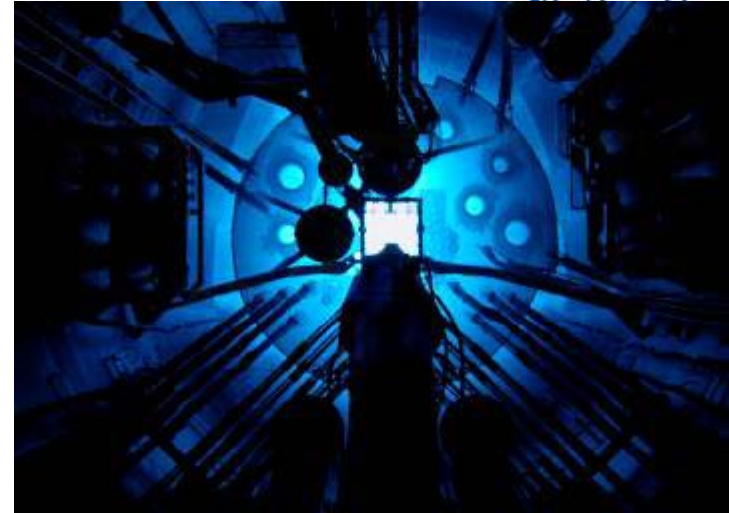


Regulation of nuclear material and associated items under the Safeguards Act



Sarah Harding
Nuclear Accountancy and Control
Australian Safeguards and Non-Proliferation Office
Department of Foreign Affairs and Trade



Australian Government

Australian Safeguards and Non-Proliferation Office

Foreign Affairs and Trade



Overview

- Nuclear Industry in Australia
- International Obligations
- Regulatory Structure in Australia
- Australian Safeguards and Non-Proliferation Office (ASNO)





Australia's Nuclear Industry



Nuclear Facilities



- 1 × shutdown 10 MW_{th} research reactor – High Flux Australian Reactor (HIFAR)
- 1 × 20 MW_{th} operating research reactor – Open Pool Australian Light water reactor (OPAL)
- 1 × 100 kW_{th} decommissioning research reactor – Moata
- 1 × decommissioned laser enrichment research facility – Silex Systems Ltd



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Uranium Mines



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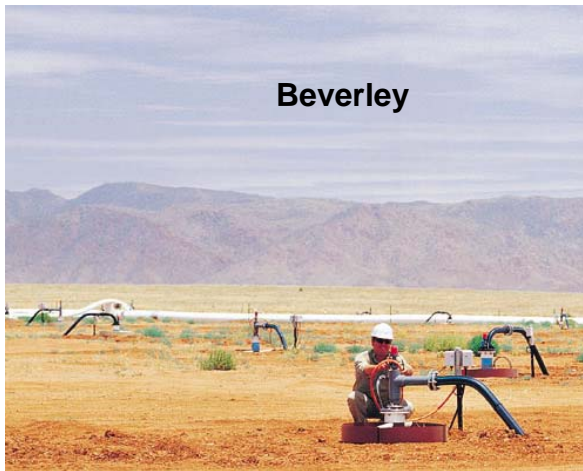
Honeymoon



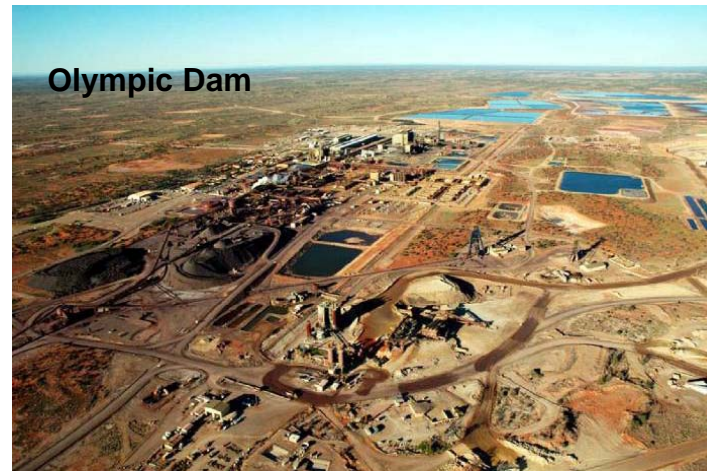
Ranger



Beverley



Olympic Dam



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- **UNIVERSITIES and RESEARCH ORGANISATIONS**
- **INDUSTRIAL RADIOGRAPHERS**





International Obligations



Major International Safeguards Requirements



- Nuclear Non-Proliferation Treaty
 - Safeguards Agreement between Australia and IAEA
 - Additional Protocol Agreement between Australia and IAEA
- Bilateral Safeguards Agreements



Major International Security Requirements



Foreign Affairs and Trade

- CPPNM
 - Prior notice of international transport
- Protect nuclear material to international standards
 - INFCIRC/225/Rev.5
- Nuclear Security Summit
 - Communiqué and Work-plan
- Confidentiality of sensitive technology
 - SILEX enrichment technology



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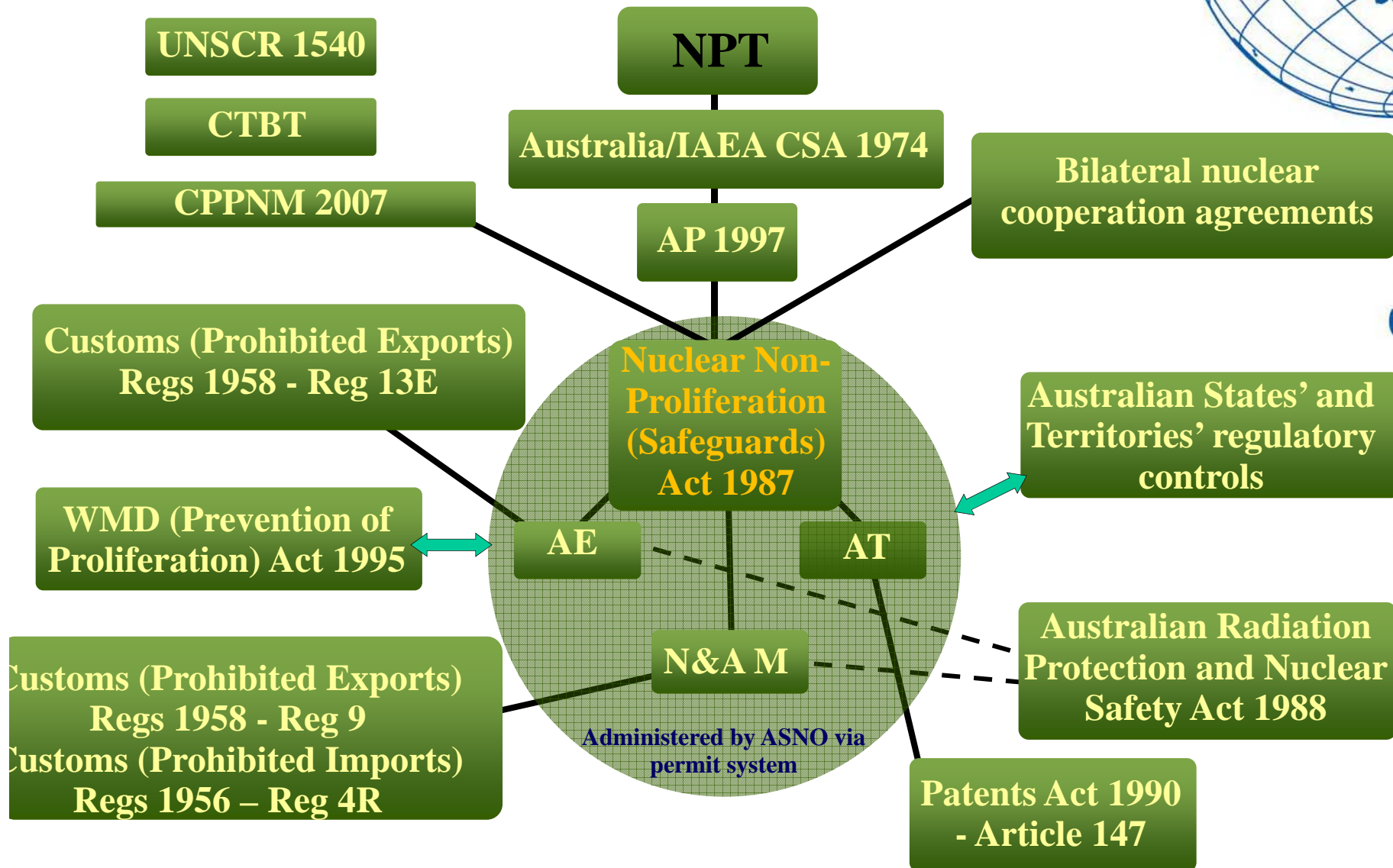
Australian Safeguards and Non-Proliferation Office



