



Job Description Print Report

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Position Review

Position Number	239262	Position Type	CFE/JPO	Subject to Radiation	No	Subject to GD	No
Hyperion Position Number		Fund Type	EBR	Parent Position	007397		
Organization	SGTS-Unattended Monitoring Systems Team	FTE	1	CCOG 1	1B07		
Grade	P3	Duty Station	DS - IAEA VIENNA	CCOG 2			
Classified Grade	P3	Position Title	Nuclear Instrumentation Systems Engineer	Proposed New Title			
Master Version	1	Master Status	Approved	Approval Date			
Position Version	1	Position Status	Approved	Approval Date	02-JUN-23		

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

As a team member reporting to the Leader of the Unattended Monitoring Systems (UMS) Team, the Nuclear Instrumentation Systems Engineer provides professional expertise for the deployment of unattended non-destructive assay (NDA) and monitoring systems and contributes to the development of the pertinent technologies. He/she participates in and coordinates a team of technicians in the planning, supervision and implementation of installation activities.

Role		
<p>The Nuclear Instrumentation Systems Engineer is: a technical professional, ensuring the efficient and effective implementation of the development, installation, service and verification of UMS; a technical specialist, advising the UMS Team Leader, technicians and other technical staff; an implementer, installing, calibrating and commissioning UMS; and an engineer, designing, developing, assembling and testing UMS.</p>		
Partnership		
<p>This technical professional in the UMS Team collaborates with the other technical professionals within the Team and the Division developing and designing the optimal UMS to address safeguards needs. He/she establishes links and engages with technical professionals and staff from the Operations Divisions in the Department of Safeguards to determine the UMS needs and requirements of the Operations Divisions. The Operations Divisions (SGOA, SGOB, SGOC and the Office for verifications in Iran) are the ultimate customers of both the Unattended Systems Section and the UMS Team. The Nuclear Instrumentation Systems Engineer liaisons with external R&D Organizations through the Member States Support Programme to manage development and implementation support activities.</p>		
Functions / Key results Expected		
<ul style="list-style-type: none"> • Install, calibrate, and test UMS at various nuclear facilities throughout the world. • Repair, maintain and address operational problems of existing UMS installed throughout the world. • Test and assess the performance of newly developed advanced UMS technology, particularly NDA technology and data acquisition systems. • Draft the required quality management system (QMS) documents, testing and calibration procedures for equipment, and trip reports that detail the installation, repair, design or calibration of UMS installed at nuclear facilities. • Perform the evaluation and testing of UMS and relevant components prior to deployment in the field. • Draft and present clear and concise plans and presentations covering sustainability, standardization, project management, implementation, maintenance and procurement needs, technical specifications and procedures. 		
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
Information Technology Data Analysis	Working knowledge of data evaluation, analysis, and interpretation for radiation detection systems.	N
Material Out of Regulatory Control Radiation detection and measurement	Demonstrated ability in developing, evaluating, and/or implementation of various types of radiation detection equipment.	N
Safeguards Non-destructive Assay	Expertise in the use of computerized simulation tools (e.g., MCNP) in support of development and/or implementation of various NDA instrumentation (gamma detectors, neutron detectors, and coincidence counting systems).	N
Safeguards Nuclear Fuel Cycle/Nuclear Facilities	Working knowledge of the nuclear fuel cycle (e.g., enrichment facilities, various reactor types, reprocessing plants).	Y
Languages		
Languages	Asset Languages	
English	Arabic Chinese French Russian Spanish	
Qualification		
Qualification Title	Description	
Bachelor's Degree	University degree in physics, applied physics or nuclear/electrical engineering.	
Experience		
Minimum of five years of working experience in expertise areas listed above.		