ISSPA

International Source Suppliers and Producers Association

An Industry Perspective on an Efficient Safe and Secure Life Cycle Management of Radioactive Sources

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ISPPA's Mission

The mission of ISSPA is to ensure that the beneficial use of radioactive sources continues to be regarded by the public, the media, legislators, and regulators as a safe, secure, viable technology for medical, industrial, and research applications.

Membership:

- Fifteen members in 9 countries
- Represents more than 90 % of radioactive sources produced/ distributed

Introduction

- This presentation provides a look at the life cycle management from the manufacturers' perspective.
- The presentation gives a brief overview of the life cycle model for sealed sources.
- The need for a robust safety and security culture is socially agreed. How to achieve this is still in discussion and different perspectives come to different solutions.
- A common understanding about the needs for a safe and secure life cycle management and the roles of the various involved parties is required.
- Sealed source management is usually an international issue, national measures needs to take this in account.

Background

- The IAEA initially published the Code of Conduct on the Safety and Security of Radioactive Sources in March 2001. This document was developed in an effort to improve the safety and security of radioactive sources following a number of accidents involving radioactive sources.
- The harmonized implementation of the Code and the associated Import/Export Guidance is still topic of international efforts.

Incidents

Unfortunately there have been several documented accidents
Involving radioactive sources in unwitting hands:

- 1987 - Goiania, Brazil Cs-137:
  50.9 TBq (1375 Ci) Scrapped source ended up in a junk yard. The event focused international attention on the issue of safety standards for radioactive sources.
- 1996 - Gilian, Iran - 185 GBq Ir-192:
  Lost radiography source found in trench and placed in shirt pocket.
- 2000 – Sumat Prakarn, Thailand, 16 TBq Co-60:
  Abandoned teletherapy head in junkyard.

And the most discussed big risk

- Malicious use of radio nuclides (dirty bomb)

Beneficial Use

Due to the emphasis on threat sometimes the benefit using sources is going out of peoples field of vision:

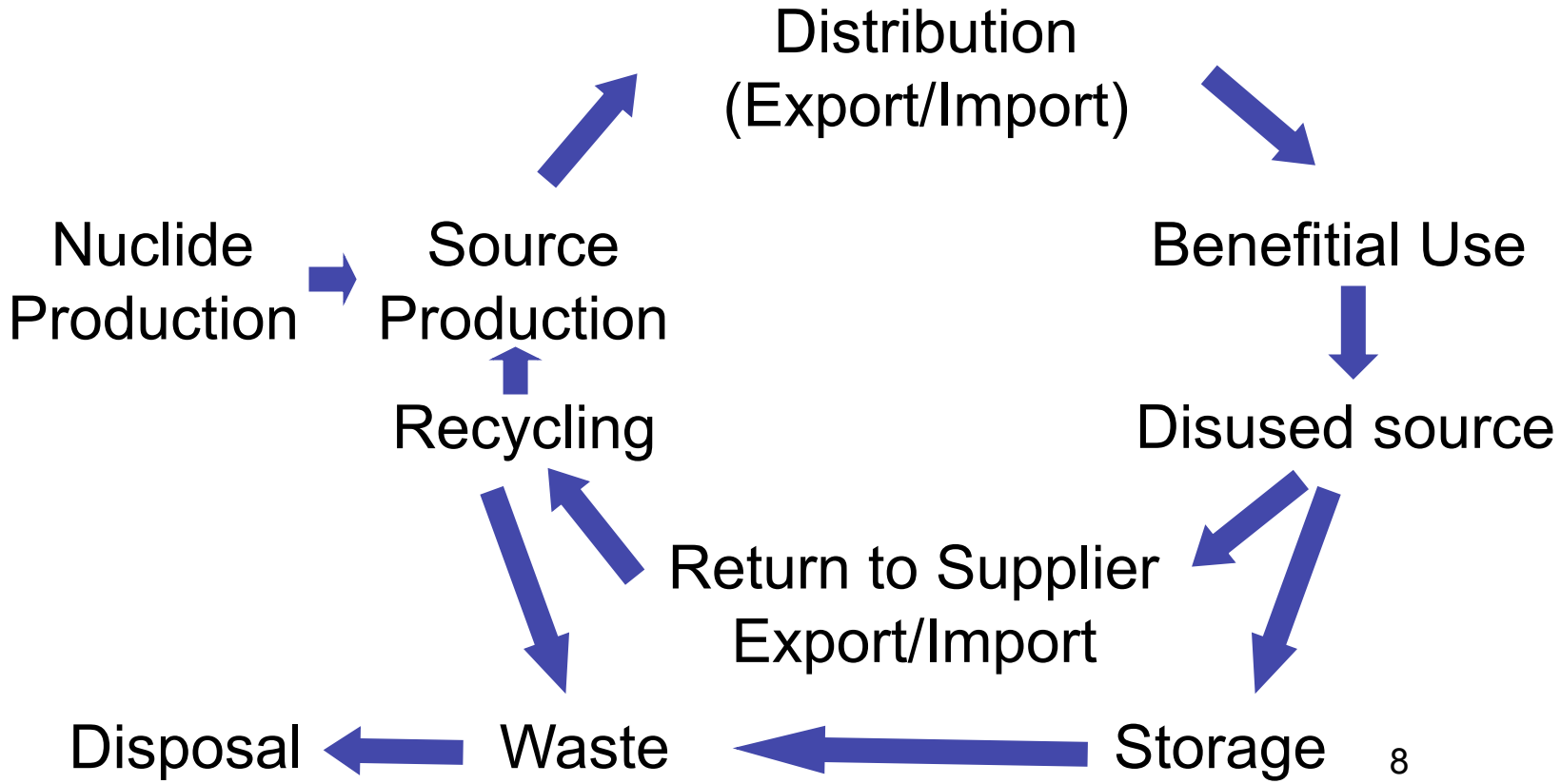
- Medical use, e. g. radiotherapy, sterilization
- Technical use, e.g. process control, exploration of natural resources (oil, water)
- Safety - non destructive testing
- Security - explosives, gas, drug detection

