



## POSITION DESCRIPTION

<b>Position Title:</b>	CAS Mechanical Team Lead
<b>Cluster / Business Unit / Division</b>	Nuclear Science and Technology – Centre for Accelerator Science
<b>Section or Unit:</b>	Operations
<b>Classification:</b>	Band 6 / Band 7
<b>Job Family:</b>	Engineering and Technical
<b>Position Description Number:</b>	PD-2577
<b>Work Contract Type:</b>	Technical/Manager
<b>STEMM/NON-STEMM:</b>	STEMM
<b>STEMM CATEGORY:</b>	Technical

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### POSITION PURPOSE

The CAS Mechanical Team Lead is responsible for the leadership, coordination, and development of mechanical systems, infrastructure, and support services across CAS facilities. This includes oversight of workflows through close integration with the Electrical and Instrumentation Team Leads to deliver mechanical maintenance and compliance activities, mechanical engineering design, asset management and capital works contributions.

The role ensures the mechanical integrity and performance of CAS assets including accelerators, beamlines, experimental systems, laboratory apparatus, workshops, support facilities and associated plant and equipment, enabling the delivery of safe and reliable operations for CAS to perform as a world-class user facility that delivers excellence and high-impact outcomes.

### 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 and Technology (NST) incorporate 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 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 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, inhouse 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.

The CAS Mechanical team provides engineering design, maintenance, and operational support for accelerator science infrastructure, beamline components, sample preparation and delivery systems, and experimental hardware across CAS. This includes specialist skills and tools for custom fabrication, vacuum and thermal assemblies, precision alignment systems, and mechanical integration of scientific and laboratory equipment. The team ensures mechanical system performance, safety, and reliability across the facility's user program and infrastructure development activities. CAS Mechanical capabilities include SF6 gas handling, computer aided design, finite elements analysis, dedicated maintenance and development workshops for prototyping and bespoke machining.

## **ACCOUNTABILITIES & RESPONSIBILITIES**

### **Key Accountabilities**

#### **Technical Engineering Expert (Band 6)**

##### **Leadership and management**

- Lead and manage the provision of CAS Mechanical support, maintenance, and development to ensure safe, compliant, efficient, high-quality operation of CAS assets and systems to enable the user program to deliver high-impact research and industry outcomes
- Ensure best practice operational and safety management of CAS Mechanical resources and work schedules to deliver on agreed KPIs, metrics, and milestones within the CAS Asset Management Plan and Business Plan, in pursuit of CAS goals and supporting NST strategies.
- Lead the CAS Mechanical team to achieve excellence by inspiring an inclusive and innovative environment that promotes psychological safety and builds a learning and growth culture.
- Formulate and prioritise plans and objectives that translate CAS operational and technical strategy into measurable deliverables for Mechanical technical engineering operations.
- Report on Mechanical team performance against targets and objectives, devise new ideas and strategies for growth including for streamlining and workforce development
- Lead or contribute to capital development plans, major mechanical system upgrades, and lifecycle asset management activities, to ensure alignment with CAS operational requirements and future collaborative research and engineering opportunities.
- Drive continuous improvement in team delivery, initiate collaborations aligned with CAS strategy, and represent technical capability in operational and planning forums.

#### **Technical Engineering Expert (Band 6)**

- As a Mechanical engineering expert, provide engineering leadership and project management to advance the technologies, systems, capital and capability developments within CAS asset portfolio to ensure they remain world class and meet international safety and quality standards
- Design and develop innovative instrumentation and engineering methodologies and techniques, evaluate and apply new and emerging technologies to ensure CAS meets stakeholder needs and organisational outcomes.
- Apply expert knowledge to ensure the highest technological, safety, and quality standards are maintained in all designs, developments, and commissioning of new and ongoing equipment in CAS.
- Utilise technical and engineering knowledge and expertise to examine, interpret, check and validate methods and results to provide engineering analysis and ensure accuracy of results produced.
- Apply extensive experience to train, supervise, and guide Operations staff, supporting technicians and engineers to ensure maintenance is completed in full and in a timely manner

