



## Job Description Print Report

Print Date:

### Position Review

Position Number		Position Type		Subject to Radiation	Yes	Subject to GD	
Hyperion Position Number		Fund Type		Parent Position = SUPERVISOR	Team Leader (SG-HQM)		
Organization	SGTS-TTS	FTE		CCOG 1			
Grade	P2	Duty Station	Vienna, Austria	CCOG 2			
Classified Grade		Position Title	Associate Radiation Physics Engineer	Proposed New Title			
Master Version		Master Status		Approval Date			
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### Job Description Review

#### Organization Settings

The Department of Safeguards (SG) is the organizational hub for the implementation of IAEA safeguards. The IAEA implements nuclear verification activities for some 180 States in accordance with their safeguards agreements. The safeguards activities are undertaken within a dynamic and technically challenging environment including advanced nuclear fuel cycle facilities and complemented by the political diversity of the countries.

The Department of Safeguards consists of six Divisions: three Operations Divisions: A, B and C, 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; as well as three Offices: the Office for Verification in Iran, the Office of Safeguards Analytical Services and the Office of Information and Communication Services.

The Division of Technical and Scientific Services (SGTS) is the departmental branch for nuclear and other measurement systems applied in verification activities, containment and surveillance techniques and all verification logistics. Within the Department of Safeguards, the Division of Technical Support is responsible for the development and implementation of the Department's equipment systems.

The Technical Services Section (TSS) consists of the Performance and Asset Management Team (PAM) and the Equipment Handling, Radiation Safety and QM (HQM). The Section provides the Department with support and services in connection with safeguards equipment. These services include asset management, receipt, shipment, warehousing, safety (including radiation protection and contamination monitoring), procurement and provision of equipment and supplies. Through the Equipment Service Desk, the Section acts as an interface between the Division and the other Divisions in the Department. The Section is also responsible for the acquisition and analysis of equipment performance data, and equipment usage statistics, and for providing relevant reports.

The Equipment Radiation Monitoring Laboratory (ERML) ensures that no contamination coming from visited facilities via equipment or other items can be spread through the Vienna International Centre (VIC). Used equipment, seals, environmental samples and recording media returned from nuclear facilities are delivered to the laboratory and are

checked for contamination before being distributed to the relevant user.		
<b>Main Purpose</b>		
The Associate Radiation Physics Engineer contributes to the validation of a gamma spectrometry system using high purity germanium detector. This entails demonstrating that the measurement methods are meeting the requirements of the ISO 17025:2017 standards such as repeatability, reproducibility, efficiency calibration, limit of detection, limit of quantification, uncertainty, etc. The Associate Radiation Physics Engineer contributes to the improvement of dose assessment capabilities in case of internal contamination using ICRP standards and specialised software for the assessment of internal contamination.		
<b>Role</b>		
<p>The Associate Radiation Physics Engineer focuses on:</p> <ol style="list-style-type: none"> <li>(1) performing the verification/validation of the measurement methods for a gamma spectrometry system with high purity germanium detector,</li> <li>(2) applying the ISO 17025:2017 requirements in order to include in the scope of ERML accreditation, the gamma spectroscopy</li> <li>(3) performing internal dosimetry assessments using ICRP standards and specialised software tools.</li> <li>(3) preparing technical reports, procedures, working instructions and other relevant documents.</li> </ol>		
<b>Partnership</b>		
The Associate Radiation Physics Engineer builds strong working relationships with safeguard inspectors, laboratory technicians, radiation protection officers and other professional and general service staff both within and outside the Department in areas relating to contamination monitoring and radiation safety.		
<b>Functions / Key results Expected</b>		
<p>Under the guidance of the HQM Team Leader, the Associate Radiation Physics Engineer carries out the following functions:</p> <ul style="list-style-type: none"> <li>• Work on the validation according ISO17025:2017 requirements of gamma spectrometry; plan and conduct experiments, perform numerical analysis of the results, draw conclusions and produce tables and graphs of the relevant results.</li> <li>• Perform mathematical modelling and numerical simulations in the area of gamma spectrometry efficiency measurements.</li> <li>• Perform calculations of the committed effective dose in case of internal contamination</li> <li>• Produce draft reports or other documents and/or presentations to demonstrate results of the tests carried out, and present evidence in a concise manner to draw conclusions and recommendations.</li> <li>• Write procedures and working instructions for gamma spectrometry and dose assessment.</li> </ul>		
<b>Generic JD Remarks</b>		
<b>Competencies</b>		
<b>Core Competencies</b>		
<b>Competency</b>	<b>Occupational Role</b>	<b>Definition</b>
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	Associate	Establishes effective relationships with clients to understand and meet or exceed their needs. Finds ways to ensure client satisfaction.	
Commitment to continuous process improvement	Associate	Identifies opportunities for process, system and structural improvement as well as improving current practices, increasing effectiveness and achieving efficiency gains. Actively supports the application of sound quality management standards and process improvement.	
Judgement/decision making	Associate	Consults with supervisor/manager and makes decisions in full compliance with the Agency's regulations and rules.	
Expertise			
Expertise (drop down list)	Description (free text field)		Asset
Radiation, Transport and Waste Safety   Calibration and Use of Survey Meters and Alpha/Gamma Spectrometry	Experience in using, testing, calibrating or maintaining gamma spectrometry systems with high purity germanium detector.		Y
Radiation, Transport and Waste Safety   Accreditation to ISO Standards for Testing and Calibration Laboratories	Experience working with quality management systems.		N
Radiation, Transport and Waste Safety   Radiation Measurements and Protection	Experience in radiation safety principles and internal dosimetry calculations		Y
Management and Programme Analysis   Data Analysis	Knowledge of counting statistics and measurement uncertainty calculations		Y
Position Specific FC			
Position Specific Expertise	Description		Asset
Languages			
Languages	Asset Languages		
English	Arabic Chinese French Russian Spanish		
Qualification (drop down list) (Free text field)			

Qualification Title	Description
Bachelor's degree	University degree in applied radiation physics, nuclear engineering, physics, mathematics, electrical engineering or computer science.
Experience (free text to capture information not accommodated elsewhere – do not duplicate information in competencies or expertise)	
<ul style="list-style-type: none"> <li>At least two years of work experience in using computerized radiation transport simulations, such as Monte Carlo simulations, applied to the mathematical modelling and calibration of gamma spectrometry systems.</li> <li>Experience producing evidence based technical reports, procedures, user instructions, or other documentation as required.</li> <li>Experience in operational radiation safety and radioactive sources is an asset.</li> </ul>	
Job Description Remarks	