

Job Description for Professional Posts

Position and Grade:	Geospatial Expert
Organizational Unit:	State Infrastructure Analysis Section Division of Information Management Department of Safeguards
Duty Station:	Vienna
Type/Duration of Appointment:	Cost-Free Expert/2-year Minimum

Organizational Setting

The Department of Safeguards is the organizational hub for the implementation of IAEA safeguards. The IAEA implements nuclear verification activities for more than 160 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 Division of Information Management comprises four sections and provides the Department of Safeguards with the services of data processing, secure information distribution, information analysis and knowledge generation necessary to draw independent, impartial and credible safeguards conclusions.

Within SGIM, the State Infrastructure Analysis Section is responsible for the analysis and exploitation of commercial satellite imagery and the provision of in-depth technical appraisals of nuclear sites and facilities. Analysts in ISI collect, process, and exploit information in support of both inspection-related activities and the Department-wide State evaluation process. ISI's product line includes site – focused satellite imagery analysis reports, imagery-derived maps and geospatial information, and technical assessments.

Main Purpose

The State Infrastructure Analysis Section of the International Atomic Energy Agency (IAEA) seeks a Cost-Free Expert to lead activities associated with the provision of digital declaration site map data. ISI has an ongoing joint MSSP task to work with Member States on the provision of digital declaration site map data based on IAEA geospatial standards. States' provision of digital declaration site maps would allow the IAEA to automatically ingest site maps into its Geospatial Exploitation System (GES), saving time and resources as well as result in better, more accurate site maps for the IAEA. The benefits to States include a more well-defined, standardized approach to submitting 2.a.(iii) information. This could mean more consistency across all sites within a State and a more simplified annual update process. In addition, creating digital site maps using industry-standard geographically-aware information systems provide tools for data management and data visualization, including temporal changes. The overall verification process would be enhanced since the digital site

maps can be easily compared to other data sources, thus enhancing the efficiency and accuracy of verification. To date, significant progress has been realized, with digital declaration site map data received from all four of states under this joint task. The future in this area is to transition DDSM from an R&D task evaluating the provision of Geographic Information System (GIS)-ready site maps to an updated formal “Guideline and Format for Preparation and Submission of Declarations” (reference Services Series 11, May 2004) for Member States.

Role

The Geospatial Expert is: (1) a specialist in the analysis of imagery and geospatial data; (2) an expert in GIS processing and analysis software and databases; (3) a coordinator acting as a prime interface with Member States providing insight, expertise and training related to spatial data; (4) a communicator, liaising with Division and Department staff to design and develop interfaces and ensure compatibility with existing systems.

Partnerships

The Geospatial Expert is the focal point for the integration of DDSM data into ISI’s workflow and spatial databases. He/she will coordinate and consolidate internally among Division and Department staff on requirements to ensure compatibility with existing and evolving systems (e.g., GES, PR3). The Geospatial Expert will also liaise with SGCP/CPD to update documentation on the “Guidelines and Format for the Preparation and Submission of Declarations” (Services Series 11) for the provision of digital site map data, with the objective of making this a standard for Member States.

Functions / Key Results Expected

The Geospatial Expert will conduct the following functions:

- Test and evaluate DDSM data provided under joint MSSP tasks, ensuring they conform to established IAEA standards;
- Work with ISI analysts to finalize requirements and generate documentation associated with the provision of DDSM, based on lessons-learned from the MSSP joint tasks;
- Organize and conduct technical training for Member State representatives, national authorities and site operators on the provision of DDSM;
- Liaise with SGIM/ISI and ISD to integrate DDSM into ISI workflows and databases and ensure compatibility with existing (GES) and evolving (APS/PR3) systems;
- Liaise with SGIM and SGIS staff to design, develop and propose a capability for the transmission of DDSM data;
- Design, develop and propose a basic capability for national authorities to view/browse/store data produced by site operators.
- Liaise with SGCP/CPD to update documentation on the “Guidelines and Format for the Preparation and Submission of Declarations” (Services Series 11) for the provision of digital site map data from Member States.

Knowledge, Skills and Abilities

Technical knowledge:

- Professional working skills and expertise in the administration and management of ESRI enterprise ArcSDE geodatabases; ArcGIS for Server Enterprise and ArcGIS Image Extension for Server experience is a requirement;
- Expertise in commercial, industry-standard desktop software as well as open GIS software for GIS and imagery analysis;
- Experience with CAD systems preferable.

Project management skills:

- A demonstrated ability to manage GIS projects;
- Strong *analytical skills* and problem solving abilities in the field of work;
- Good *interpersonal skills* to work effectively in a multicultural environment with sensitivity and respect for diversity;
- Excellent verbal and communication skills as well as a demonstrated ability to integrate analytical business needs with existing IT infrastructure.

Education, Experience and Language Skills

- University (or equivalent) degree in remote sensing, geography, GIS, or a closely related field.
- At least seven years of related work in the field of imagery and geospatial processing and analysis and GIS project management is required.
- Experience in the nuclear industry, or international/government service with an understanding of the nuclear fuel cycle, an advantage.
- Fluency in spoken and written English. Knowledge of other official IAEA language (Arabic, Chinese, French, Russian or Spanish) an advantage

Internal Human Resources use only:	
Effective Date:	
Occupational Group(s):	
Post Number:	