Australian Government

ANSTO
Science. Ingenuity. Sustainability.

POSITION DESCRIPTION

Position Title:	CAS Facility Officer
Cluster / Business Unit / Division	Nuclear Science and Technology
Section or Unit:	Centre for Accelerator Science – Accelerator Systems and Development
Classification:	Band 6
Job Family:	Science, Research
Position Description Number:	PD-2503
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM
STEMM Category:	Technical

POSITION PURPOSE

The CAS Facility Officer applies scientific expertise and experience in accelerator physics to ensure the safe, compliant, and effective operation of accelerators, ion sources, beamlines, end-stations, and associated equipment. The role engages with scientific and technical aspects of the CAS user program to oversee regulatory compliance, enhance performance of the accelerators and beamlines for CAS capabilities, and design and lead development projects that maintain CAS accelerator systems at the forefront.

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.

Nuclear Science & 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 Research Infrastructure portfolio consists of platforms established on scientific infrastructure and capabilities, with several of the platforms categorised as landmark infrastructure. This includes a range of scientific assets, infrastructure, capability development & delivery for multi-decadal, multi-disciplinary, multi-user platforms for a collaborative user community and for internal research and development endeavours.

The Centre for Accelerator Science (CAS) is a multi-disciplinary team of scientists, technicians and engineers supporting academic and industry users across Australia and the world with a suite of accelerator science instrumentation for ultra-sensitive measurement, analysis, and irradiation applications. As a user facility open to all, supported by the National Collaborative Research Infrastructure Strategy, CAS informs policy, provides critical services for IAEA, and enables discovery and innovation in areas such as environment, climate and health sciences, space technologies, advanced materials for energy and quantum, and cultural heritage.

CAS operates four tandem particle accelerators and a wide range of advanced (and often bespoke, in-house designed) engineering systems, scientific instrumentation, equipment, and technologies across twelve beamlines for accelerator science applications and twelve chemistry laboratories for specialised sample processing. CAS offers accelerator mass spectrometry, sample preparation, ion beam analysis, ion beam implantation, and ion beam irradiation - together in one centre - backed by decades of accumulated experience in accelerator science and operations.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

Safe and compliant accelerator operations

- As the CAS Facility Officer of a Prescribed Radiation Facility operating with an ARPANSA facility licence, manage the implementation and continuous improvement of the CAS accelerator operations management framework including all associated documentation, consistent with national and international best practice, to:
  - ensure operational safety and security of CAS accelerator facilities.
  - ensure regulatory compliance of CAS accelerator facilities and operations, according to license conditions and requirements of the regulator.
- Liaise with internal and external safety and regulatory representatives, supporting auditing activities, reporting, and assessments of CAS facility compliance documentation.
- As a technical expert in the use of accelerators, coordinate operational training for the safe and efficient operations of accelerators, providing technical advice to relevant users.
- Contribute to the review, approval and scheduling of proposed accelerator operations and experiments.

Accelerator facilities operations and development

- Contribute subject matter expertise to maintenance and accelerator development tasks in consultation with Head of Operations (CAS Licence Officer); including but not limited to testing of interlocks, maintenance of test equipment, monitoring of critical controls, and calibration of facility radiation monitors.
- Apply expert accelerator physics knowledge and skills (experimental and modelling) to:
  - troubleshoot faults and performance issues on accelerators, ion sources and beamlines.
  - perform assessments, simulations and/or use analytical models that determine potential radiological hazards from accelerator operations to inform risk assessments and safety planning documentation.
  - diagnose, interpret, and/or benchmark accelerator system performance and operational methods.
- Develop and apply practical knowledge of international best practice in accelerator facility operation to support and/or lead the development and upgrade of accelerator equipment for performance enhancement and/or radiological hazard reduction.
- Prepare technical reports, presentations, and publications to communicate results of development projects.
- Undertake additional duties as required and during periods of leave of other staff.

Decision Making

- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NST strategy and CAS objectives provide the context for the position.
- 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 plans and objectives and must always ensure compliance to relevant regulations.
- The position is fully accountable for the accuracy, integrity, and quality of the content of advice provided and is required to ensure that prescribed facilities and activities are compliant with regulations.
- Determine key work priorities within the context of agreed work plans and consult with line manager on complex, sensitive and major issues that have a significant impact.
- Contribute to prioritisation, planning and scheduling of accelerator development and maintenance work in consultation with team members and Head of Operations.

