

Abbreviations

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| ACDS | Australian Clinical Dosimetry Service |
| ANAO | Australian National Audit Office |
| ANRDR | Australian National Radiation Dose Register |
| ANSTO | Australian Nuclear Science and Technology Organisation |
| APS | Australian Public Service |
| ARGOS | Accident Reporting and Guidance Operating System |
| ARPANSA | Australian Radiation Protection and Nuclear Safety Agency |
| CEO | Chief Executive Officer |
| CPRs | Commonwealth Procurement Rules |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation |
| CT | computed tomography |
| CTBT | Comprehensive Nuclear-Test-Ban Treaty |
| DCB | departmental capital budgets |
| DEXA | dual-energy X-ray absorptiometry |
| DRLs | diagnostic reference levels |
| EA | Enterprise Agreement |
| EPR | emergency preparedness and response |
| FOI | Freedom of Information |
| IAEA | International Atomic Energy Agency |
| IPL | intense pulsed light |
| IRRS | Integrated Regulatory Review Service (IAEA) |
| KPIs | key performance indicators |
| NATA | National Association of Testing Authorities |
| NDRP | National Directory for Radiation Protection |
| NRWMF | National Radioactive Waste Management Facility |
| NSC | Nuclear Safety Committee |
| OCEO | Office of the Chief Executive Officer |
| OPAL | Open Pool Australian Lightwater reactor |
| PAES | portfolio additional estimates statements |
| PBS | portfolio budget statement |
| PGPA Act | <i>Public Governance, Performance and Accountability Act 2013</i> |
| PGR | Parliamentary and Government Relations |
| PRMS | Personal Radiation Monitoring Service |
| RANET | ARPANSA's Response and Assistance Network |
| RHC | Radiation Health Committee |
| RHSAC | Radiation Health and Safety Advisory Council |
| RPS | Radiation Protection Series |
| SES | Senior Executive Service |
| SMC | Strategic Management Committee |
| SME | small and medium enterprises |
| UPF | Ultraviolet Protection Factor |
| UVR | ultraviolet radiation |
| WHS | work health and safety |



Glossary

accident

An unintended event which causes, or has the potential to cause, employees or members of the public to be exposed to radiation from which the individual doses or collective doses received do not lie within the range of variation which is acceptable for normal operation. An accident may result from human error, equipment failure or other mishap; it may require emergency action to save life or to safeguard health, property or the environment; it requires investigation of its causes and consequences and, possibly, corrective action within the program for control of radiation; and it may require remedial action to mitigate its consequences.

activity

The measure of quantity of radioactive decay.

Australian National Radiation Dose Register

A centralised repository for the radiation dose records of workers as supplied by the employers, maintained by ARPANSA. It is currently limited to those engaged in the uranium mining and milling industry in Australia.

computed tomography (CT)

A three dimensional x-ray image of an object or patient. The final image is a combination of multiple images taken as an x-ray tube rotates about the object or patient.

controlled apparatus – as defined in the ARPANS Act

- (a) An apparatus that produces ionising radiation when energised or that would, if assembled or repaired, be capable of producing ionising radiation when energised,
- (b) An apparatus that produces ionising radiation because it contains radioactive material, or
- (c) An apparatus prescribed by the Regulations that produces harmful non-ionising radiation when energised.

diagnostic reference levels (DRLs)

Dose levels for medical exposures in medical radio-diagnostic practices, or levels of activity in the case of radiopharmaceuticals, applied to groups of standard-sized patients or standard phantoms for common types of diagnostic examination and broadly defined types of equipment. These levels are expected not to be consistently exceeded for standard procedures when good and normal practice regarding diagnostic and technical performance is applied. DRLs will be set by relevant professional bodies and published by ARPANSA or the relevant regulatory authority from time to time.

dose

A generic term which may mean absorbed dose, equivalent dose or effective dose depending on context.

dosimetry

The theory and application of the principles and techniques involved in the measurement, calculation and recording of radiation doses.

exposure

The circumstance of being exposed to radiation.

gamma ray

Ionising electromagnetic radiation emitted by a radionuclide during radioactive decay or during a nuclear (isomeric) transition.

incident

An event which causes, or has the potential to cause, abnormal exposure of employees or of members of the public and which requires investigation of its causes and consequences and may require corrective action within the program for control of radiation, but which is not of such scale as to be classified as an accident.

Integrated Regulatory Review Service (IRRS)

A peer review and appraisal service offered by the IAEA to strengthen and enhance the effectiveness of a national regulatory system in nuclear, radiation, radioactive waste, transport safety and nuclear security.

Intense Pulsed Light Devices (IPLs)

Instruments that use a full spectrum (noncoherent), non-laser, broadband, filtered Xenon flash lamps. Flash lamps emit in the UVR, visible and IR region of the electromagnetic spectrum. The UVR and IR wavelength components of the emissions are blocked using specific cut-off filters. These properties allow for variability in selecting individual treatment parameters and adapting to different skin types. Cosmetic uses of IPLs include hair removal, removal of skin pigmentation, wrinkles and the treatment of certain skin disorders by dermatologists.

ionisation

The process by which one or more electrons are removed from, or sometimes added to, an atom leaving the atom in a charged state.

ionising radiation

Radiation which is capable of causing ionisation.

licence

A written authorisation issued to an operator which allows the operator to carry out an operation legally.

medical exposure

Exposure of a person to radiation received as a patient undergoing medical diagnosis or therapy, or as a volunteer in medical research, or non-occupational exposure received as a consequence of assisting an exposed patient.

non-ionising radiation

Ranges from extremely low frequency radiation, through the radiofrequency, microwave, and visible portions of the spectrum into the ultraviolet range.

occupational exposure

Exposure of a person to radiation which occurs in the course of that person's work and excludes the component of exposure that arises from natural background radiation.

optimisation

The process of determining what level of radiation protection and safety makes exposures, and the probability and magnitude of potential exposures, as low as reasonably achievable with economic and societal factors being taken into account.

public exposure

Exposure of a person, or persons, to radiation which is neither occupational nor medical exposure.

radiation

Electromagnetic waves or quanta, and atomic or sub-atomic particles, propagated through space or through a material medium.

radioactive material

Material which spontaneously emits ionising radiation as a consequence of radioactive decay.

radiofrequency

Electromagnetic energy with frequencies in the range 3 kHz to 300 GHz.

radiofrequency field

A physical field, which specifies the electric and magnetic states of a medium or free space, quantified by vectors representing the electric field strength and the magnetic field strength.

radiological emergency

An emergency in which there is, or is perceived to be, a hazard due to:

- (a) the energy resulting from a nuclear chain reaction or from the decay of the products of a chain reaction, or
- (b) radiation exposure.

radionuclide

A species of atomic nucleus which undergoes radioactive decay.

X-ray

Ionising electromagnetic radiation emitted during the transition of an atomic electron to a lower energy state or during the rapid deceleration of a charged particle.