and suggest and introduce improvements.

4.2 Support Division(s) / Section(s): SGTS / TAU

4.3 End User Division(s) / Section(s): SGTS / TAU

4.4 Estimated duration in months: 12

5. Safeguards Approval Process - not displayed

6. Acceptance by MSSP(s) - under review