- 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

- Ensuring facility is operating efficiently, effectively, and compliant with relevant regulations and standards and operating in accordance with best practice.
- Support and maintain a high standard safety culture within the facility to ensure all safety precautions are taken by staff and visitors when carrying out experiments and using equipment.
- Meeting the needs of multiple stakeholders and users, adjusting work plans and procedures to meet changing research objectives.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Head of Operations	• Receive guidance and direction. • Provide expert advice and recommendations. • Report on development project progress. • Collaborate on plans and activities for the accelerator facilities and related matters. • Recommend and gain approval for facility modifications, enhancements and improvements, and process/procedure changes or improvements. • Escalate issues and propose solutions.
CAS technicians	• Provide advice, analysis, and recommendations. • Contribute to group-decision-making processes, planning, and goals. • Collaborate and share accountability, information, ideas, and workloads. • Demonstrate facility/laboratory best practice. • Combine analysis and problem resolution.
CAS scientists	• Collaborate and plan to manage day to day operations, scheduling, technical maintenance, and development activities. • Collaborate on facility and experiment requirements. • Liaise to determine faults, troubleshooting and repairs.
External	
CAS users and collaborators from ANSTO, local and international universities, research institutes and industry	• Understand user requirements and desired outcomes. • Provide expert advice. • Provide training & supervision for users working on accelerator facilities. • Ensure safety and regulatory compliance. • Collaborate and share information. • Build and maintain relationships.
Scientific Community (including overseas laboratories and research organisations)	• Develop and maintain national and international linkages around CAS accelerator operations and research, to maintain expertise and stay abreast of latest global advances • Regular contact via technical meetings, conferences, workshops, business meetings and functions, email lists and other communication channels.
Suppliers and Contractors	• Regular contact to formulate and plan for accelerator requirements now or in the future.

	• To ensure effective beamline development; project management and procurement requirements.
Wider Community (Stakeholders, state and federal government, and general public)	• Promoting CAS to foster a greater understanding and appreciation of the facilities and science in Australia. • Formulate, communicate, and disseminate 'research stories' to relevant scientific and non-scientific audiences.

POSITION DIMENSIONS

Staff Data

Reporting Line	Reports to the Head of Operations
Direct Reports	None
Indirect Reports	CAS technical staff. This role does not have direct line management accountability, however, may direct staff to undertake activities and tasks, and allocate tasks and set task priorities as an accelerator Technical Expert.

Financial Data (2022/2023)

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 to travel to other ANSTO sites from time to time. Occasional travel both internationally and nationally.
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer). Standing for long periods. Some labour-intensive physical requirements from time to time (sitting, standing, manual handling up to 20kg). Wearing personal protective equipment for the handling of hazardous and/or radioactive materials. Occasional operation of engineering equipment or machinery, subject to suitable approvals and training. Working in a confined space. Working at heights. Perform duties with and in an area where hazardous chemicals or materials are handled under tightly controlled safety conditions. Operation of accelerator equipment and systems.
Radiation areas:	May be required to work in radiation areas under tightly regulated conditions. Perform duties in an area where radioactive materials are handled under tightly controlled safety conditions.
Licences	May be required to undertake additional operational or task licences including but not limited to Accelerator Operator licence, Dogging licence.

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

Workplace Health & Safety	
Specific role/s as specified in AP-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

As per published Organisational Chart.

KNOWLEDGE, SKILLS AND EXPERIENCE

1. Degree in physics, engineering, or other relevant discipline.
2. Minimum 2 years experience working in an Accelerator research laboratory setting, or Masters degree by research.
3. Experience in undertaking risk assessments and working within a regulated environment.
4. Demonstrated ability to follow policy, procedures, and guidelines.
5. Experience with design, modelling or operation of complex research equipment or scientific instruments, ion beam accelerators and associated technologies such as ion sources, electromagnetic beamline components, beam diagnostics, ion beam optics.
6. Strong customer focus and the ability to function well in a scientific user facility, work in a multi-cultural environment and develop and maintain productive working relationships.
7. Experience with applying a project management approach to delivery of development projects.
8. Ability to troubleshoot problems on complex systems with agility and resilience in real time.
9. Excellent interpersonal and communication skills to work collaboratively and share knowledge and information with users and other stakeholders.
10. Demonstrated capability to communicate science or technology effectively, writing technical or scientific reports and presenting orally at conferences or workshops.
11. Ability to work independently and able to plan and manage time to meet deadlines and objectives.

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: Ceri Brenner
Title: Head of Operations	Title: Director, CAS
Signature:	Signature:
Date:	Date: