



POSITION DESCRIPTION

Position Title:	Systems Engineer
Cluster / Business Unit / Division	Nuclear Science and Technology
Section or Unit:	Nuclear Materials Research and Technology Group
Classification:	Band 6
Job Family:	Research
Position Description Number:	PD-2623
Work Contract Type:	Scientific/Technical
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Research & Sciences

POSITION PURPOSE

The Systems Engineer provides technical engineering support to the management and maintenance of licencing of its prescribed radiation facilities integral to the operations of nuclear infrastructure for the Nuclear Materials Research and Technology Group (NM-RTG). The role draws on knowledge, and documentation of engineered systems in a regulated environment, development of maintenance plans, maintenance of assets, engineering and operational change control to support updating of safety assessments and licencing documentation. Safety, operability, reliability and maintainability will be a focus of the role aligning with the organisation's strategy for Safe, Secure, and Sustainable operations of its nuclear facilities. This role also contributes to ANSTO's research programs by ensuring that all engineered components and systems meet operational and licence requirements.

ORGANISATIONAL ENVIRONMENT

ANSTO is a leading global nuclear science and technology organisation delivering world class research and expertise to benefit Australia and support a more sustainable future. Using nuclear science, we improve health, support industries, provide expert advice to government on nuclear technologies and help develop Australia's nuclear workforce.

Nuclear Science and Technology (NST) incorporates ANSTO's research, innovation, landmark research infrastructure and associated Platforms and capabilities. NST conducts research and development in relation to nuclear science and technology and connects people, transfers knowledge, and provides nuclear-based products and services for the benefit of Australia.

The Nuclear Materials Research and Technology Group (NM-RTG) is a leading centre for nuclear materials expertise in Australia. It incorporates a multidisciplinary team of scientists, technical specialists and engineers, supporting the design, development and performance of materials and technologies that span the nuclear fission energy lifecycle. The NM-RTG Facilities and Capabilities Group are the custodians of a unique combination of research infrastructure, underpinned by relevant expertise, to enable synthesis, manufacture, handling, characterisation and modelling of nuclear fuels, structural materials and waste-forms. To this end, the NM-RTG Facilities and Capabilities Group provide an integrated multidisciplinary scientific and technical support to ANSTO operations, academia and industry across a variety of research and engineering sectors, both within Australia and in collaboration with international stakeholders.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

- Maintain allocated engineered systems drawings, functional specifications and descriptions, documentation, and data records to ensure system configuration is accurately represented and maintained.
- Deliver technical advice and recommendations in a timely manner in the form of data, drawings, documentation and reports as a subject matter expert in systems engineering in support of the NM-RTG strategic operations.
- Under direction, develop designs for systems within prescribed radiation facilities that support the research and development objectives of NM-RTG.
- Prepare and maintain documents to support the safety case assessment and periodic safety review for engineered systems within the prescribed radiation facilities.
- Coordination and delivery of assigned engineering and plant modification packages in accordance with the ANSTO safety management system, licencing obligations, and NM-RTG business management system that includes engineering documentation, risk assessments, and documented change control.
- Review and support engineering design and implementation of modifications with projects undertaken by other members of the team to ensure outcomes are consistent with safe, secure, and sustainable operational requirements.
- Contribute to the effective systems engineering and management through the development of processes to improve the safety, availability, and maintainability of plant and equipment. This includes, but is not limited to, technical risk assessments, maintenance plans, reliability centred maintenance (RCM) data, work instructions, training content, spare parts requirements, and other information to support safe operations.
- Identify requirements, prepare and review investment cases for asset replacement or new equipment acquisition to support NM-RTG strategic research and capability development.
- Work with operations and maintenance teams to gather and analyse data, solve technical challenges and develop improvement initiatives.
- Working in a highly collaborative way, maintain ongoing productive working relationships with internal and external stakeholders.
- Maintain knowledge of industry best practice and technological developments, through investigation, feasibility and cost benefit to support the strategic research objectives of NM-RTG.
- Undertake additional duties as required and during period of leave of other staff.

Decision Making

- The position works within a highly regulated complex framework of legislation, policies, professional standards and resource parameters. Within this framework the position will be provided with the parameters in which to operate the laboratories and facilities. The position has some independence in determining the tasks and activities required to achieve day-to-day operational outcomes.
- The position operates within the context of the following documents:
 - ANSTO values
 - Organisational corporate plan
 - Strategic plan
 - Operational excellence program
 - NST business plan
 - Nuclear Materials Research and Technology Group's operational workplan
- The position is responsible for the accuracy, integrity and quality of technical support and advice required to ensure that decisions are based on sound evidence, but at times may be required to make effective judgements under pressure or in the absence of complete information or expert advice.

