



NATIONAL DIRECTORY FOR RADIATION PROTECTION

Amendment No. 6, 2013

Approved by Radiation Health Committee, 8 November 2012

Amendment No. 6 amends Schedules 5, 6, 9, 13 and the Glossary to the National Directory for Radiation Protection in the manner set out below

Schedule 5 – Exempt radiation generating apparatus, electron tubes and radioactive sources

After '(Refer section 3.2.6(c) and 3.2.7)', insert:

S 5.1 – Exemption of apparatus

After paragraph (d) 'electron microscopes', insert:

S 5.2 – Exemption of radioactive sources

After paragraph (g) insert:

- (h) Lighting products that include krypton-85 are exempted from the requirements of registration, and of licensing the end user to possess or use.

Delete existing footnote 20:

- ²⁰ It should be noted that the provisions of clause 4.2.2(a) (in preparation) requiring authorisation prior to disposal of radioactive materials still apply, unless the disposal is in accordance with Schedule 14 (in preparation).

Insert new footnote 20:

- ²⁰ It should be noted that the provisions requiring authorisation prior to disposal of radioactive materials still apply, unless the disposal is in accordance with Schedule 14 (in preparation).

Schedule 6 – Competency Requirements for Authorisation to Use Radiation Sources for Specified Practices

Delete:

S 6.1 – Use of X-ray equipment by chiropractors for plain film diagnostic radiography of the spine and pelvis²¹

Must provide evidence of the following:

- current registration as a chiropractor in the relevant jurisdiction; and one of the following:
 - graduates in Chiropractic from RMIT University, Bundoora, Victoria (or forerunner Phillip Institute of Technology)
 - graduates in chiropractic from Macquarie University, NSW (or forerunner Sydney College of Chiropractic, Ashfield, Sydney, NSW since 30 Nov 1983)
 - For overseas trained chiropractors, one of the following:
 - satisfactory assessment by RMIT University or Macquarie University
 - individual Assessment by the relevant State/Territory Authority against a protocol agreed by the Radiation Health Committee

Insert:

S 6.1 – Use of X-ray equipment by chiropractors for plain / conventional diagnostic radiography of the spine and pelvis²¹

Must provide evidence of the following:

- current registration as a chiropractor with the Chiropractic Board of Australia; and one of the following:
 - graduates in Chiropractic from RMIT University, Bundoora, Victoria (or forerunner Phillip Institute of Technology)
 - graduates in chiropractic from Macquarie University, NSW (or forerunner Sydney College of Chiropractic, Ashfield, Sydney, NSW since 30 Nov 1983)
 - a pass in the Western Australian Radiation Safety (Chiropractic) restricted X-ray Examination.
 - For overseas trained chiropractors, one of the following:
 - satisfactory assessment by RMIT University or Macquarie University
 - individual Assessment by the relevant State/Territory Authority against a protocol agreed by the Radiation Health Committee
 - a pass in the Western Australian Radiation Safety (Chiropractic) restricted X-ray Examination.

Schedule 9 – Criteria for Registration allowing the Use of Radiation Sources and Premises

Delete paragraph 2(b)

Insert

- (b) have current Type B(U) certification, the requirements for which are specified in the *Code of Practice for the Safe Transport of Radioactive Material* [2008] [RPS2], or be transported in the relevant approved overpack.

Schedule 13 – National incident reporting framework

Delete existing Schedule 13

Insert:

Schedule 13 – National incident reporting framework

(Refer section 5.3)

This Schedule specifies the types of incidents that must be reported to ARPANSA for compilation in the Australian Radiation Incident Register (ARIR).

A radiation incident is any unintended or ill-advised event when using ionizing radiation apparatus, specified types of non-ionizing radiation apparatus or radioactive substances, which results in, or has the potential to result in, an exposure to radiation to any person or the environment, outside the range of that normally expected for a particular practice, including events resulting from operator error, equipment failure, or the failure of management systems that warranted investigation.

As expected by section 2.3(m), legislation in each jurisdiction must require notification of radiation incidents to the Authority. The Authority must provide information on radiation incidents of the following types to ARPANSA for inclusion in the ARIR. In some cases judgements will need to be made by the Authority in regard to whether an incident is too minor for reporting to the register.

1. Medical exposure of patients

- (a) Any diagnostic procedure other than as prescribed by the medical practitioner;
- (b) Any diagnostic procedure resulting in an observable acute radiation effect;
- (c) Any therapeutic treatment delivered to either the wrong patient or the wrong tissue, or using the wrong radiopharmaceutical;
- (d) When during the administration of a radioactive substance for diagnostic purposes, the activity of the substance administered exceeds the activity prescribed in the hospital/practice standard protocol for that test by 50% or more;
- (e) When during the administration of a radioactive substance for therapeutic purposes, the activity administered differs from that prescribed by 15% or more;

- (f) When during administration of a therapeutic dose of radiation from a radiation apparatus or a sealed radioactive source, the dose delivered differs from the total prescribed treatment dose by more than 10%.

2. Incidents that cause or may lead to radiation injuries or radiation doses exceeding the annual dose limits to workers or members of the public²⁵

3. Lost or Stolen Radioactive Sources or Radiation Apparatus

4. Transport of Radioactive Material

- (a) Where a package is damaged during freight handling or transport;
- (b) Where a package is transported without the required documentation, placarding or labelling.

5. Unintentional or Unauthorised Discharges of Radioactive Materials into the Environment²⁶

Where unintentional or unauthorised activity discharges exceeding 100 times the exempt activity for the radionuclide specified in Schedule 4 of this Directory have occurred.

6. Damage to, or Malfunctioning of, a Radiation Apparatus or Sealed Source Apparatus

Where the damage or malfunction could in any way affect the radiation safety of the apparatus, including issues such as shielding integrity or causing increased radiation levels.

7. Contamination with, or Dispersal of, a Radioactive Material²⁶

Where a surface, substance or material is contaminated by a radioactive substance resulting from the spillage of more than 100 times the exempt activity of that substance specified in Schedule 4 of this Directory.

8. Out of Control Source of Radiation

Where a radiation source is out of control, for example, where a source is not safely secured or shielded, or contamination is not confined.

9. Non-ionizing Radiation

Where there is actual injury, or the potential for injury, as a result of operator error, damage or malfunction of equipment, or failure of management systems, for the types of non-ionizing radiation equipment specified below:

- (i) lasers;
- (ii) radiofrequency generating equipment;
- (iii) man-made sources of ultraviolet radiation;
- (iv) magnetic resonance imaging machines.

10. Nuclear Incidents

Where events such as criticality incidents or those relating to the safety of a nuclear reactor occur.

²⁵ Note that situations where radiation injuries or high doses [exceeding 0.25 Sv whole body, 0.75 Gy organ dose, 6 Gy skin dose] occur must be reported to the ARIR as soon as possible, and within 24 hours. ARPANSA will report incidents exceeding these doses to the IAEA for inclusion on their severe incidents database.

²⁶ This provision does not apply to mining. Reporting levels for mining incidents will be considered in a future edition of the Directory.

11. Other incidents

Such incidents that the Authority must report include near-miss situations that may serve as a warning to other users, such as situations where radiation monitors at the entrance of scrap metal processing factories and landfill sites are triggered.

Glossary

Insert:

Radiation incident is defined as any unintended or ill-advised event when using ionizing radiation apparatus, specified types of non-ionizing radiation apparatus or radioactive substances, which results in, or has the potential to result in, an exposure to radiation to any person or the environment, outside the range of that normally expected for a particular practice, including events resulting from operator error, equipment failure, or the failure of management systems that warranted investigation.