REGULATORY AUTHORITY INFORMATION SYSTEM RAIS

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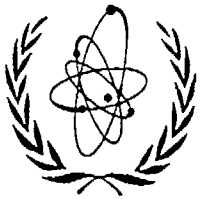
REGULATORY PROGRAMME OF SAFETY OF RADIATION SOURCES

Involves a variety of items related to:

- Authorization process
- Inventory of installations
- Inventory of radiation sources
- Monitoring of compliance with regulations
- Enforcement and follow-up actions
- Indicators of effectiveness of the programme

REGULATORY AUTHORITY NEEDS



- Location and ownership of all radiation sources
- Authorization process for all installations
- Inspections and follow-up actions
- Doses values for occupational exposure
- Key data for periodical reports on its own activities and the state of safety in the country.

REGULATORY AUTHORITY INFORMATION SYSTEM - RAIS

Background

RAIS is a tool currently being developed by the International Atomic Energy Agency for the Regulatory Authorities. It is part of a set of supporting actions designed to assist Member States in achieving the objectives of the Model Project on Radiation and Waste Safety Infrastructure.

ABOUT RAIS

A tool that provides the management of the Regulatory Authority with the key information needed for the planning and implementation of activities and to ensure confidence that resources are optimally used.

ABOUT RAIS (cont.)

- Simple to ensure prompt and regular updating
- Comprehensive enough to avoid parallel systems on the same subject
- Flexible enough to be suitable for various sizes and complexities of regulatory programmes

RAIS MINIMUM REQUIREMENTS

Hardware

PC 486 - 66 MHz

16 MB RAM

at least 8 MB for the installation

Printer

Software

Windows 95 or NT

Access 97

RAIS PACKAGE

- Software package: five modules and a serie of reports and queries;

- Instructions manual: to assit the users to manage, enter data and retrive information from the system.

ACCESS PRIVILEGE LEVELS

- **Administrator of RAIS**
  - prepare the predetermined tables
  - add, edit and remove records
  - scan records, issue reports
- **Operator of RAIS**
  - add and edit records (excluding the predetermined tables)
  - scan records, issue reports
- **User of RAIS**
  - scan records, issue reports
- **Disable from RAIS**
  - no access privilege

RAIS CONCEPT

Due to different magnitude of the Regulatory System in Member States, the RAIS is developed in a way that allows to be flexible according to the needs of the users.

The RAIS presents three groups of tables.

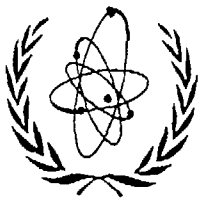
THREE GROUPS OF TABLES

- Tables which are fixed and cannot be changed (e.g. authorization type, enforcement and follow-up actions)
- Tables which must be prepared by the system Administrator according to national circumstances (predetermined tables, e.g. practices, manufacturers, nuclides, dose limits, conversion factors etc.)
- Tables which are to be finalized by the Administrator and/or system operator (Inventory of installations and radiation sources, Application, Authorization, Inspection, Worker's dosimetry data etc.)

FIVE MODULES

- **Inventory** of **installations** and **radiation sources**
- **Authorization** process
- **Inspection** and follow-up actions
- Information on personal **dosimetry**
- Assessment of effectiveness by means of **performance indicators.**

MODULE 1 : INVENTORY OF INSTALLATIONS AND RADIATION SOURCES



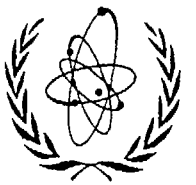
Inventory of Installations

- Installations
- Department/Plants

Inventory of radiation sources

- Sealed sources
- Unsealed sources
- X ray generators (less than 1MV)
- Accelerators (more than 1MV photons, or 1 MeV electrons).

MODULE 2: AUTHORIZATION PROCESS



- Administrative status of an Installation, Department/Plant (from the application until the authorization granted)
- Types of an authorization process (e.g., purchase/import/export, renewal, construction, operation, source transfer etc.)
- The Regulatory Authority can decide to issue the authorization document through RAIS to ensure updating.

MODULE 3:
INSPECTION AND ENFORCEMENT

- List of inspections made within a time frame
- List of inspections that should be carried out in a coming period
- Follow-up enforcement actions and deadlines
- Inspection history
- The Regulatory Authority can decide to issue the inspection report and follow-up actions through RAIS to ensure updating.

MODULE 4: OCCUPATIONAL DOSIMETRY

- Automatic estimation of the effective doses from personal dose equivalent
- Distribution of doses of a given Installation, Department/Plant
- Automatic estimation of doses of workers employed in several installations
- Workers dosimetry history.

MODULE 5: PERFORMANCE INDICATORS

Effectiveness of the Regulatory Authority

- Average time to process an authorization.
- Mean time elapsed by an authorization process, by practice
- Inspections by practice, by inspector, enforcement actions and list of ongoing actions with deadline
- The Regulatory Authority can use RAIS for periodic summary reports of activities and for institutional supervising bodies.

MODULE 5 (cont.): PERFORMANCE INDICATORS

Effectiveness of the Licensees

- Average occupational doses by practice, doses exceeding doses constraints, investigation levels and dose limits
- History of incidents and non compliance
- History of enforcement actions.

MODULE 5 (cont.): PERFORMANCE INDICATORS

Global indicators of performance of the national programme

- Emergency preparedness (inter-institutional arrangement, emergency plans etc.)
- Quality Assurance for the Regulatory Authority (control of records, procedures etc.)
- Training (list of training courses on radiation protection, list of attendees, list of accredited personnel etc.).

REPORTS AND QUERIES

The system provides capability for searching and printing report, from the menu Reports.

- Sources report by Installation
- Installation report by practice
- Installation report by authorization type
- Frequency of inspection by category report
- Report on inspections by practice
- Inspections made, pending and outstanding
- Process pending report
- List of inspections by inspector name.

REPORTS AND QUERIES (cont.)

and...

- Number of sealed sources by nuclide
- Total activity of sealed sources by nuclide
- Number of accelerators by practice
- Number of authorizations by practice
- Number of pending authorizations
- Average time for granting an authorization
- The ratio between actual/nominal average frequency (by practice)
- The number of letters of enforcement by practice per period
- Number of proposals for penalties by practice per period.

REPORTS AND QUERIES (cont.)

and...

- Number of findings by practice
- Number of monitored workers
- Maximum accumulated dose by practice
- Annual effective dose distribution
- Annual collective and effective doses in normal conditions for the country
- Number of workers whose accumulated dose exceeds the annual dose limit

Additionally, different reports can be viewed and printed from the screen.

SUPPORTING DOCUMENT

- Organization and Implementation of a National Regulatory Infrastructure Governing Protection Against Ionizing Radiation and the Safety of Radiation Sources
- Safety Assessment Plans for Authorization and Inspection
- Safety of Radiation Sources

SUPPORTING DOCUMENT (cont.)

- Occupational Radiation Protection: Application of Principles
- Occupational Radiation Protection: Assessment of Exposure from External Sources of Radiation
- Occupational Radiation Protection: Assessment of Exposure from Intake of Radionuclides
- Assessment by Peer Review of the Effectiveness of a Regulatory Programme for Protection Against Ionizing Radiation and for the Safety of Radiation Sources.