



ESTABLISHMENT OF NATIONAL DOSE REGISTER IN SOUTH AFRICA

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Background

- Internationally countries utilize a central registry for internal/external national occupational radiation doses
- Proper statistical analysis of dose distributions, dose management and reporting
- In South Africa no central registry for the management of occupational radiation doses
- Need for harmonisation of records and reporting systems



Records of Occupational Exposures

- GSR Part 1, Requirement 35
 - Para 4.63: *The regulatory body shall make provision for establishing and maintaining the following main registers and inventories: Records of occupational doses*
 - Para 4.64: *The regulatory body may or may not be the sole entity responsible for the maintenance of these registers and inventories, but it shall be involved in their proper retention and use. The requirement for the regulatory body to maintain records cannot diminish the responsibility of authorized parties to keep their own records.*
- There is a tendency to strengthen the application of this safety requirement by establishing a central dose register
- **Draft EU BSS: results of individual monitoring should be submitted to a national dose register established by each EU member state**
- Many other countries have established a national dose register



Steps in establishment of NDR

- Informal discussion with IAEA in 2011 and 2012
- Proposal approved 30 March 2012
- Submitted to IAEA on 2 April 2012
- Included in IAEA TC cycle 2014-15
- Steering Committee for NDR
- Feasibility study through IAEA Expert Mission
- Action Plan
- Design, Customization, Testing and Verification as well as Implementation



Benefits of NDR in RSA

- Integrated system of records of occupational doses
- Confidence in record keeping process
- Evaluation of dose trends and statistics
- Reporting purposes, e.g. annual reports, UNSCEAR
- Health research and epidemiological studies
- Providing dose histories to individual workers and organizations for work planning
- Compensation and litigation cases
- Compliance with related dose limits
- Cover all types of external/internal occupational exposures, employers



National Arrangements

- Currently no explicit legislative requirement for NDR
- SSRP requires a authorization holders to have a dose register of exposed workers
- The proposed new draft NNR regulations cover the requirement related to the NDR (Made available to all stakeholders)



National Arrangements

- Dosimetry service providers in South Africa are:
 - SABS
 - Eskom Koeberg
 - Parc Scientific
- Data service providers in South Africa are
 - All NORM authorisation holders
 - Necsa NTP historical dose records (US service provider)



Progress report

- Expert mission 1
- feasibility of using RAIS to establish NDR. In particular:
 - Analysis of the different data structures used by the different Dosimetry service providers (DSP) in South Africa
 - Providing advice on the scope and elements that the NDR should include
 - Identification of the possible NDR data structure in RAIS
 - Identification of means for data exchange between the DSPs and RAIS NDR
 - Identification of training needs



Progress report

IAEA Expert mission 2

- RAIS 3.3 was installed, tested (Prepare a dose template)
- and used as a pilot study
- The Design of the NDR was made available for review
- Training on the system was provided (Provide hands-on training to designated persons)
- Manual and procedure to be developed
- Letter to NDR provider
- Data was uploaded to the system, deficiencies were identified.
- NDR reporting



Progress report

IAEA Expert mission 3

- Evaluate the pilot study
- Monitor and verification of the uploaded dose data
- NDR reporting
- Skills transfer to database to administrator and data provider
- Area of improvement
- Data was uploaded to the system, deficiencies were identified.
- NDR reporting



Analysis - Legal and Regulatory Basis for NDR

- There are currently no legal or regulatory requirements relating to NDR in SA
- In general, the expert team observed good support to the NDR by all stake holders
- Supporting the establishment of NDR and do not object submitting their data, when requested
- Such request is possible within the existing regulatory framework:
 - For example, through conditions attached to licenses or certificate of registration (CoR; for mines).
- No need to wait until new regulations are established

