



Job Description

NDA Systems Engineer (NDAS)(P4) - (2018/0193 (179388))

Organization SGT-S-NDA Services Team

Primary Location Austria-Vienna-Vienna-IAEA Headquarters

Posting Date 2018-03-18, 6:25:44 PM

Closing Date 2018-05-02, 10:59:00 PM

Duration in Months: 36

Contract Type: Fixed Term - Regular

Probation Period: 1 Year

Organizational Setting

The Department of Safeguards 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 two Offices: the Office of Safeguards Analytical Services and the Office of Information and Communication Services.

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. The departmental operating environment is interactive, participative and dynamic with continuous inputs received from the Board of Governors, the General Conference, policy- and decision-makers, as well as counterparts in Member States and in the international development community.

The Division of Technical and Scientific Services is responsible for nuclear and other measurement systems applied in verification activities, containment and surveillance techniques and all verification logistics.

The Non-Destructive Assay Section consists of the Portable and Resident NDA Team and the Nuclear Security Team. The Section is responsible for the development, provision, testing and calibration of equipment and related data evaluation methodologies for non-destructive assay of radioactive and 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 and to the Office of Nuclear Security. The Section also coordinates the review, identification, evaluation and testing of emerging innovative technologies that have potential for future safeguards and nuclear security applications.

Main Purpose

Reporting to the Team Leader, the NDA Systems Engineer leads and provides professional expertise in projects for the recommendation, development and deployment of non-destructive assay (NDA) systems in the context of safeguards verifications.

Role

The NDA Systems Engineer is: an expert adviser to the Operation Divisions and the Division of Concepts and Planning in the optimal use of SG technologies; a Technical adviser to the inspectors and the support technicians on the selection and use of safeguards NDA instruments; an engineering support specialist providing support field deployment of NDA systems for specific applications; a project manager coordinating contracted activities and Member State Support Programmes support tasks; a development engineer contributing to development activities in close relationship with Operations Divisions and; technical writer developing and updating development requirements for Safeguards instrumentation, equipment specifications, equipment procedures and other reports.

Functions / Key Results Expected

Lead projects for the development and deployment of instruments and measurement techniques fulfilling needs determined by the Operation Divisions. Advise on cost efficient and effective use of instrumentation in the development of new safeguards approaches.

Provide scientific support to other Divisions of the SG Department in the area of the nuclear fuel cycle and associated instrumentation.

Deliver requested support for implementation of SG equipment including technical specification, operational documentation and reports in a timely manner.

Deliver expert assistance in the field for deployment of new or customized NDA instruments or special NDA measurements

Plan and execute procurement of equipment and service necessary to deliver the requested support.

Develop and write quality controlled technical documents, testing and calibration procedures for equipment, and trip reports that detail the deployment, repair, design or calibration of NDA instruments.

The incumbent may perform his/her work in areas involving exposure to radioactive materials. Therefore, as an Occupationally Exposed Worker, he/she must be medically cleared by VIC Medical Service and is subject to an appropriate radiation and health monitoring programme, in accordance with the IAEA's Radiation Safety Regulations.

Competencies and Expertise

Core Competencies

Name	Definition
Planning and Organizing	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.
Communication	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	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

Actively contributes to achieving team results. Supports team decisions.

Functional Competencies

Name	Definition
Client orientation	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	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	Ensures that work is in compliance with internationally accepted professional standards and scientific methods. Provides scientifically/technically accepted information that is credible and reliable.

Qualifications, Experience and Language skills

Master's Degree - Advanced university degree in nuclear engineering, applied physics, physics or electrical engineering.

Bachelor's Degree - in Nuclear Engineering, Physics or Nuclear Physics

Minimum of 7 years of work experience combining: design, development, deployment, production, or the use of nuclear NDA instrumentation.

Experience in international safeguards an asset.

Demonstrated skills and experience in computerized simulations of the transport of radiation, such as Monte Carlo simulations, applied to the design and

calibration of NDA instruments.

Ability to 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;

Ability to recommend sound technical solutions for the optimal implementation of instrumentation in safeguards approaches;

Background knowledge of IAEA safeguards;

Knowledge of the application of nuclear instrumentation for the specific purpose of NDA of nuclear material in the context of international safeguards;

Extended knowledge of the nuclear fuel cycle.

Ability to manage and accurately document development and implementation projects;

Focus on quality and customer orientation.

Strong interpersonal skills with an ability to establish and maintain good relationships in a multicultural/multidisciplinary environment and to work with high

standard of integrity, fairness and transparency.

Excellent oral and written command of English. Knowledge of other official IAEA languages (Arabic, Chinese, French, Russian and Spanish) is an asset.

Remuneration

The IAEA offers an attractive remuneration package including a tax-free annual net base salary starting at **US \$71332** (subject to mandatory deductions for pension contributions and health insurance), a variable [post adjustment](#) which currently amounts to **US \$ 38234***, dependency benefits, [rental subsidy](#), [education grant](#), [relocation](#) and [repatriation expenses](#); 6 weeks' annual vacation, [home leave](#), [pension plan](#) and [health insurance](#)

Applications from qualified women and candidates from developing countries are encouraged

Applicants should be aware that IAEA staff members are international civil servants and may not accept instructions from any other authority. The IAEA is committed to applying the highest ethical standards in carrying out its mandate. As part of the United Nations common system, the IAEA subscribes to the following core ethical standards (or values): [Integrity](#), [Professionalism](#) and [Respect for diversity](#). Staff members may be assigned to any location. The IAEA retains the discretion not to make any appointment to this vacancy, to make an appointment at a lower grade or with a different contract type, or to make an appointment with a modified job description or for shorter duration than indicated above. Testing may be part of the recruitment process
