

An Introduction to Uranium Stewardship

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Presentation outline

- What is stewardship?
- World Nuclear Association
- Stewardship mission and principles
- Guidelines/practices/verification
- Uranium Group role

Stewardship

“all players in a commodity life cycle working together to maximise the value to society from the mining, processing, manufacture, consumption and end of life management of that commodity - without harming people and the environment”

Stewardship - Origin of the word

- The steward, or “keeper of the hall”, was the official in a medieval household responsible for its management.
- Under the feudal system, it was the lord who had all of the legal authority.
- The steward had only a delegation of that authority, and a mandate to administer the estate.
- he would maintain an interest in all happenings, make it his business to know all of the operational details, and know when to intervene and when to concentrate on other matters. He would need to gather information, both from reports by the staff and from actual inspection of the estate.
- He would need to ensure that the staff was properly trained,

Nuclear fuel cycle

Mining and milling



4 major western producers



0.7% U-235

Conversion



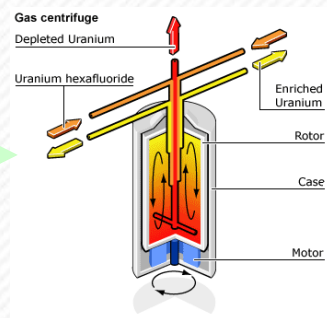
4 commercial plants



Enrichment Services

Expressed as "SWUs"

4 major groups worldwide



0.7% U-235

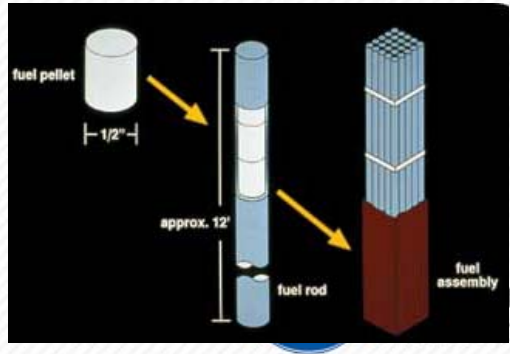
Depleted Tails

(0.3% U-235)
85% of volume

3.5-5% U-235,
15% of vol.

Fuel Fabrication

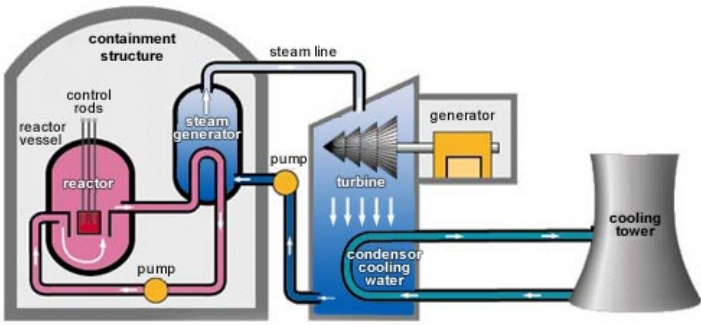
UO_2 pellets/fuel rod assembly"
Several large facilities worldwide



3.5 - 5%
U-235

Nuclear Reactor

Electricity generation – 79,000 tpa U_3O_8
440 plants worldwide – 364 GW total
16% of world's electricity



Spent fuel

<1.0% U-235

*Mines supply
58% of total
reactor needs.*

World Nuclear Association

- Australian Stewardship Working Group Report to the World Nuclear Association Sustainable Development and Climate Change Working Group Meeting, Hong Kong, 3rd April 2006
- Opportunity for the WNA to take a lead role in developing a global Uranium Stewardship program
- Key stakeholders in each sector of the nuclear fuel cycle to be involved
- WNA Board agreed to establish a Uranium Stewardship Working Group within the WNA structure
- First meeting of the working group held in London, September 2006

URANIUM STEWARDSHIP

- A programme of action based on a continued commitment to ensure that uranium and its by-products are managed in a safe, environmentally responsible, economical and socially acceptable manner
- Provide understanding of all aspects of the life cycle; share knowledge; identify best practice; commit to making best practice, standard practice; a uranium incident anywhere is an incident everywhere

WNA Uranium Stewardship Working Group

- membership exceeds 80
- one of largest and most active working group within WNA
- members represent all sectors of the uranium lifecycle
- all continents and most countries (with interest in uranium) represented
- IAEA are observers to the working group

The mission of the Uranium Stewardship is:

- To engage the public and earn trust for the global nuclear fuel cycle through the continued replacement of standard practice with best practice

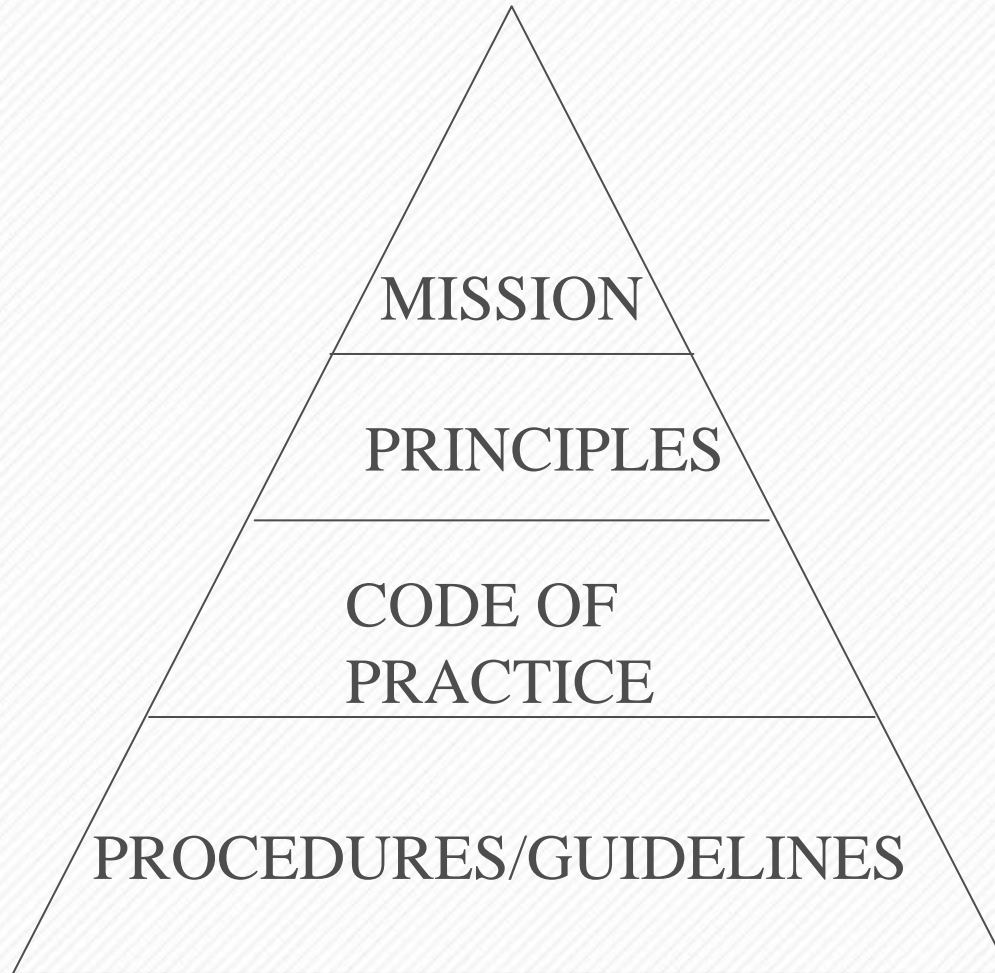
Principles of Uranium Stewardship

- *Recognising that uranium stewardship is a shared responsibility, by all persons in each sector of the nuclear fuel cycle, we will work together in a spirit of cooperation and we commit to the following:*

Principles of Uranium Stewardship (cont'd)

- *Ensure the safe and peaceful use of nuclear technology*
- *Act responsibly in the areas that we manage and control*
- *Operate ethically with sound corporate governance*
- *Uphold fundamental human rights*
- *Contribute to social and economic development of the regions in which we operate*
- *Provide responsible sourcing, use and disposition of uranium and its by-products*
- *Encourage best practice and responsible behaviour throughout the nuclear fuel cycle*
- *Improve continually in all areas of our performance*
- *Communicate regularly, progress on the implementation of these Principles*
- *Review and update these Principles as necessary*

Hierarchy of documents



2. Act responsibly in the areas that we manage and control

- Ensure that we understand and comply with our obligations and regulatory requirements. Ensure that the right management system is established, implemented, maintained and continually improved.
- Conduct and commission regular independent audits to assess and verify compliance and identify opportunities for improvement, even beyond regulations. Participate in voluntary systems of review and exchange designed to enhance and maintain nuclear safety (e.g.: IAEA's inspections and assessments, WANO's peer reviews, voluntary reporting, FTSE4Good...).
- Ensure that we understand the needs of our stakeholders and reflect them whenever possible and relevant in our decision making process.

Hierarchy of documents



Uranium Mining and Processing: International Guidelines for the Management of Radiation, Waste, Health, Safety and the Environment

- joint initiative of World Nuclear Association and International Atomic Energy Agency
- commenced in September 2006 in parallel with uranium stewardship
- principles released January 2008

The Nuclear Fuel Cycle

