



# Procedure: Nuclear safety

## Purpose

This procedure outlines the Australian National University (the University) and individual responsibilities to achieve compliance with nuclear non-proliferation legislation, its permit requirements and relevant standards.

The University has been granted a permit under the *Nuclear Non-Proliferation (Safeguards) Act 1987*.

## Definitions

**ARPANSA** is the Australian Radiation Protection and Nuclear Safety Agency.

**ASNO** is the Australian Safeguards and Nuclear Non-Proliferation Office.

**Authorised person** is a person who has a legitimate need/use for the nuclear material associated with an approved University research project or course of study, including a Nuclear Materials Contact Officer.

**Nuclear material** is the material that the University is allowed to possess under the Nuclear Non-Proliferation (Safeguards) permit issued under the *Nuclear Non-Proliferation (Safeguards) Act 1987*, that is:

- natural uranium in any form
- depleted uranium in any form
- thorium in any form
- heavy water
- special fissionable material
  - Uranium-235 in any form (as enriched uranium);
  - Uranium-233 in any form; and
  - Plutonium-239 in any form.

**Nuclear material contact officer** is a staff member, with appropriate skills and knowledge, appointed by a local area. They coordinate reporting to the Work Environment Group.

**Regulations** means regulations made under the *Nuclear Non-Proliferation (Safeguards) Act 1987*.

## Procedure

1. The University is permitted to:
  - possess and use nuclear material and special fissionable materials, including natural uranium, depleted uranium, thorium and heavy water. Requests for any other material are discussed with the University's Australian Safeguard and Nuclear Non-Proliferation Office (ASNO) Liaison Officer (at [whs@anu.edu.au](mailto:whs@anu.edu.au)) prior to approval; and
  - use the nuclear material for research and education purposes.
2. The permit **does not** allow the University to:
  - enrich nuclear material;
  - reprocess irradiated nuclear material;
  - produce heavy water; or
  - manufacture, produce or test nuclear weapons or other nuclear explosive devices.
3. Nuclear material is managed so that:
  - use and storage only occurs at an approved location and/or building identified under the University's ASNO Permit;
  - an inventory of material and consumption is maintained;
  - unusual occurrences (theft, loss or unauthorised handling) are reported to the local contact person and the University ASNO Liaison Officer (at [whs@anu.edu.au](mailto:whs@anu.edu.au));
  - transport of material is in accordance with ASNO guidelines;
  - disposal of material is in accordance with University and ASNO guidelines; and
  - inspections are conducted.

**See:** [Australian Safeguards and Non-Proliferation Office](#) for further information.

## Responsibilities

4. The University [Radiation Safety policy](#) and [procedure](#) provides details of the responsibilities of people dealing with radioactive material and associated processes. Additional responsibilities when dealing with nuclear material are listed below.

### *Deans/Directors*

5. The Director of a Research School or Dean of a College holding nuclear material:

- appoints a Nuclear Materials Contact Officer and deputy;
- informs the Associate Director, Work Environment Group, of the Nuclear Materials Contact Officer and deputy; and
- ensures that appropriate facilities and resources are available to manage nuclear material in compliance with the University procedures and the University ASNO permit and WHS legislations.

#### *Research Group Leaders and supervisors*

##### 6. Research Group Leaders and supervisors using nuclear material:

- discuss any intent to obtain or acquire nuclear material with the local Nuclear Materials Contact Officer and the University ASNO Liaison Officer;
- only use nuclear material for the authorised uses described in the permit;
- inform all persons with authorised access to nuclear material of the conditions of the permit;
- provide sufficient information to ASNO and the University ASNO Liaison Officer to allow inspectors to comply with health and safety procedures at the approved locations; and
- provide access to inspectors to any premises occupied by the permit holder and allow inspectors to exercise any functions that they are authorised to do under the Safeguards Act and Regulations.

#### *Nuclear Materials Contact Officers*

##### 7. A Nuclear Materials Contact Officer is a staff member appointed by a local area, with appropriate skills and knowledge to undertake the tasks listed below. The Nuclear Materials Contact Officers and their deputies have responsibility for:

- the management of their local area nuclear material;
- security of and access to the material;
- maintaining a list of local authorised people or groups;
- inventory maintenance, including nuclear material consumed;
- guiding researchers in the processes associated with the acquisition and disposal of nuclear material; and
- annual reporting to the University ASNO Liaison Officer.

#### *Authorised person*

##### 8. An authorised person:

- complies with this procedure and ASNO permit requirements;
- ensures nuclear material is secured from theft; and
- ensures nuclear material is used in appropriate processes and not redirected.

### **University ASNO Liaison Officer**

9. The University ASNO Liaison officer is a competent staff member of the Work Environment Group, appointed by the Associate Director, Work Environment Group.
10. The ASNO Liaison Officer is responsible for:
  - communicating with ASNO;
  - assisting the University in meeting compliance requirements and reporting;
  - organising, collating and submitting ASNO-required reports;
  - undertaking random inspections of nuclear material;
  - maintaining the University Nuclear Material Inventory; and
  - investigating incidents related to the nuclear materials and making recommendations.
11. Any queries regarding nuclear non-proliferation materials or associated processes should be directed to the University ASNO Liaison Officer at [whs@anu.edu.au](mailto:whs@anu.edu.au).
12. All communication between the University and ASNO should go through the ASNO Liaison Officer (at [whs@anu.edu.au](mailto:whs@anu.edu.au)).

### **Transporting nuclear material**

13. Transport of nuclear material:
  - between University buildings – must be in accordance with the University radiation safety processes and with the knowledge of the local Nuclear Materials Contact Officer;
  - to other organisations – requires prior written approval from ASNO, and the person receiving the nuclear material must have a Permit to Possess Nuclear Material. Items must be packaged according to the ARPANSA Guidance Document – [Code for the Safe Transport of Radioactive Material](#);
  - outside Australia – must only be with the prior written permission of, and in accordance with procedures approved by, the Director of Safeguards, ASNO. Items must be packaged according to ARPANSA Guidance Document [Code for the Safe Transport of Radioactive Material](#).

## Disposal of nuclear material

14. The disposal of nuclear material requires the written permission of the Director of Safeguards, ASNO.
15. The disposal of radioactive waste is in accordance with the University disposal procedures and may require formal notification to ARPANSA and ASNO. Firstly, discuss the waste disposal issues with a local Nuclear Materials Contact Officer and the [University ASNO Liaison Officer](#) and then complete the appropriate forms.
16. The University ASNO Liaison Officer seeks the formal approval from ARPANSA and ASNO, once local area submit the disposal forms.

## Security of nuclear material

17. The Nuclear Materials Contact Officer ensures that security measures are in place that prevent the theft, loss or unauthorised handling of the nuclear material.
18. Only authorised persons are to access and handle nuclear material.

## Measurement and inventory

19. On [ASNO-approved forms](#), Nuclear Materials Contact Officers maintain an inventory which records the details of each separate receipt, transfer and consumption of nuclear material in the inventory. For each change to the inventory, the ledger include details of the:
  - dates;
  - people involved;
  - use(s) of the nuclear material;
  - type of nuclear material;
  - physical and chemical form of the nuclear material; and
  - amount of nuclear material.
20. The quantities of material are recorded in the inventory as:
  - material greater than 0.01 kg to 2 decimal places;
  - material less than 0.01 kg as accurately as known;
  - special fissionable material greater than 0.01 gram to 2 decimal places; and
  - special fissionable material less than 0.01 g as accurately as known.
21. An inventory may be in either hardcopy or electronic format and is kept for five years from the date of the last entry in the inventory.

22. A physical inspection of the inventory of nuclear material is conducted each year. The Nuclear Materials Contact Officer is responsible for their local area.

**Note:** For additional information on inventory content, contact the Work Environment Group at [whs@anu.edu.au](mailto:whs@anu.edu.au).

## Reports and records

23. The University ASNO Liaison Officer seeks information from the local Nuclear Materials Contact Officer using the appropriate ASNO forms to complete.

24. The University ASNO contact Officer reports to ASNO in the approved manner at the required times.

25. The inventory report contains details of the stock held, and the total receipts, transfers and consumption during the year. Any discrepancy between the physical inventory and the record of nuclear material is reported, including a concise note to explain the discrepancy and give an account of any actions taken to correct it.

26. A [special report](#) from the University ASNO Liaison Officer is required when there has been any unusual or unexpected incident that has resulted in, or is reasonably suspected to have resulted in, a loss of nuclear material. This is reported as an incident.

## Incidents

27. All incidents involving nuclear material are reported immediately to supervisor and using the [University Incident Notification system](#). The reporting of incidents, near misses, significant exposures and dangerous occurrences helps the University community avoid repeating incidents.

**See:** [Incident Reporting Procedure](#)

28. Special reports are also required when there has been a breach of the physical security around nuclear material, or any loss, or loss of control, of the nuclear material immediately after the detection of any such occurrence.

29. An initial special report containing known details is sent to ASNO immediately via the University ASNO Liaison Officer, with a comprehensive report being provided in writing within two weeks of the incident. That report includes:

- the cause of the incident or the details of the circumstances;
- details of the effect in relation to the nuclear material or part thereof;
- details of measures proposed to prevent a recurrence; and
- any other relevant information.

## Document information

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