National Department of Health

Presentation to the Portfolio Committee on Health

Progress made on the Directorate of Radiation Control

24 August 2011

Overview

- Background
  - Regulatory infrastructure for Radiation Protection in SA
  - Directorate Radiation Control: Mandate
  - Legislative framework
  - Regulatory oversight
- Terms of Reference
  - Short-, medium-, long term
- Members of Task Team
- First Meeting: 21 Feb 2011
- Interventions
- Preparations for next meeting: 13 Jul 2011

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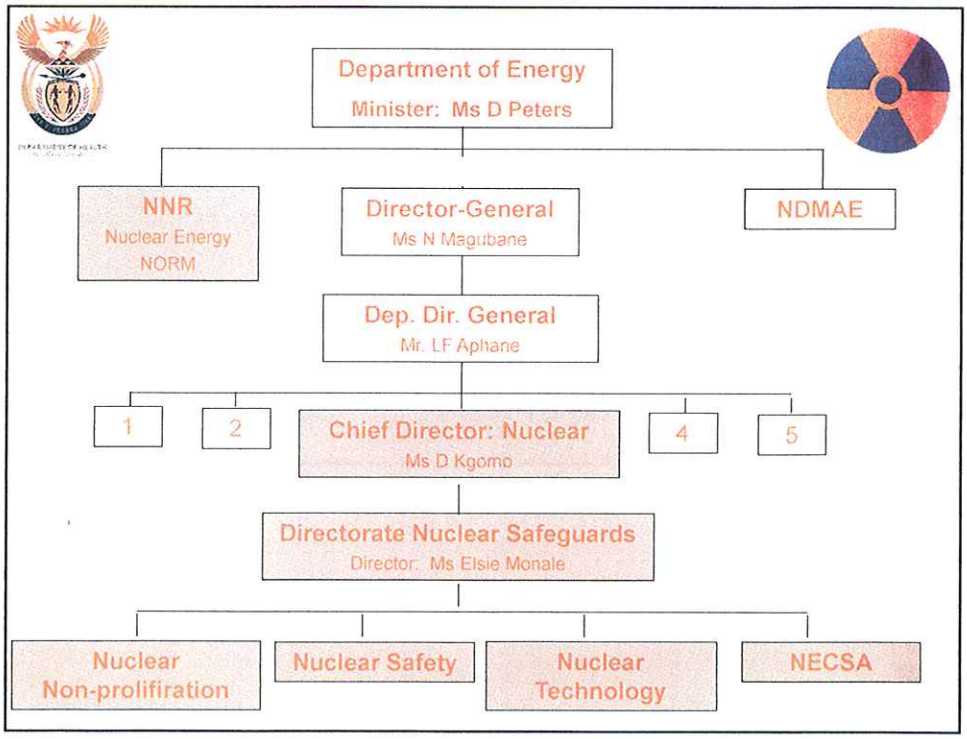
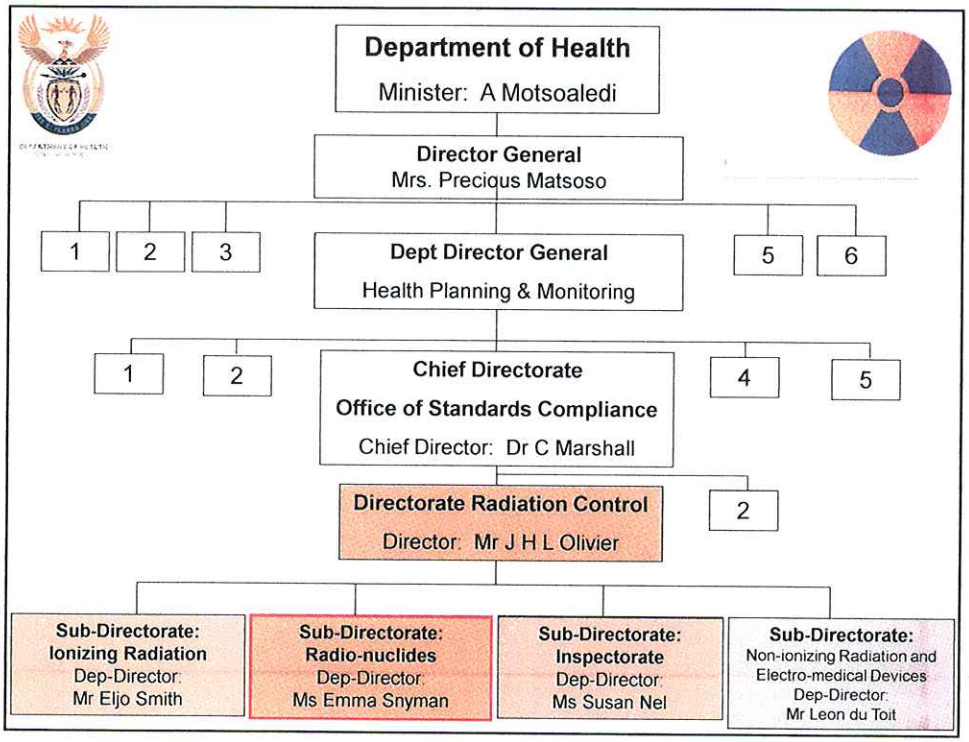
Regulatory Infrastructure

