



Job Description Print Report

Print Date: 2025-05-06 11:02:41

Position Review

Position Number	057128	Position Type	CFE/JPO	Subject to Radiation	Yes	Subject to GD	No
Hyperion Position Number		Fund Type	EBR	Parent Position	007407 Team Leader (SGTS-NDA Services)]9		
Organization	SGTS-NDA Services Team	FTE	1	CCOG 1	1B07		
Grade	P5	Duty Station	Vienna, Austria	CCOG 2			
Classified Grade		Position Title	NDA Technology Expert	Proposed New Title			
Master Version	3	Master Status	Approved	Approval Date	12-MAY-20		
Position Version	1	Position Status	Not Initiated	Approval Date			

Job Description Review

Organization Settings

The Department of Safeguards carries out the IAEA's duties and responsibilities as the world's nuclear inspectorate, supporting global efforts to stop the spread of nuclear weapons. The primary role of the Department is to develop and implement IAEA safeguards to ensure that there is no diversion of declared nuclear material from peaceful activities and no indications of undeclared nuclear material or activities in a State as a whole.

The Department comprises nuclear safeguards inspectors, responsible for carrying out inspections and verifications of all-safeguards relevant information for nuclear facilities in over 180 States; and technical staff responsible for a wide range of activities including: developing concepts and approaches for implementing safeguards; developing and maintaining safeguards equipment; providing analytical and laboratory services for sample analysis; collecting, evaluating and analysing safeguards-relevant information; providing information and communication technology infrastructure and services; and providing programme coordination support.

The Division of Technical and Scientific Services ensures the provision of state-of-the-art equipment and related expertise for the accomplishment of the Department of Safeguards activities. Within this mandate, the Division is responsible for procurement, testing, provision, inventory control, performance monitoring and maintenance of safeguards equipment and supplies required by SGO Divisions; management of equipment development and engineering activities to meet quality and safeguards requirements; development and provision of documentation, procedures, instrumentation methods and techniques; provision of specialized technical and scientific support to inspectors and inspection activities in the field and at headquarters; and, radiation contamination monitoring of returned equipment and timely write-off of obsolete or contaminated equipment. The Division also coordinates departmental health and safety activities.

Main Purpose

The NDA Technology Expert will strengthen the SGTS capability to provide technical expertise for future SG implementations, act as a lead in the development and implementation of Non Destructive Assay systems and techniques specifically in elaborating proposals and managing related projects.

Role

The NDA Technology Expert is: (1) a leading expert introducing and developing usage of selected advanced NDA techniques not currently in use within the department; (2) an

expert adviser to the Operations Divisions and SGTS management on the selection and use of safeguards NDA instruments in his/her area of expertise; (3) an engineering support specialist, providing effective operational support for improvement of NDA systems at the IAEA HQs and in the field, and (4) a project manager, taking lead in implementing state of the art project management techniques towards timely execution of implementation tasks, contracted activities and development tasks under Member State Support Programmes.

Partnership

The NDA Technology Expert works closely with the staff of the TND Section providing expert advice and guidance to other staff in the Division. He/she engages with R&D laboratories and Member State Support Programmes to coordinate development needs for specific gamma-emission tomography systems and other NDA systems and provide technical guidance. He/she interacts with external stakeholders to evaluate and apply up-to-date technologies for enhancing IAEA verification equipment.

Functions / Key results Expected

Improving the operational use of NDA equipment, developing and delivering technical support procedures and training for use in the field by SG Operations staff, address on-going issues involving NDA equipment.
 Providing expert guidance to divisions of operation for the implementation of challenging and complex NDA techniques for the verification of nuclear material.
 Leading the development and implementation of NDA systems and techniques, specifically by elaborating proposals and managing related projects as necessary in the area listed below:

- fast neutron scanning & imaging techniques for restoration of CoK on light water spent fuel casks;
- implementation of calorimetry for plutonium assay;
- application of neutron generators in conjunction with fast neutron coincidence counting for interrogation of fresh nuclear material;

Facilitating the implementation of the Quality Management System of the Department; document and report on the achievements in compliance with the QMS guidelines.

Generic JD Remarks

Competencies

Core Competencies

Competency	Occupational Role	Definition
Communication	Individual Contributor	Communicates orally and in writing in a clear, concise and impartial manner. Takes time to listen to and understand the perspectives of others and proposes solutions.
Achieving Results	Individual Contributor	Takes initiative in defining realistic outputs and clarifying roles, responsibilities and expected results in the context of the Department/Division's programme. Evaluates his/her results realistically, drawing conclusions from lessons learned.
Teamwork	Individual Contributor	Actively contributes to achieving team results. Supports team decisions.
Planning and Organizing	Individual Contributor	Plans and organizes his/her own work in support of achieving the team or Section's priorities. Takes into account potential changes and proposes contingency plans.

Functional Competencies

Competency	Occupational Role	Definition
Client orientation	Specialist	Helps clients to analyse their needs. Seeks to understand service needs from the client's perspective and ensure that the client's standards are met.
Judgement/decision making	Specialist	Consults with supervisor/manager and takes decisions in full compliance with the Agency's regulations

		and rules. Makes decisions reflecting best practice and professional theories and standards.
Technical/scientific credibility	Specialist	Ensures that work is in compliance with internationally accepted professional standards and scientific methods. Provides scientifically/technically accepted information that is credible and reliable.
Expertise		
Expertise	Description	Asset
Nuclear Engineering Simulation and Modelling	Demonstrated knowledge and experience in computerized simulations of the transport of radiation, such as Monte Carlo simulations, applied to the design and calibration of NDA instruments.	N
Other Technical Engineering Mechanical Engineering	Expertise in recommending sound technical solutions for the optimal implementation of instrumentation in safeguards approaches.	N
Physics Nuclear Instrumentation	Expertise in gamma spectrometry and neutron coincidence counting techniques for assay of nuclear material; Expertise in plutonium and uranium calorimetry; Working knowledge of fast neutron scanning & imaging techniques.	N
Safeguards Non-destructive Assay	Expertise in the design, develop and implement NDA instruments used to verify the presence, absence, amount and unique characteristics of plutonium, uranium and spent fuel with an emphasis on gamma spectrometry and neutron coincidence counting.	N
Safeguards Nuclear Fuel Cycle/Nuclear Facilities	Extended knowledge of the nuclear fuel cycle.	Y
Position Specific FC		
Occupational Role	Definition	
Position Specific Expertise		
Description	Asset	
Languages		
Languages	Asset Languages	
English	Arabic Chinese French Russian Spanish	
Qualification		
Qualification Title	Description	
<u>Bachelor's Degree</u>	<u>University degree in Physics, Nuclear Physics, Nuclear Engineering, Electronics or Mathematics with two years of additional relevant experience may be considered in lieu of an advanced degree.</u>	
Master's Degree	Advanced university degree in Physics, Nuclear Physics, Nuclear Engineering, Electronics or Mathematics.	
Experience		
Minimum of ten years of relevant experience in experimental nuclear physics and in detection and assay of nuclear and radioactive material. Experience in working with radioactive sources, including neutron generators for nuclear material interrogation.		