Regulatory Structure



Australia's Nuclear Regulatory Structure



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Nuclear Non-Proliferation (Safeguards) Act 1987



- Safeguards Act gives effect to Australia's obligations under:
 - Nuclear Non-Proliferation Treaty
 - Safeguards Agreement and Additional Protocol with the IAEA
 - Agreements between Australia and various countries (and Euratom) concerning transfers of nuclear items and cooperation in peaceful uses of nuclear energy
 - Convention on the Physical Protection of Nuclear Material
- Safeguards Act establishes a system for control over nuclear material and associated items:
 - Establishes the Australian Safeguards and Non-Proliferation Office (ASNO) as an independent regulator
 - Establishes the position of Director General ASNO responsible directly to the Minister for Foreign Affairs and Parliament
 - Establishes requirements for permits for possession and transport of nuclear material and associated items



REGULATED ITEMS



- The Nuclear Non-Proliferation (Safeguards) Act applies to:
 - ‘Nuclear material’ (NM) - Article XX of IAEA Statute
 - ‘Special Fissionable Material’ – Plutonium-239, Uranium-233, Enriched Uranium-233 or 235
 - ‘Source Material’ – Natural Uranium, Depleted Uranium, Thorium
 - ‘Associated items’ - ‘associated material’, ‘associated equipment’ and ‘associated technology’:
 - Associated material: use in construction or operation of a reactor
 - Associated Equipment: Equipment or plant that is especially designed, manufactured or built for use in ... e.g. the separation of isotopes of uranium.
 - Associated Technology: documents that contains information (other than information that is lawfully available ...) that is applicable primarily to the design, production, operation, testing or use of ... equipment ... for the enrichment of nuclear material; reprocessing of irradiated nuclear material; or production of heavy water.





ASNO





- Australian Safeguards and Non-Proliferation Office
- Director General – currently John Carlson,
 - Statutory Appointment
- National Authority for
 - Nuclear Safeguards and Security (NPT, IAEA, CPPNM)
 - Bilateral Nuclear Safeguards
 - Chemical Weapons Convention (CWC)
 - Comprehensive Nuclear-Test-Ban Treaty (CTBT)



ASNO's Nuclear Functions



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- IAEA and Domestic Safeguards
 - Facilitate IAEA Inspections
 - Reporting to IAEA
- Nuclear Security (Physical Protection)
 - Domestic application
 - Development of standards
- Bilateral Safeguards
 - Uranium Export Policy - Network of nuclear cooperation agreements
 - Tracking of AONM
- Regional Safeguards
 - Training and capacity building
 - Australia Pacific Safeguards Network
- International Safeguards
 - Development of safeguards system
 - Australian support program



Australian Government

Australian Safeguards and Non-Proliferation Office

ASNO's Nuclear Goals

- Ensure that nuclear materials - uranium, thorium and plutonium - and nuclear items - facilities, equipment, technology and nuclear-related materials:
 - are used only for authorised purposes
 - are properly accounted for
 - are protected against unauthorised use.
- Ensure that Australia's treaty commitments are met
 - particularly that nuclear activities are conducted for exclusively peaceful purposes.



To achieve this, ASNO.....



- Issues Permits for possession and transport
- Keeps an updated database of all nuclear material present in the country
- Conducts regular inspections on all Permit Holders
- Facilitates IAEA inspections of Australian facilities
- Conducts outreach and provides training and education on nuclear regulation and physical protection

