



Australian Government



POSITION DESCRIPTION

Position Title:	Waste Characterisation Specialist
Cluster / Business Unit / Division	Nuclear Operations
Section or Unit:	Waste Management Services
Classification:	Band 4/5 (linked Role)
Position Description Number:	PD-1915
Work Contract Type:	Technical

POSITION PURPOSE

The Waste Characterisation Specialist is required to characterise solid and liquid waste against Sydney Water and ARPANSA criteria to demonstrate compliance and radioactivity status. This work is mainly for Waste Management Services, but there are ad hoc requests. A secondary objective is to develop the capabilities of the team to analyse radioactive materials.

ORGANISATIONAL ENVIRONMENT

ANSTO is the national organisation for nuclear science and technology. We focus on undertaking leading edge research, delivering innovative scientific services and providing specialised advice to government, industry, academia and other research organisations.

The Nuclear Operations Division is responsible for the operation of the OPAL research reactor and management of radioactive wastes generated on the Lucas Heights site. Nuclear Operations comprises of two groups Reactor Operations and Waste Management Services.

The function of Waste Management Services is to manage radioactive and hazardous waste generated by ANSTO's research and production activities in line with ANSTO's strategic objectives, regulatory requirements and public expectations. The range of activities includes collection and processing of radioactive wastes, decontamination & decommissioning, compliance management; waste processing, treatment and conditioning of radioactive wastes in preparation for future disposal. This includes running projects to further develop capabilities in radioactive waste management.

The independent waste characterisation team holds the essential role of analysing the wastes to identify and assist in classification of the material as hazardous or non-radioactive. These results are reported back to the customer for decision making processes. Non-radioactive hazardous waste is managed by this team.

The role of the Waste Characterisation Group is to provide accurate radiological and non-radiological characterisation of wastes for disposal/ storage /research /investigation. The results have significant safety and reputational implications to ANSTO, as these results are used to determine if the radioactivity levels of waste is suitable for the waste to be released off site for recycling or disposal. The services of the Waste Characterisation Group are frequently called upon by Radiation Protection Services (RPS) to gamma characterise miscellaneous samples for their investigations and by the Waste Management Services (WMS) Radioactive Waste Engineers team for characterisation of non-routine waste streams.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

At the Lower band:

- Providing reports to the customers on the results of wet chemistry techniques for measuring liquid samples against criteria. This includes conducting chemical testing.

- Providing reports to customers using specialist knowledge in Gamma spectroscopy of solid and liquid materials, including full spectral analysis
- Calibrating and validating all techniques to Australian Standards to maintain consistent and reliable results.
- Safely manage non-radioactive hazardous chemicals in appropriate Stores with segregation and disposal through licenced contractors.
- Undertake additional duties as required and during period of leave of other staff.
- Maintain compliance with safety, environmental, legislative and QA requirements

In addition to the above, the upper band will also have the following accountabilities:

- Manage weekly work to accomplish all tasks with the team. This will involve negotiation and resource sharing to complete all tasks
- Negotiate with customers about best approaches to meet client requirements
- Lead the Development of new equipment, processes and techniques for analysis
- Responsible for training people in the laboratory and gamma spectrometry techniques
- Provide expert advice for radioactive waste characterisation for external customers, such as the national radioactive waste management facility
- Provide expert technical advice on the detection of gamma radiation and its interactions with matter, safe handling of radioactive waste and waste characterisation methodologies to Waste Operations and other groups within ANSTO
- Mentor and train ANSTO staff, IAEA fellows and international interns on Gamma Characterisation theory and practical applications
- Accountable for developing and implementing initiatives to improve effectiveness and efficiency and to reduce downtime, risks and costs
- Manage the Gamma Characterisation facilities and capabilities of Waste Characterisation group.
- Undertake repairs and maintenance in a cost effective manner

Decision Making

At the lower band

- The position is fully accountable for the accuracy, integrity and quality of the content of reports provided to customers, and is required to ensure that decisions are based on sound evidence
- Determining the suitability of instruments and facilities to perform accurate, reliable results
- Validation and authorisation of results to be issued to clients
- The levels of authority delegated to this position are those approved and issued by the Chief Executive Officer. All delegations will be in line with the ANSTO Delegation Manual AS-1682 (as amended or replaced)

In addition to the above decisions, the upper band of this linked role is expected to:

- Determine key work priorities within the context of agreed work plans and will consult with the Leader, Waste Characterisation on complex, sensitive and major issues that have a significant impact on the Waste Characterisation team
- Provide authoritative waste characterisation services to the WMS and other ANSTO and external clients, including, but not limited to Nuclear Operations, Radiation Protection Services, Radiation Consultancy and Training Services, Engineering and Capital Programs major projects such as HIFAR Decommissioning, SYNROC and ANM, commercial clients requiring radioactive waste characterisation services

- Negotiate with clients to understand requirements, and to develop and optimise characterisation methods. These methods can be within WMS, ANSTO or utilise the global network through the IAEA.
- Identify and engage new suppliers and contractors for ongoing projects and operations.
- Manage modifications or upgrades to instruments and capabilities – while still maintaining data integrity and traceability.

Key Challenges

- Successful implementation of business as usual activities whilst managing conflicting priorities and deadlines;
- Improving accuracy and reliability of analysis by keeping up to date with international best practice and new processes in chemical and radiological analyses, ensuring continual improvement.
- Improving customer service, response times and delivery efficiencies.
- Providing accurate, reliable chemical and radiological analysis for a variety of complex objects and waste forms.
- Research and develop new characterisation capabilities to meet customers' demands.
- Manage instruments in a safe, reliable and cost effective manner.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	<ul style="list-style-type: none"> • Receive guidance and direction • Provide expert, authoritative and evidence based advice • Staff engagement and quality recruitment • Negotiate and report on budgets and resources consistent with strategic plans and goals • Recommend and gain endorsement for plans and goals and other initiatives
Work area team members	<ul style="list-style-type: none"> • Contribute to group decision making processes, planning and goals • Negotiate and resolve conflicts
Waste Management Services	<ul style="list-style-type: none"> • Daily to provide liquid waste reports, gamma spec results and other information
Radioactive Waste Engineers and Radiation Protection Services	<ul style="list-style-type: none"> • Determine analytical methods to get the information required by the project. • Conduct the appropriate analysis and provide reports on the results.
ANSTO site (inc CSIRO and Silex)	<ul style="list-style-type: none"> • Collection of non-radioactive hazardous waste for disposal • Provide expert advice on disposal routes and packaging of hazardous wastes
External	
Commercial customers	<ul style="list-style-type: none"> • Provide information about analytical capability, as part of a scope of work. • Provide the analytical services and reports on the results to those customers.
Sydney Water	<ul style="list-style-type: none"> • Confirmation of analytical techniques, results and generation of reports

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Leader, Waste Characterisation
Direct Reports	Nil
Indirect Reports	Nil

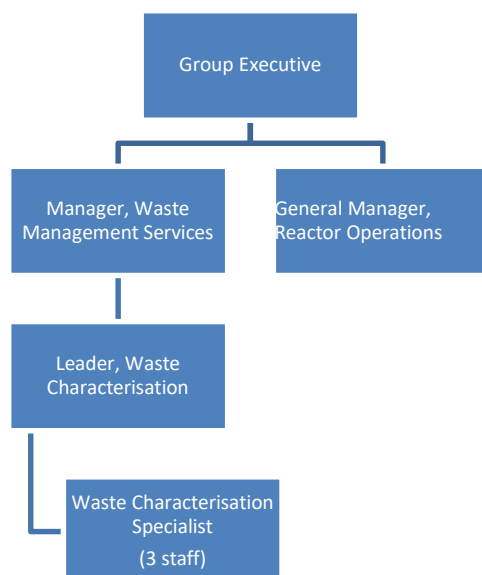
Financial Data (2015/2016)	
Revenue / Grants	N/A
Operating Budget	N/A
Staffing Budget	N/A
Capital Budget	N/A
Assets	N/A

Special / Physical Requirements	
Location:	Lucas Heights Working in different areas of designated site/campus as needed
Travel:	May be required travel to ANSTO sites from time to time May be required to travel to customers sites
Physical:	Laboratory based physical requirements (sitting, standing, minimal manual handling, movement around laboratory and site, hours working at computer) Labour intensive physical requirements (sitting, standing, manual handling up to 20kg) Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	Perform duties in an area where radioactive materials are handled under tightly controlled safety conditions Perform duties with and in an area where hazardous chemicals or materials are handled under tightly controlled safety conditions
Hours:	Willingness to work extended and varied hours based on operational requirements After hours work may be required for short and infrequent periods
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements Obtain and maintain appropriate federal government clearance

Workplace Health & Safety	
Specific role/s as specified in AG-2362 of the ANSTO WHS Management System	All Workers Other specialised roles identified within the guideline a position holder may be allocated to in the course of their duties

ORGANISATIONAL CHART

Use [Nuclear Operations](#) page 2. Simplified here:



KNOWLEDGE, SKILLS AND EXPERIENCE

1. Degree in Science (preferably physics or chemistry)
2. Experience in analytical chemistry, gamma spectrometry, and other forms of analytical techniques used in the nuclear industry, in a highly regulated environment
3. Strong knowledge of radioactive decay and the interaction of radiation with matter
4. Knowledge of current issues and challenges relating to radioactive waste management
5. Experience in handling sealed and unsealed radioactive material
6. Proven problem solving ability in delivering creative and systematic solutions for characterisation of various waste forms
7. Demonstrated experience in managing effective relationships with key stakeholders
8. Strong attention to detail
9. Experience in managing hazardous chemicals
10. Excellent written communication and presentation skills.
11. Excellent problem solving skills
12. Ability to develop and introduce innovative approaches to improving processes and practices.
13. Demonstrated knowledge of safe work practices, radiation protection and safety culture.

TRANSITION CRITERIA

To move from the lower band to the higher band the Waste Characterisation Specialist will be required to demonstrate that they have completed the following courses:

- Compressed gas and cryogenic liquids safety
- General Radiation Safety Officer Training (radiation protection – 3 day course)
- Hazardous chemical safety
- Training in safe handling the storage of hazardous chemicals
- Forklift licence

In addition the Waste Characterisation Specialist will demonstrate:

- Competency in the operations of the effluent laboratory, including the generation of reports to regulators and customers.
- Proven leadership of a team to achieve safe business outcomes
- Successful coaching/training of staff/clients in a process related to radioactive waste characterisation
- Competency in the collection, storage and disposal of non-radioactive hazardous waste.
- Competency in gamma spectrometry, including all spectral analysis and generation of reports.

- An improvement project for characterisation capability that they have led
- Developing a testing plan for a customer, detailing which analyses they require to make which decisions
- Completed reports to regulators and customers.

VERIFICATION

This section verifies that the line manager and appropriate senior manager/executive confirm that this is a true and accurate reflection of the position.

Line Manager	Delegated Authority
Name:	Name:
Title:	Title:
Signature:	Signature:
Date:	Date: