

RADIATION SAFETY ACT

Dose Limits And Maximum Permissible Exposure Levels Schedule I

In 1995, the Radiation Safety (General) Regulations were amended to apply a limit of 100 mSv in any 5 year period for occupational exposure to ionising radiation. This was an interim measure pending publication of revised Australian limits by the National Health and Medical Research Council (see Radiation Health Series No. 39).

Schedule I of the regulations has now been further amended taking the NHMRC recommendations for ionising radiation exposure into account. These changes should not require any additional safety measures for the protection of workers occupationally exposed to ionising radiation. However, employers of workers whose doses are higher than average should note the limit for workers who declare themselves pregnant.

The Schedule now prescribes:-

dose limits for:-

occupational and public exposure to ionising radiation
exposure of pregnant workers to ionising radiation

maximum occupational and public exposure levels for:-

radiofrequency radiations
ultraviolet radiation
50 Hz electric and magnetic fields

IONISING RADIATION

The dose limits for **radiation workers** are:-

- in any period of 5 years, an average effective dose of 20 millisieverts per year;
- in a period of 12 months, an effective dose of 50 millisieverts;
- in any period of less than 12 months but not less than one month, an effective dose of the amount which is the product of 50 millisieverts and the ratio of that period in weeks to 52 weeks;
- in any period of less than 1 month, an effective dose of 1/12 of 50 millisieverts.

The dose limits for a **radiation worker** who has notified her employer that she is **pregnant** are -

- for external radiation exposure, an equivalent dose to the surface of her abdomen for the remainder of her pregnancy of 2 millisieverts; and
- for internal radiation exposure, 1/20th of the Annual Limit on Intake (ALI) determined by reference to the values set out in the publication entitled "Dose Co-efficients for Intakes of Radionuclides by Workers" being ICRP Publication 68 published for the International Commission on Radiological Protection.

The dose limit in a **single planned special exposure** referred to in regulation 24 (2) is an effective dose of 100 millisieverts.

The dose limits for **persons other than radiation workers** are:-

- in any period of 5 years, an average effective dose of 1 millisievert per year;
- in any period of 12 months, an effective dose of 5 millisieverts; and
- in respect of an area which such persons might continuously occupy -
 - ◇ an effective dose of 20 microsieverts in any 1 hour; and
 - ◇ an effective dose of 250 microsieverts in any period of 7 days.

NON-IONISING RADIATION

Persons occupationally or non-occupationally exposed to the following radiations shall not be exposed to -

- 50/60 Hz electric and magnetic fields which exceed the limits specified in the publication entitled "Interim Guidelines of the Limits of Exposure to 50/60 Hz Electric and Magnetic Fields (1989)" published by the NHMRC in December 1989;
- low frequency electromagnetic radiation with frequencies from 3 kHz to 100 kHz which exceed the limits specified in the publication entitled "IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" published as IEEE C95.1-1991 by the Institute of Electrical and Electronics Engineers;
- radiofrequency electromagnetic radiation with frequencies from 100 kHz to 300 GHz which exceed the limits specified in the publication entitled "Radiofrequency Radiation Part 1: Maximum Exposure Levels - 100kHz to 300GHz" published as AS 2772.1-1990 by the Standards Association of Australia in 1990; or

(This item does not apply to exposure resulting from the normal operation of microwave ovens which comply with the radiation emission limit).

- ultraviolet radiations with wavelengths from 180 nm to 400 nm which exceed the limits specified in the publication entitled "Occupational Standard for Exposure to Ultraviolet Radiation (1989)" published by the NHMRC in December 1989.

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