

The United Republic of Tanzania National Strategy for the Management of Sealed Disused Radiation Sources

L. D. Kifanga

Tanzania Atomic Energy Commission
United Republic of Tanzania

Background Information

- **The Use of Radioactive Materials in Africa**
- **No Control over the last 4 decades**
- **Problem of disused sources evident in early 80's**
- **Participation in AFRA Projects**
- **IAEA assistance in establishing Regulations and Conditioning of Ra-226 sources**

Legislations and Regulations for Control of Radioactive Materials

- The Protection from Radiation Act No 5 of 1983
- The Radioactive Waste Management Regulations, 1999
- The Atomic Energy Act No. 7 of 2003
- The Protection from Ionizing Regulations, 2004

Regulatory Framework

- **The Tanzania Atomic Energy Commission (TAEC) 2003**
- **The Official Body responsible for atomic/nuclear energy matters**
- **Took over former functions of the 1983 Act with added responsibilities**

Management of Disused Sources

- **Observed increase of disused sources in 1990's**
- **Need to establish Temporary Storage Facility became evident**

Conditioned Ra-226 Sources



The Temporary Storage Facility used 1999-2005



Temporary Storage Facility

- **Radium needles used for brachytherapy conditioned**
- **Sources seized in Illicit Trafficking incidents**
- **Abandoned/Stolen sources**

The Central Storage Facility



The Central Storage Facility (CRWMMF) 2005



The Central Storage Facility (CRWMF)

- **Established in 2005**
- **Appr. 380 sq. m.**
- **Specially designed for storage and conditioning**
- **Security Guards on site 24 hrs**
- **Electronic Security Alarms installed**
- **Phone and Radio communication installed enhance response**

Sources Currently stored

- Sources in the temporary storage facility moved to this facility
- Disused sources from hospitals, industries collected
- Abandoned, stolen and sources seized during illicit trafficking

Examples; Abandoned / orphan sources

- **31 Radium needles (used in 1960's) recovered in 1999**
- **A Caesium-137 industrial radiographic source recovered in a swamp (1996)**
- **Three Cs-137 sources (density gauges) recovered from sacramental 2002**
- **Stolen source (no.2) recovered in 2002**



19 1 2005

Strong Disused Sources



Conditioning SHARS-Sept 2009



SHARS Conditioning 2009



WM2008 Conference, February 24 - 28,
2008, Phoenix, AZ



The LTSS Container



Future Plans

- **Condition the sources in the central storage facility and Consider using the Bore Hole**
- **Conduct search and secure of orphan sources country wide**
- **Strengthen capability to combat illicit trafficking of radioactive materials**

Future Plans-Cont.

- **Upgrade regulations on waste management**
- **Collect disused sources from the public domain**
- **Build capacity in Radioactive waste Management (AFRA, IAEA Projects)**

CONCLUSION

- **A Sound Radioactive Waste Management infrastructure established**
- **IAEA-AFRA Projects played major role in establishing both legislative and Regulatory Infrastructure**
- **Bilateral Assistance through the IAEA Nuclear Security Fund has been very useful**

CONCLUSION

- **Bilateral assistance from the US DOE has been very instrumental**
- **Cooperation with the IAEA has been very rewarding in capacity building in Managing SDRS**

THE END

**THANK YOU FOR YOUR
ATTENTION**