

Job Description for Professional Posts

Position and Grade:	Senior Project Engineer (P-5)
Organizational Unit:	Project Engineering Team Systems Integration and Coordination Section Division of Technical and Scientific Services Department of Safeguards
Duty Station:	Vienna, Austria
Type/Duration of Appointment:	2 years

Organizational Setting

The Department of Safeguards (SG) is the organizational hub for the implementation of IAEA safeguards. The IAEA implements nuclear verification activities for more than 170 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 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.

The Division is structured into four sections responsible for Non-destructive Assay (NDA) Technologies, Unattended Systems, Systems Integration and Coordination, and Verification Logistics.

The Systems Integration and Coordination Section (TSI) comprise three teams (technical units): Project Engineering; Remote Monitoring; and Seals. This Section acts as the Division's focal point for broad based support needed by the Operation Divisions in instrumentation data processing and review, remote data collection, development and application of sealing, containment and instrument security technologies, as well as in development and deployment of complex and integrated equipment systems. The Section is also responsible for maintenance, enhancement and quality assurance of the divisional infrastructure for instrumentation development and authorization.

The operating environment is participative, interactive, analytical and dynamic. Many sensitive issues require the utmost discretion.

Main Purpose

As a team member reporting to the Team Leader, the Senior Project Engineer provides leadership and support for multiple large or complex projects. He/she acts as a main contributor, bringing both project management and system integration expertise to the Division. He/she supports the Department and Division by ensuring that such projects have well specified system interface definitions for the various technical subsystems, and provides integration guidance to ensure consistent and reliable integrated project performance according to established methodology.

Partnerships

The Senior Project Engineer works as a member of the Project Engineering Team, and provides best practices guidance and/or support to SGTS project leads for assigned tasks. The incumbent coordinates his/her work with other teams of the Section and Division, and with other Divisions within the Department of Safeguards. The incumbent will also liaise with the Offices of Procurement and Legal Affairs, with Senior Agency Staff, Member State Support Program staff, and Facility Operators.

Functions / Key Results Expected

In general, the Senior Project Engineer contributes to the programmatic goals of the Section. To do so, the incumbent manages and/or contributes to Integrated Systems and Equipment Development projects, and will be involved in strong technical coordination between different technical teams, both from within the Agency and outside. In particular, the incumbent's primary responsibility is to ensure that the all subsystems are completed and integrated in a timely manner in order to reduce 'start-up' delays for new facilities. This will lead to a reduction in inspection and technician effort for such facilities.

In particular the incumbent:

- Acts as SGTS Project Coordinator for selected projects, in order to manage these projects from inception to delivery.
- Works with Operations to properly define project goals for large/complex facilities, and to propose the initial SGTS composition of the project team (i.e. technical experts for specific functions/subsystems).
- Leads the development of conceptual designs for complex safeguard systems, and acts as a Peer Reviewer on subsystem designs developed by under the direction of the specific subsystem Task Officers.
- Ensures that effective communications are maintained between team members of the project team, and between the project team and outside service providers.
- Oversees the planning for, and implementation of, activities needed to integrate all subsystems of the project.
- Catalogs all infrastructure requirements for the subsystems, provide reports on this for transmission to the facility operator, and track any changes in the requirements.
- Monitors project activity, and provide timely consolidated reports to senior management as well as to the project team.
- Leads the development of a project Risk Registry, and work with project subsystem leads to minimize risk to the project.

- Champions the use of additional external and internal resources, as needed, in order to ensure the overall project remain on schedule, and to ensure efficient integration of the project subsystems.
- Asures the initial performance of the integrated system meets the defined requirements, and ensure all needed corrective actions are performed.
- Ensures proper closeout practices are followed by all project team members. This would include the development of system documentation, maintenance plans, and training materials for both end users and designated maintenance staff.

Knowledge, Skills and Abilities

- Demonstrated capability to lead complex engineering tasks;
- Demonstrated experience in Project Management, with experience in the use of Project Management tools such as MS Project.
- Demonstrated experience in System Integration, preferably in a large-scale operational environment;
- Experience preferred in the integration of multiple data sources into a common acquisition platform, as well as the subsequent analysis of the data for performance & state of health issues.
- A clear understanding of the principles of International Safeguards is required, and Inspector experience at the State of International level are preferred.
- Knowledge of available NDA techniques for the detection and characterization of nuclear and radioactive materials is required, and expertise in techniques relevant to automatic (unattended) NDA systems are preferred.
- Demonstrated communication and interpersonal skills, and the ability to establish and maintain effective working relations with Agency staff at all levels and with representatives of Member States.

Education, Experience and Language Skills

- Advanced University degree, preferably in Physics, Nuclear Engineering, or Electrical Engineering;
- At least 10 years of working experience in Project Management, Systems Engineering, or both;
- Familiarity with project management principles as described by PRINCE2 or PMI; certification a plus;
- Demonstrated experience with the integration of multiple instrumentation / sensors into a system is required; experience in the leadership of projects involving the development of 'data review / analysis' tools for the evaluation of integrated data is preferred.
- Demonstrated team leadership skills. Ability to organize and conduct project and technical meetings.
- Proven ability to interface with external entities to coordinate project issues.

- Familiarity with the concepts of International Safeguards, preferably with experience in Safeguards Implementation;
- Excellent knowledge of both spoken and written English is essential. Knowledge of any other official IAEA language (i.e. Arabic, Chinese, French, Spanish or Russian) and/or German is an advantage.