Three Regulators involved in Radiation Protection in SA

1. Department of Energy - NNR (National Nuclear Regulator)
2. Department of Energy - Directorate: Nuclear Safeguards
3. Department of Health - Department: Radiation Control





Mandate

The promotion and maintenance of health within the framework of the National Health Plan and specifically the protection against injury or disease caused by technological devices, including **hazardous sources of ionizing radiation**, by furthering the safe and legal use of such devices.

Hazardous Substances Act (15 of 1973)

Group III **Hazardous Substances** : Electronic generators of ionizing radiation

E.g. X-ray machines, linear accelerators, etc.

Group IV Hazardous Substances - Radio-nuclides

Legislative framework

Sub-Directorate: Radio-nuclides

- Hazardous Substances Act (Act 15 of 1973)) - Group IV Hazardous substances
- Regulations R246 & 247 (1993)
- Group IV hazardous Substances – Exemptions and Exclusions
- Conditions and Codes of Practice

Sub-Directorate: Ionizing Radiation & Inspectorate

- Hazardous Substances Act (Act 15 of 1973) - Group III Hazardous substances
- Regulations relating to Group III Hazardous Substances – R 690 (14 Apr 1989)
- Regulations concerning the control of Electronic Products - R1332 (6 Aug1973)
- Schedule of listed Electronic Products Regulation – R 1302 (14 Jun 1991)
- Conditions and Codes of Practice

- **The Radioactive Waste Management Policy and Strategy for the Republic of South Africa**
- **Disaster Management Act**
- **National Radioactive Waste Disposal Institute Act, Act No. 53 of 2008**

Regulatory Oversight

Sub-directorates: Generators of Ionizing Radiation & Inspectorate

- Total: > 6 200 License holders, ± 15 000 X-ray generators
- **Medical: X-ray generators 12 160 (80%)**
- **Non-medical: X-ray generators 2 820 (20%)**
  - Mining
  - Security
  - Industrial radiography
  - Research
  - Manufacturers & Distributors
  - Mortuaries

Regulatory Oversight

Sub-Directorate: Radio-nuclides

Total: > 2 700 Authority holders, ±15 000 sources

Medical Applications: 274 Authority Holders (10%)

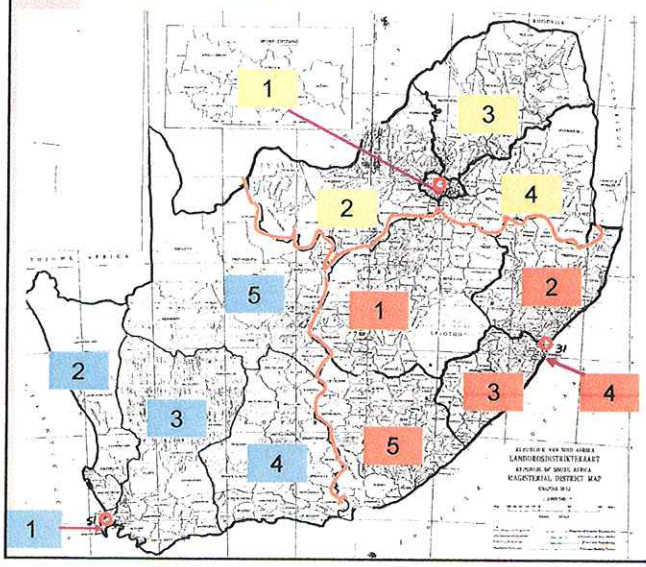
- Nuclear Medicine: 80, including 6 PET scanners
- Radiation Oncology 194
- Tertiary Training Centers
- Other smaller applications: Pathology labs, etc.
- Hospitals (Private & Governmental)

Industrial Applications (90%)

- Irradiators (Food, blood, insect, etc.)
- Industrial radiography
- Borehole logging
- Measure & Control in wide range of industries (Density-, Level-, Thickness gauges, Soil- & Moisture gauges, etc.)
- 2 Manufacturers exporting to > 50 international countries
- Research, and Education & Training institutions
- Various smaller applications (analyzers, scintillation counters, smoke detectors, beta lights, etc.)

Head Office: Bellville

Inspectorate: 3 Regional offices



Cape Town
- 2 Inspectors
- 1 Admin officer

Pretoria
- 6 Inspectors
- 2 Admin officers

Durban
- 2 Inspectors
- 1 Admin officer

- **Border posts**
- **Airports**
- **Harbors**

Terms of Reference

Short-term

Short-term task team activities

Establish a common radiation source register

Establishment of a national dose register

Carry out responsibilities in terms of the Code of Conduct on the safety and security of sources

Process for National comment on International Atomic Energy Association safety standards

Sharing information related to events involving Radioactive Sources

Disposal of Radioactive Sources

Terms of Reference

Medium term

Medium-term activities

Implementation of the Self-Assessment Tool (SAT) of IAEA

- SAT Report and Action Plan completed bu NNR and Dir. Radiation Control, available & distributed to Members of Task Team
- Prioritize actions, decide on time schedules
- Develop details of tasks
- Appoint consultants for projects

Terms of Reference
Long-term

Long-Term activities

Review of current legislation and regulatory mechanisms for the NNR and RADCON and identify gaps that militate against effective regulation of material citied in both pieces of legislation.

Identify areas of overlaps between the NNR and RADCON as well as undertake capacity audit required to fulfill the mandate of public protection in relation to radiation control.

Propose measures to strengthen existing legislation as well as a mechanism for integration or harmonization of regulatory functions associated with Radioactive Sources.

Members of Task Team

- Members appointed Late Dec 2010 – early Jan 2011
- Three Regulators involved in Radiation Protection is SA
- **Directly involved Dept of Health:**
  - DG: Ms Precious Matsoso
  - DDG Health Planning & Monitoring: Ms Carol Nuga-Deliwe
  - Director Radiation Control: Mr Seppie Olivier
  - Dep. Dir. Radio-nuclides: Mrs Emma Snyman
- **Members from NNR (National Nuclear Regulator):**
  - CEO: Adv BM Mkhize
  - Chief Technical Officer: Mr Mnonoki Msebenzi
  - Chief Technical Officer: Mr J Mwase
  - National Coordinator of IAEA Self Assessment Project: Mr Alan Muller
- **Members from Department of Energy** (appointed March 2011)
  - Directorate: Nuclear Policy and Technologies: Mr J Keshaw
- **Chair: Prof Sibiya** (appointed March 2011, will take chair on 2nd meeting)

Members of Task Team

- **Stakeholders representation**

SAPS:

SSA Counter Proliferation investigator: Mr Rassie Erasmus
Crime against the State: Capt. Ben Nel

SARS Customs: Import/Export

Senior Manager Customer strategic partnership: Ms Thabile Ntombela
Strategic Partnership Manager: Mr Nemasetoni Takalane

ITAC: Import/Export permits

Senior Manager Import and Export control: Mr P Snyman

NPA CEO National Nuclear Regulator

Deputy Director of Public Prosecutions: Adv RC (Chris) Macadam

Scientific Technical Experts - representatives from industry:

- SAAPMB President: Mnr P du Toit
- Retired HoD Medical Physics UFS: Prof MG Lotter
- CSIR & NECSA: Mr F Beeslaar

Other stakeholders to be identified E.g. DIRCO, DEA, DTI, DMR, etc.

