

## POSITION DESCRIPTION

<b>Position Title:</b>	Wasteform Scientist Nuclear Science & Technology and Landmark Infrastructure -
<b>Cluster / Business Unit / Division</b>	Research
<b>Section or Unit:</b>	ANSTO Synroc – Wasteform Engineering
<b>Classification:</b>	Band 5
<b>Position Description Number:</b>	PD-1941
<b>Work Contract Type:</b>	Science/Research

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### POSITION PURPOSE

The Wasteform Scientist conducts applied research on nuclear waste forms and related materials leading to key scientific outputs (i.e. publications, enhanced knowledge base and new intellectual property) in areas that are relevant to ANSTO Synroc's effort to increase the technology maturity of its wasteform research. The role also provides key engineering inputs to support the development of ANSTO's nuclear waste treatment facilities

### ORGANISATIONAL ENVIRONMENT

ANSTO leverages great science to deliver big outcomes. We partner with scientists and engineers and apply new technologies to provide real-world benefits. Our work improves human health, saves lives, builds our industries and protects the environment. ANSTO is the home of Australia's most significant landmark and national infrastructure for research. Thousands of scientists from industry and academia benefit from gaining access to state-of-the-art instruments every year.

NSTLI's Research Portfolio undertakes world class applied and translational research utilising nuclear techniques to foster innovation in research and development programs to enhance ANSTO's contribution to supporting a sustainable and healthier future for our planet and people everywhere. The Research Portfolio consists of research themes that define the broad subject areas of research with underlying research programs that are focussed activity groupings that contribute to the overall objectives of the research theme and also conducting research sub-programs within platforms. The Research Themes are Environment, Human Health and Nuclear Fuel Cycle.

ANSTO Synroc has been given the challenge of developing markets for ANSTO's wasteform science and processing technology and develops tailored solutions for nuclear wastes and developing engineering designs and solutions for waste processing plants and equipment within ANSTO and for international clients.

### ACCOUNTABILITIES & RESPONSIBILITIES

#### Key Accountabilities

- Undertake world leading wasteform research and design wasteforms tailored for the clients' waste streams and to facilitate the translation from concept to engineering solution, allowing ANSTO Synroc to demonstrate the feasibility of its technologies at engineering scale.
- Under direction conduct research work in the area of nuclear waste materials including innovative research concepts that add value to ANSTO's research outputs in the back-end of the nuclear fuel cycle.
- Provide scientific support and advice the ANSTO Synroc team and to stakeholders including the ability to provide assessment of experimental and model-based evaluation.
- Produce and present research of an international standard, publish in high quality refereed journals and produce other reputable publications reflecting the application of nuclear wasteform design, chemistry and structure-function behaviour.
- Developing, testing and recommending wasteform and processing options for radioactive waste streams to meet disposability requirements set out by the client or other customer

- Plan and implement test programs through the preparation, fabrication, characterisation, and analysis of samples, and the interpretation of the results.
- Write effectively and with clarity, procedures and instructions for experimental, quality, safety and environmental purposes
- Communicate effectively with a diverse range of stakeholders at various levels of scientific and technical understanding.
- Establish and foster professional networks at national and international levels in order to promote the organisation's research efforts. .
- Undertake additional duties as required and during period of leave of other staff.

### Decision Making

- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NSTLI Research strategy and ANSTO Synroc objectives provide the context for the position.
- The position is fully accountable for the accuracy, integrity and quality of the content of advice provided.
- The position works within a framework of legislation, policies, professional standards and resource parameters. Within this framework the position has some independence in determining how to achieve role objectives.
- Determine key work priorities within the context of agreed work plans and will consult with the manager on complex, sensitive and major issues that have a significant impact on the work area or ANSTO Synroc.
- 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).

### Key Challenges

- Working with stakeholders and clients across international boundaries and managing the planning process and client expectations on project delivery.
- Providing a level of clarity around scientific outcomes and innovation in research that leads to high quality publications, technical reports without disclosing engineering intellectual property.
- Maintaining the project delivery schedule while working across numerous projects with varying deadlines

### KEY RELATIONSHIPS

Who	Purpose
<b>Internal</b>	
Line Manager	<ul style="list-style-type: none"> <li>• Receive guidance and direction</li> <li>• Provide expert, authoritative and evidence-based advice and recommendations</li> <li>• Provide regular updates on key tasks, issues &amp; priorities</li> <li>• Negotiate and report on progress of project outcomes consistent with project plans and goals</li> <li>• Recommend and gain endorsement for project activities and other initiatives</li> <li>• Escalate issues and propose solutions</li> </ul>
Work area team members	<ul style="list-style-type: none"> <li>• Support team members and work collaboratively to contribute to achieving outcomes</li> <li>• Provide expert advice and analysis on a full range of matters</li> <li>• Contribute to group decision making processes, planning and goals</li> <li>• Collaborate and share accountability</li> </ul>

	<ul style="list-style-type: none"> <li>• Identify, negotiate and resolve conflicts</li> </ul>
Waste Management Services	<ul style="list-style-type: none"> <li>• Report on technical development and outcomes</li> <li>• Consult regarding results and stakeholder requirements</li> <li>• Provide advice and recommendations</li> </ul>
<b>External</b>	
Clients, Universities and National Nuclear Labs	<ul style="list-style-type: none"> <li>• Report on scientific development and outcomes</li> </ul>

## POSITION DIMENSIONS

<b>Staff Data</b>	
Reporting Line	Reports to the Manager, Wasteform Engineering
Direct Reports	Nil

<b>Special / Physical Requirements</b>	
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 Potential to travel both internationally and nationally
Physical:	<ul style="list-style-type: none"> <li>• Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer)</li> <li>• Standing for long periods</li> <li>• Frequent movements (climbing, stooping, kneeling, crouching, crawling)</li> <li>• Public speaking</li> <li>• Industrial facility physical requirements (lifting, standing for long periods, operating machinery, equipment and manipulators)</li> <li>• Wearing personal protective equipment for the handling of hazardous and/or radioactive materials</li> <li>• Working in confined space environment including wearing respiratory equipment</li> </ul>
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

<b>Workplace Health &amp; Safety</b>	
Specific role/s as specified in <a href="#">AG-2362</a> 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

**KNOWLEDGE, SKILLS AND EXPERIENCE**

1. PhD in Solid State Chemistry, Physics, Materials Science, Mineralogy or equivalent.
2. Experience in and sound knowledge of materials science, particularly in the synthesis and testing of samples.
3. Experience and knowledge of nuclear waste management or the handling of radioactive or hazardous materials or chemicals, particularly wastefoms and the ability to interpret performance criteria for such materials .
4. Demonstrated ability to plan and organise experimental work and interpret the results of testing and characterisation via a significant publication record.
5. Demonstrated ability to work with people as part of a team, but also to be able to work independently without continuous supervision and guidance.
6. Demonstrated ability to write high quality manuscripts for publication, technical reports, and procedures/guidelines for regulatory, safety or quality requirements.
7. Demonstrated ability to effectively communicate to a wide audience including, technical, professionals and management.
8. Demonstrated computer skills (in data and statistical analysis plus the ability to operate computer controlled equipment and manage data outputs from test equipment.

**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.

<b>Line Manager</b>		<b>Delegated Authority</b>	
Name:	Gerry Triani	Name:	Suzanne Hollins
Title:	Technical Director	Title:	Head of Research
Signature:		Signature:	
Date:	24/08/2018	Date:	