- Determine key work priorities within the context of complex operational plans and will consult with the Director, the line manager and other senior team members on sensitive and major issues that have a significant impact on the Nuclear Materials Research and Technology Group.
- 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

- Maintaining up-to-date knowledge of recent developments in the field, ensuring continual improvement and implementation of best engineering practise.
- Work with stakeholders to achieve outcomes and improve response times and delivery efficiencies.
- Working with multi-disciplinary teams with personnel who are not direct reports using a collaborative, consultative, influencing, and team-working approach to achieve objectives.
- Communicating, negotiating, and influencing a range of internal and external stakeholders to achieve the required success of ANSTOs engagement activities in a complex environment where resources are highly constrained.
- Time management skills to respond to the diverse requirements of organisational operations and projects
- Implement organisational / business unit change management systems

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	<ul style="list-style-type: none"> • Receive guidance and direction • Provide expert, authoritative and evidence- based advice and recommendations • Report on compliance of facility • Provide regular updates on key tasks, issues & priorities • Collaborate on plans and activities for the laboratories, instrument/s and related matters • Recommend and gain approval for modifications of engineering systems, enhancements and improvements and process/procedure changes or improvements • Escalate issues and propose solutions
Work area team members	<ul style="list-style-type: none"> • Support team members and work collaboratively to contribute to achieving work outcomes • Conduct design, implementation and testing of laboratory engineering (nuclear and non-nuclear) systems • Demonstrate facility/laboratory best practice • Contribute to group decision making processes, planning and goals • Collaborate and share information • Identify, negotiate and resolve technical conflicts in a friendly manner
NST Researchers and Scientists and other ANSTO staff utilising facilities	<ul style="list-style-type: none"> • Provide expert engineering advice on experimental designs • Ensure safety and regulatory compliance • Facilitate, plan and manage some experimental activities where required.

ANSTO Enablers	<ul style="list-style-type: none"> • Interface with Systems Safety and Reliability Group on the development of risk and safety assessments for existing, and proposed modifications to, systems, processes, plant and facilities • Work closely with ANSTO Infrastructure & Engineering Services on aspects of project management, engineering, technical support, design, and documentation associated to maintenance and proposed upgrades of NM-RTG facilities
----------------	---

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the NMRTG Operations Manager
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2025/2026)

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
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Public speaking Industrial facility physical requirements (standing for long periods, inspection of plant and equipment) Wearing personal protective equipment for the inspection of plant and equipment in prescribed radiation facilities.
Radiation areas:	May be required to work in radiation areas under tightly regulated conditions Perform duties in an area where hazardous chemicals or radioactive materials are handled under tightly controlled safety conditions
Hours:	Willingness to work extended and varied hours based on operational requirements
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements

Workplace Health & Safety

	All Workers Officer (definitions found in appendix 1 of AG-2362)
--	---

Specific role/s as specified in
AG-2362 of the ANSTO WHS
Management System

Other specialised roles identified within the guideline a position
holder may be allocated to in the course of their duties

ORGANISATIONAL CHART

Refer to Published Organisational Chart

KNOWLEDGE, SKILLS AND EXPERIENCE

1. Degree or higher qualifications in Engineering, Mechanical Engineering, Electrical Engineering, or related discipline.
2. Preferred experience in the field of the maintenance of engineering systems that support operation and maintenance, including glove boxes, hot cells and containment units.
3. Demonstrated experience in the application of routine and new techniques in assessing and improving the performance of nuclear and non-nuclear engineering systems.
4. Demonstrated understanding of risk assessment, safety management standards and practices.
5. Problem solving skills and ability to assess and resolve technical issues associated with engineered systems.
6. Demonstrated experience working under a quality assurance system in a tightly regulated environment.
7. Demonstrated ability to plan, prioritise tasks, implement and update plans that include recommendations to improve safety, equipment reliability and availability.
8. Ability to contribute to technical delivery of client projects.
9. Ability to work effectively as part of a multidisciplinary project team to deliver the requirements of the project.
10. Highly developed interpersonal and communication skills, both written and verbal.

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:	Michael Moody
Title:	NMRTG Operations Manager	Title:	Director of Nuclear Materials Research and Technology Group
Signature:		Signature:	
Date:		Date:	