First Meeting: 21 Feb 2011

- **Agenda & Minutes available**
- **DG highlighted need to:**
  - improve regulation of radioactive sources
  - comply with international obligations
  - review the role of relevant regulatory bodies in SA
  - determine future position of Directorate Radiation Control
  - investigate missing radioactive sources (no longer under regulatory control)
- **Discussions & Decisions**

Report on Lost Sources
Quantify the extent of the problem
Focus on high risk sources
Detection capability of sources (SARS, customs, police etc.)

Terms of Reference – Review and Clarification required

Clarification of Terminology - Definitions, abbreviations, acronyms

National Source register - Harmonization with international database developed by IAEA

First Meeting: 21 Feb 2011

- **Discussions & Decisions (continued)**
  - **Stakeholders/partners/structures involved in regulatory control of radio-nuclides**
  - **The IAEA Self Assessment RAF 09-38 project (Completed Dec 2010)**
    Conducted by NNR and Directorate Radiation Control
    Identified shortcomings in the national and organizations regulatory infrastructures.
    Findings, recommendations and action plans were compiled to address these
  - **Strategic functions, structure and future position: Directorate Radiation Control and Sub-Directorate Radio-nuclides**
    - **Other stakeholders to be identified**

Interventions

- **Identification of shortcomings in Regulatory Infrastructure:**
  - Summary Report: Self-Assessment of the National Regulatory Infrastructure for the Safety of the Republic of SA
  - National Action Plan
  - Actions Plan for the Directorate: Radiation Control
  - Actions identified for Radio-nuclides
- **JCC between NNR and Radiation Control**
  - National dose register currently being addressed
- **Staff Recruitment for the Directorate Radiation Control**
  - **Sub Directorate: Inspectorate**
    All vacant posts has recently been filled
    Intensive training strategy being implemented
  - **Sub Directorate: Radio-nuclides**
    Not yet resolved
    - **Other stakeholders to be identified**

Next meeting

- Date 13 Jul 2011 - Agenda included
- Terms of Reference to be revised – members to provide inputs
  - Mr Olivier compiled summary document
    - Align with SAT Action plans
- Terminology related to radioactive sources
  - Mrs Snyman – Done
- Compile a report related to the extent of the lost sources
  - Concentrate on High Risk radioactive sources
  - Mr Olivier – no feedback yet received

The report has to include at least the following items:

Extent of the lost sources
Risk assessment
Period for which the sources were out of control
What has been done to regain control
Why this happened and how to prevent future occurrences
Recommendation indicating how to restore control
Benchmarking: compare with regulatory control in other counties

Next meeting

- Reasons why radioactive sources escape regulatory control
  Mrs Snyman – Done
- IAEA SAT - Action Plan
  Presentation: *Effectiveness of national legislative and regulatory framework for nuclear and radiation safety (RAF09-38/NNR/Radcon)*
- **Task Team actions, activities and task allocations**
- **Legislative implications and arrangements**
- Budget requirements – to be discussed
- **Consideration for a new National Regulatory Body to be formed for Radiation Protection in RSA ?**
- **International communication and collaboration**
  - IAEA: meetings, missions, international practices
  - Bilateral and other agreements with other countries
  - Benchmarking: Comparison with regulatory control in other countries
- **Appointment of Secretariat for TT** - Secretariat for TT: Meetings, correspondence, communication
  Meetings, correspondence, communication

Conclusion

"Safety"
Minimize the likelihood of accidents, mitigate consequences"

Security"
Prevent unauthorized access or damage, loss, theft, transfer"

- **Safety & Security related to radioactive source in a country can only be effectively ensured if**
  - Regulatory Body is effectively independent
  - Regulatory Body is strong and effectively functioning
  - The Regulatory Bodies in the country cooperates and collaborates effectively and ensures no gaps and overlaps in regulatory oversight

" The key thing about all the world's big problems is that they have to be dealt with collectively. If we don't get collectively smarter, we're doomed. "

- Douglas Engelbart

Thank you!