Still essential for our modern life

Preventative Measures to Minimize Risk

- Communicating the Risk
- Educating the public, workers
- Radiation Safety Programs and Standards
- Facility/Source Security
- Import/Export Controls

Life Cycle of a Sealed Source



Challenges during Life Cycle

- Regulatory Issues
  - Licensing of source manufacturer
  - Licensing of Sources/Devices
  - Licensing of Transport Containers
  - Licensing of Transport
  - Licensing of Export/Import
  - Licensing of User
  - Licensing of Storage Facilities

Challenges during Life Cycle

- Safety & Security Issues
  - Production Safety & Security
  - Transport Safety & Security
  - Safety &Security in use
  - Safety &Security of disused source

All this issues are very important to assure safety and security but

- imply costs and obstacles for the beneficial use
- Effective use of this instruments is a challenge for the future

Delivery over Frontiers – Special Issues

- Diverse regulatory environments requires different measures
  - Different requirements from different fields of law have to be followed
- Common regulations are interpreted in a different way
  - E. g. Euratom 1493/93
  - Idea: uniform regulation for authorization of shipments of rad. substances between member states
  - Reality:
    - The approvals are not given to the consignee but to an importer company
    - For high active sources not Euratom 1493/93 is used but IAEA Import/ Export guide is used

A harmonization in this field could avoid problems!

End of Life Management – Special Issues

- Nearly no problems if there is an ongoing use and sources are replaced regularly
- If sources are not replaced and the use is not longer required (sometimes after a long period)
  - Can sources be returned to the supplier?
  - Is there a place for disused sources?
  - Are there licenced transport containers?
  - Is there technical documentation available for safe dismounting?
  - Are budgets available for management of disused sources?

- To avoid problems at the end of life further international efforts are required

The Role of Source Manufacturer and Supplier

- Make sure the regulatory requirements are met by the users
  - License checking
  - Get export/import approvals
- Assure technical requirements
  - Get source/device approvals
  - Hold licensed containers available
  - Hold technical documentation available
  - Provide recycling opportunities
- ISSPA members obligate themselves to meet this requirements

! To regulate and control the use of the sources cannot be the duty of the suppliers

Some Desires and Hopes of Source Manufacturer and Supplier

- Implement the very important requirements of Code of Conduct and Import/Export guide in a harmonized way
  - Regulatory requirements can be met best in our globalized environment when they are fitting together from country to country
- Reduce the hurdles to bring disused sources into a safe and secure haven
  - The risk of loosing control is growing fast when the sources are not of value for the user and hurdles for management of disused sources are inflated
- Accept the industry as partner in common effort to guaranty the safety and security using this beneficial technology
  - Safety and security in the use of this technology is a common objective