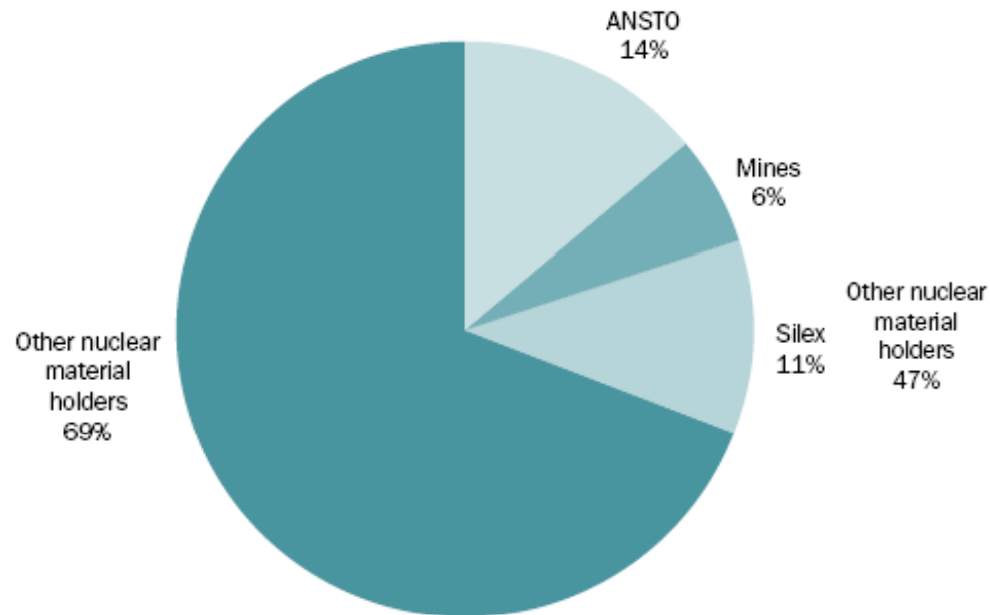


Permit Holders

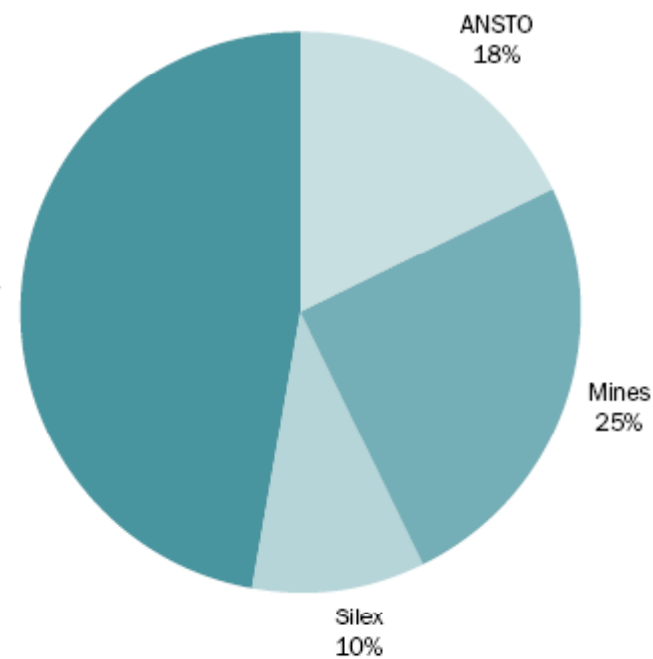
- ANSTO [4]
- Uranium Mines [3]
- Small Permit Holders [~90]
 - Universities, Hospitals, Radiographers
 - Federal and State regulators of radioactive materials
- Transport companies (mainly UOC) [~20]
- Silex Systems Limited [1]
- Patent Attorneys [~10]



Inspections/Audits 2008-09



Inspections by type



Inspections by effort



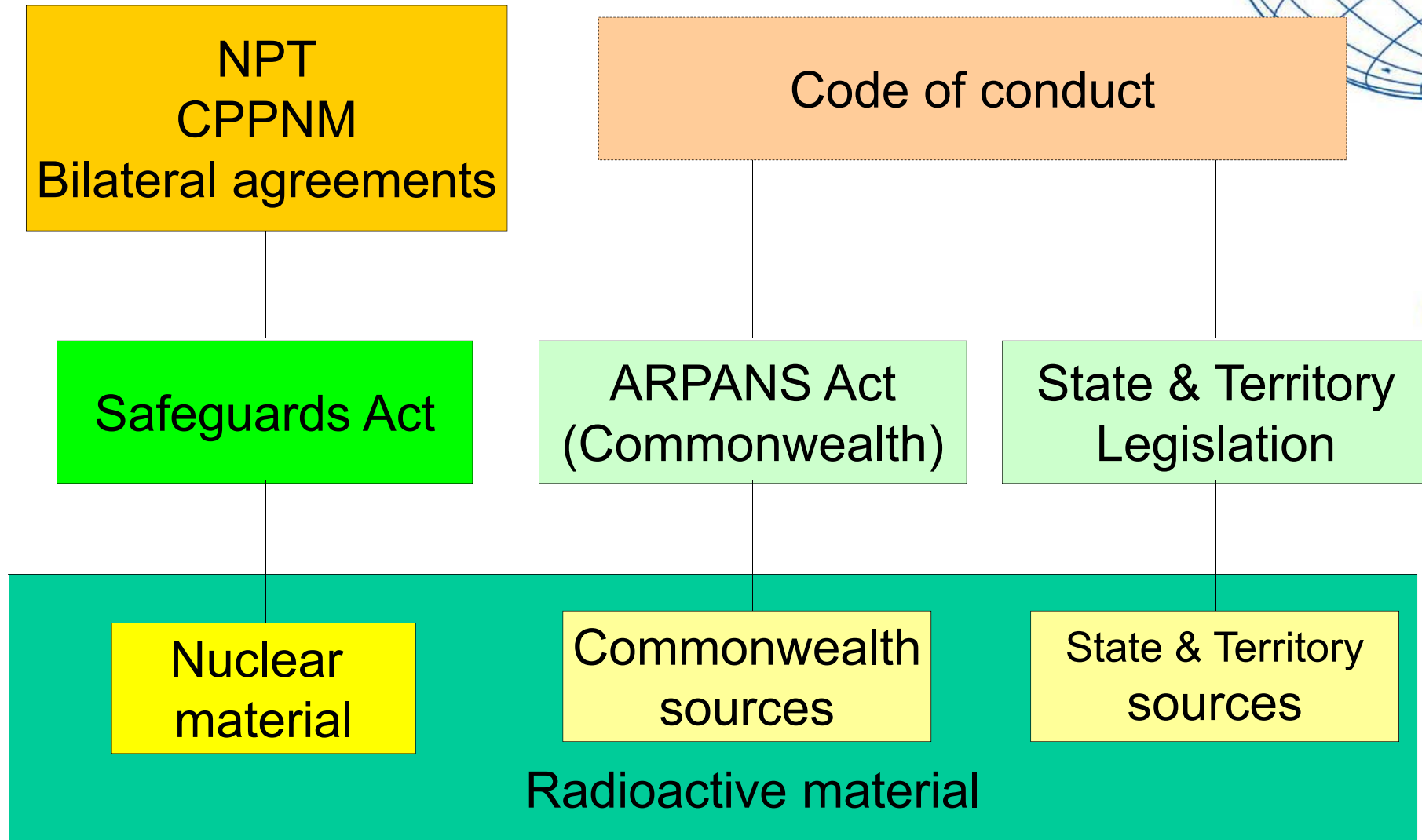
Regulatory Environment for Radiological Material

Nuclear Material

Sealed Radioactive Sources



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ASNO/ARPANSA Interaction

- ASNO – ARPANSA MOU
 - Signed 6th February 2007
 - Delineate nuclear security responsibilities
 - Sensitive information and technology
- COAG, NACC
- Reporting of Imports Licences
 - Uranium, Thorium, Plutonium
 - Americium, Neptunium;
- Regional outreach (inc with ANSTO)
- Emergence of SSS approach



Legislation Interaction



Section 9 of ARPANS Act 1998 - Operation of Act

(1) It is the intention of the Parliament that this Act is not to exclude the operation of the *Nuclear Non-Proliferation (Safeguards) Act 1987*, to the extent that the *Nuclear Non-Proliferation (Safeguards) Act 1987* is capable of operating concurrently with this Act.

- Example: A controlled person may be required by this Act to hold a **licence**, and by the *Nuclear Non-Proliferation (Safeguards) Act 1987* to hold a **permit**, in respect of the same thing. The controlled person **must satisfy the requirements of both Acts in so far as they are capable of being satisfied concurrently**.



Looking ahead

- Large increase in uranium mining;
 - Associated domestic and international transport
- National Repository;
- ASNO training and development;
- Cooperation with federal and state authorities on inspections;





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Thank you

