Radiation Consultancy, Training and Calibration
The Australian Nuclear Science and Technology Organisation (ANSTO) is the centre of Australia’s nuclear science capabilities and expertise, operating the nation’s only nuclear reactor, OPAL.

ANSTO has over 25 years experience in providing radiation safety management for clients, offering expert advice, services, consultancy and training tailored to the needs of each client. The organisation’s practicing radiation experts monitor and provide advice on all aspects of radiation safety in many applications and in compliance with relevant Australian regulations and standards.

ANSTO staff maintain and operate many radiation facilities including OPAL, radiopharmaceutical research laboratories, radiopharmaceutical production plants, waste management operations, uranium and rare earths processing pilot plants, particle accelerators and a gamma irradiator.

ANSTO Radiation Services

ANSTO's radiation services include:

• Consulting in radiation protection monitoring and health physics
• Radiation training courses
• Emergency preparedness and response
• Instrument calibration
• Radiotherapy level calibrations
• Gamma irradiation and high dose dosimetry services
• Systems safety and reliability consulting
ANSTO is one of the largest providers of radiation protection services in Australia. We are highly experienced with practical expertise in virtually all facets of radiation protection, health physics and the control of radioactive substances.

Our experienced radiation consultancy team can provide sound, cost effective solutions for your radiation needs.

Our services include, but are not limited to:

- Radiation and contamination surveys and radiation protection advice
- Monitoring naturally occurring radioactive material (NORM) for mining, and oil and gas industries
- Contaminated land projects including characterisation, remediation and radiation protection monitoring
- Environmental radiation surveys and baseline measurements for mine sites
- Advisory services as Radiation Safety Officers
- Radiation Management Plans for industrial, mining and medical organisations
- Advice and monitoring on the identification and handling of NORM
- Identification and classification of radioactive sources and the development of tailor-made source inventories
- Waste management services, characterisation and advice
- Decontamination and waste minimisation
- Radiation monitoring of cabinet X-ray, XRD and XRF units
- Transportation and handling of high activity sources
- Advice on compliance with National and State legislation
- Provision of advice on source security compliance
- Wipe tests

We are complimented by ANSTO’s environmental analytical laboratories, training facilities, extensive radiation protection resources and landmark infrastructure to provide a unique service to meet the needs of our clients.

ANSTO aims to satisfy all of its client’s needs through providing high quality tailored services, using qualified staff with many years of hands on experience in radiation protection and monitoring.

For more information visit:
www.ansto.gov.au, call +61 2 9717 9517 or email radiationconsultancy@ansto.gov.au

Source Transportation.

Environmental Monitoring

Radiation Monitoring
ANSTO is Australia’s leading advisor on radiation safety matters and sets the benchmark for radiation safety training.

The organisation maintains Australia’s most advanced radiation safety and training facilities at its Lucas Heights campus. Course participants are offered a unique experience due to the wide range of radiation facilities and equipment available for on-site group activities and discussions.

Course lecturers are practising specialists in radiation protection whose prime responsibility is ensuring the safe operation of ANSTO’s facilities and radioactive materials. ANSTO provides advice, training and consultancy services to ensure the safe and effective use of radiation in all industry sectors including, mining, health care, government, education, universities, research and other fields where radiation safety is needed.

ANSTO regularly runs recognised radiation safety training courses, as well as customised training programs to meet client’s needs. These courses can be held at ANSTO’s Lucas Heights campus or the client’s premises. Clients are consulted prior to training to gain an understanding of their radiation safety requirements. A tailor-made program is then developed by one of our learning development specialists to suit the needs of the audience.

Our laboratories are designed for practical instruction covering:
- types and functions of radiation detection and monitoring equipment
- dose rate surveys
- contamination and decontamination surveys
- safe use of X-ray devices including X-ray fluorescence (XRF) analysis equipment and baggage X-ray devices
- industrial radiography and gauges
- waste management
- transportation of radioactive material
- incident response
- simulation devices can also be used at client’s premises when access to radioactive materials are limited

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ANSTO offers a wide range of courses covering all facets of radiation protection including:
- Radiation safety officer training: Advanced, Industrial and General radiation safety officer training.
- Radiation safety awareness training
- Radiation refresher training
- Industrial gauge training in the following areas
  - borehole logging
  - fixed gauge
  - portable gauges
  - Industrial radiography – gamma and X-ray
- X-ray equipment for security and analytical purposes
  - Cabinent, XRF and XRD equipment
- Radiation safety in the laboratory
- Working with unsealed and sealed radiation sources
ANSTO is implementing a new competency based training system that will complement the needs of the radiation safety workforce and follow a harmonised approach in radiation safety training across Australia.

