RADIATION SAFETY ACT

CONDITIONS, RESTRICTIONS AND LIMITATIONS (SECTION 36)

RESEARCH - UNSEALED RADIOACTIVE SUBSTANCES

1. This registration provides for the possession and use of the specified unsealed radioactive substances for research purposes only, unless otherwise specified.

   Note: Section 38 of the Act requires the registrant to give prior written notification to the Radiological Council of any intention to vary material particulars of the registration. This includes changes to the kinds and maximum activities of radioactive substances to be used or stored on the premises.

2. The registrant is directed to ensure that —

   2.1 the radioactive substances are used only by persons who hold relevant licences under the Act or by persons working under the direction and general supervision of a licensee;

      Note: Unlicensed persons working under direction and supervision must have appropriate training. (See regulation 19(2)).

   2.2 unsealed radioactive substances are used only at locations on the premises and field sites that have the prior approval in writing of the appointed radiation safety officer (RSO);

   2.3 in determining if a location is suitable for the proposed use of unsealed radioactive substances, the RSO —

      2.3.1 takes into account compliance with any relevant requirements of the Radiation Safety (General) Regulations;

      2.3.2 confirms, that for the proposed use, the location complies with the classification requirements as either a low, medium or high level laboratory given in Table F1 of Australian Standard AS 2243.4:1998 titled “Safety in Laboratories Part 4: Ionizing Radiations”; and

      2.3.3 in accordance with regulation 19(3)(a), prepares and/or approves working rules for the safe use of the substances;

   2.4 for any research project that involves the administration of unsealed radioactive substances to human beings, prior written approval for the project is obtained from the Radiological Council (forms are available for this purpose from the Council) when the calculated effective dose to the participants exceeds the limits prescribed in the publication “Administration of Ionizing Radiation to Human Subjects in Medical Research” issued by the National Health and Medical Research Council in 1984; and —

      2.4.1 irrespective of the calculated effective dose to the participants, all such projects are first considered by an Ethics Committee that reports to the registrant;

   2.5 records of all applications for projects involving the use of unsealed radioactive substances together with evaluation and approval processes, are maintained by the RSO;

   2.6 unless inappropriate for the type of radiation emitted appropriate radiation survey meters, in good
working order and calibrated for the types and energies of radiation being used, are kept available at locations on the premises or field sites where the radioactive substances are used;

2.7 unless exempted by regulation or in writing by the Council, each designated radiation worker using radioactive substances is individually issued with a personal radiation monitoring device to record their cumulative radiation dose, and that:-

2.7.1 each device is used only by the person to whom it was issued;

2.7.2 the device is returned for assessment at the intervals directed by the Council;

2.7.3 continuing records are maintained of all personal monitoring, and the results of the monitoring are made available to the individuals concerned;

2.8 work surfaces associated with any research project are wipe tested for contamination with an appropriate instrument at regular intervals during and on the completion of each project, and that appropriate decontamination procedures are put into effect as the RSO directs;

2.9 where the use of a personal radiation monitoring device is inappropriate because of the nature of the radiation emitted by the radioactive substance, biological monitoring to confirm the adequacy of working procedures shall be substituted as required by regulation 25(10), including —

2.9.1 urinalysis for persons routinely handling, per procedure, ≥ 120 MBq ³H, 5 MBq ¹⁴C or 5 MBq ³⁵S

Note: The frequency of monitoring is to be determined by the RSO for different categories of workers and submitted to the Council for approval.

2.9.2 checking of thyroid burden (by external counting) for persons handling, per procedure, ≥ 0.1MBq ¹²⁵I;

Note: The method and frequency of thyroid testing will be dependent on the activity and frequency of experimental procedures. The planned testing regime shall be prepared by the RSO and submitted to the Council for approval.

2.10 the transport of radioactive substances to or from the principal premises is carried out by a person licensed to do so (or working under the direction and general supervision of a licensee) and in compliance with the Radiation Safety (Transport of Radioactive Substances) Regulations.

NOTES

1 “general supervision” means the exercise of control over radiation safety without the person exercising such control necessarily being present at the registered premises or field site.

2 “field site” means any place —

(a) which is not the principal premises;

(b) which is used by the registrant of a premises in connection with the premises; and

(c) at which radiation workers use radioactive substances that have been taken temporarily to that site.
3 "designated radiation worker" means radiation worker designated by a registrant, a radiation safety officer or the Council as having an occupational radiation exposure with the potential to exceed the effective or equivalent dose limits. (See also regulation 25).

ASSESSMENT OF PROJECTS BY THE RSO

For the RSO to properly assess the radiation safety aspects of a project, the proponent should be required to —

- demonstrate that there is no suitable alternative to the use of radioactive substances;
- justify the use of the specific radioactive substances, the activity, chemical properties and form;
- show that the proposed use of the radioactive substance (including storage, handling and monitoring techniques, protective measures, disposal, planned release to the environment, etc,) will comply with the Act, regulations and any applicable Codes, Guidelines or Standards, including —

National Health and Medical Research Council publications —

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Project assessment forms are available from the Radiological Council to assist RSO’s in this task.

CONDITION NO: 55