



Job Description Print Report

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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 (SG-NDA Services) 7		
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			
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Organization Settings

The Department of Safeguards (SG) is the organizational hub for the implementation of IAEA safeguards. The IAEA implements nuclear verification activities for over 180 States in accordance with their safeguards agreements. The main objective of the Department is to maintain and further develop an effective and efficient verification system in order to draw independent, impartial and timely safeguards conclusions, thus providing credible assurances to the international community that States are in compliance with their safeguards obligations. Safeguards activities are undertaken within a dynamic and technically complex environment including advanced nuclear fuel cycle facilities and complemented by the political and cultural diversity of the countries.

The Department of Safeguards consists of six Divisions: three Operations Divisions for the implementation of verification activities around the world; three Technical Divisions (Division of Concepts and Planning, Division of Information Management, and Division of Technical and Scientific Services); and three Offices (the Office for Verification in Iran, the Office of Safeguards Analytical Services and the Office of Information and Communication Services).

Within the Office of the Deputy Director General, Head of the Department of Safeguards, the Section for Safeguards Programme Coordination serves as the principal advisory body in support of the entire management of the Department including formulation and execution of departmental management policies and procedures. The Section provides internal coordination and support in the areas of programme and budget, human resources, performance monitoring, effectiveness evaluation, communication, reporting and project support.

The Division of Technical and Scientific Services (SGTS) is responsible for measurement systems applied in safeguards verification activities, containment and surveillance techniques and all verification logistics.

The Non-Destructive Assay Section (SG-TND) consists of the NDA Services Team (NDAS) and NDA Instruments Team. The Section is responsible for the development, provision, testing and calibration of equipment and related data evaluation methodologies for non-destructive assay of nuclear materials. In addition, the Section provides expertise, including field support, in the area of application of non-destructive assay to the Department of Safeguards.

The Section also undertakes the identification, evaluation, testing and development of emerging innovative technologies that have potential for future safeguards.

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		Asset Languages	
English		Arabic Chinese French German Russian Spanish	
Qualification			
Qualification Title	Description		
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.			
Job Description Remarks			