ANSTO’s new training platform focuses on ‘learning activities of the workplace and developing technical competency as well as abilities to use relevant technologies’. This learning is supplemented by knowledge about the regulatory environments and industry codes of practice which affect client’s understanding of radiation in the workplace.

Undertaking one of ANSTO’s new competency based training courses provides our client’s currently working in the radiation industry, the opportunity to have their professional skills and expertise recognised through the VET system and attain nationally accredited qualifications, if they undertake courses using recognition of prior learning.

Competency based courses in radiation safety will incorporate the new radiation safety competency units from the Public Sector training package.

For more information including registration forms and course calendar, visit www.ansto.gov.au, call +61 2 9717 9434 or email radsafetytraining@ansto.gov.au

New Courses

The new courses offered initially:

- PSP12 Radiation Safety Technician Skill Set for Industrial Radiation Safety Officer
- PSP12 Radiation Safety Technician Skill Set for General Radiation Safety Officer
- PSP12 Radiation Sealed Source Safety Skill Set –
  - industrial radiography equipment or gamma sources
  - portable density/moisture gauges
  - fixed source gauges (e.g. level, density, thickness and proximity)
  - bore hole logging

On successful completion of the course assessment, participants are issued a certificate recognised by State and Federal regulatory authorities.

New courses for the mining industry focusing on NORM and radon monitoring

ANSTO has worked with emergency response organisations at local, state and federal levels, health and industry sectors, as well as internationally to ensure effective and appropriate preparedness and response for a radiation or nuclear emergency.

Radiation/Nuclear Emergency response

ANSTO’s equipment, facilities and uniquely qualified and experienced staff can enable you to:

- know what to do when ‘things go wrong’ when using radiation
- develop and strengthen your technical and organisational capabilities for responding to radiation related and other incidents
- train and skill your staff in a range of radiation measuring equipment and personal protection equipment in a variety of emergency circumstances.

For more information visit: www.ansto.gov.au, call +61 2 9717 9434 or email radsafetytraining@ansto.gov.au
The ANSTO Secondary Standard Dosimetry Laboratory (SSDL) provides a cobalt-60 calibration service primarily to Australian hospital departments for radiotherapy level dosemeters and typically chamber types NE2561, NE2611A, NE2571 and NE2581.

The ANSTO SSDL facility is comprised of a therapy level cobalt-60 source (currently 100TBq) mounted within a Theratronics-Eldorado-6 teletherapy unit, a series of standardized thimble ionization chambers, calibrated electrometers and strontium-90 stability check sources.

ANSTO secondary standards are regularly calibrated against the primary standards provided by ARPANSA for exposure/air kerma and absorbed dose to water from cobalt-60.

The facility has been designed to meet a national code of practice for the safe operation of radiation facilities, and is certified to ISO 9001:2000 for Quality Management Systems.

ANSTO is part of the IAEA/World Health Organisation international network of dosimetry at therapy level, which serves in harmonizing the dose protocols and provides assurance of dose accuracy among Member States. We participate annually in the Postal Dose Audit program, organized and published by the IAEA.

Our services include:

- Standard chamber calibration (NX, NK or ND, w) with inspection, recombination correction, polarity correction if required, calibration report and uncertainty analysis.

- Charge sensitivity for electrometers measuring nano-coulombs.

- Chamber / Electrometer linearity (dose rate vs distance).

- ND,w using a reference depth of 50mm.

- Sr-90 stability checks.

- Dosimeter irradiations (e.g. Fricke, TLD).

- Dose linearity (dose v time).

- Exposure / Air KERMA calibration may be replaced by absorbed dose on request.

For more information visit:
www.ansto.gov.au, call +61 2 9717 9257 or email ssdl@ansto.gov.au
Visit our website

For everything there is to know about ANSTO visit the ANSTO website.

www.ansto.gov.au

Consultancy
+61 2 9717 9517
radiationconsultancy@ansto.gov.au

Training
+ 61 2 9717 9434
radsafetytraining@ansto.gov.au

Calibration
+ 61 2 9717 3208
calibration@ansto.gov.au