- Provide expert advice and supervision to CAS staff, users (scientists, researchers, post-docs, students), visitors and contractors to ensure safe and effective work within the facilities in compliance with safety, licence, and legislative regulations.
- Collaborate and exchange information within the national and international accelerator science operations community and other engineering groups in NST and ANSTO.
- Produce technical reports for stakeholder engagement and project close outs, and presentations for workshops, conferences, and technical forums

#### **Technical Engineering Specialist (Band 7), performing the above at specialist expert level**

- Lead the planning, coordination and the delivery of complex capital and operational programs across multiple disciplines. Ensure the maintenance and development of the facilities follows best in class methodologies and are aligned with CAS business needs and strategic priorities, and enables the adoption of the latest technical trends that benefit accelerator-based research.
- Identify and manage operational risks through regular reviews and early-stage planning to determine any unforeseen issues that will impact on the future operation of the facilities and to allow for sufficient time for planning and the implementation of risk mitigation strategies.
- Evaluate the design and development work of peers and project contributors, to assess the suitability to business needs and assess and provide guidance on technical performance, safety, maintainability and environmental compliance.
- Develop and maintain active professional networks nationally and internationally through engagement with peer facilities, technical forums, conferences, and other strategic collaborations.
- Represent ANSTO and CAS in technical planning discussions and external forums and use networks to foster value-add partnerships with local and global communities, to inform and shape strategic decisions and planning for future capability direction, interoperability and innovation in CAS technologies, accelerator systems, and instrumentation.
- Undertake additional duties as required, including coverage during period of leave of other staff.

#### **Decision Making**

- The ANSTO values, organisational corporate plan, operational excellence program, NST strategy and CAS business plan provide the context for the position.
- Management of direct reports to deliver CAS outcomes.
- Assess desired outcomes and provide advice to internal and external stakeholders and collaborators on the feasibility and methodology for CAS Mechanical capabilities to their research projects
- The role exercises independent judgment in technical decision-making related to infrastructure reliability, maintenance response, and engineering method selection, within defined resource and safety parameters.
- The position works within a framework of legislation, ANSTO policies, professional standards and resource parameters. Within this framework, the position will be provided with the parameters in which to operate the facilities including decisions pertaining to project planning and resource allocation. The position has independence for decision making on methods and approaches for project planning and allocation of resources within CAS Mechanical and is fully accountable for delivering outcomes within agreed timeframes and budgets.
- The position is fully accountable for the accuracy, integrity and quality of the content of advice provided to users, staff, and CAS Head of Operations and is required to ensure that decisions are based on sound evidence.
- Determine work priorities within the context of agreed work plans and schedules and consult with the CAS Head of Operations on complex, sensitive and major issues that have a significant impact on the facility operations.

- The position will be provided a budget developed by management within the constraints of which the position is expected to operate. The position will have authority to assign and approve expenditure within limits designated by the delegations manual and approve work hours and staff leave requests.
- 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

- Sustaining excellence in CAS Mechanical capabilities and operations as a world-class facility, identifying and prioritising opportunities to advance capabilities, and maintain strong working relationship across engineering, scientific and operational teams to support shared platform goals.
- Keeping pace with emerging technologies, regulatory requirements, innovation in field, ensuring continual improvement and implementation of best practise and future readiness.
- Delivering results and outcomes to the required standards and timeframes, given the need to be agile and responsive to opportunities, and adapt in an often changing and unpredictable environment.
- Understanding the objectives of a wide range of operational needs and capital projects to ensure the provision of expert advice to facilitate successful project outcomes.
- Performing technical work and designing solutions in short or changing timeframes, to ensure maintenance of world leading capabilities of the facility.
- Collaborating across disciplines to ensure safe and effective integration of electrical systems into broader accelerator, beamline, and user infrastructure - often under tight shutdown or delivery windows.

### KEY RELATIONSHIPS

Who	Purpose
<b>Internal</b>	
CAS Head of Operations (Line Manager)	<ul style="list-style-type: none"> <li>• Receive direction and guidance</li> <li>• Provide regular updates on key tasks, issues &amp; priorities</li> <li>• Provide expert, authoritative and evidence-based advice</li> <li>• Support and implement staff engagement and quality recruitment</li> <li>• Negotiate and report on budgets and resources consistent with objectives, plans, targets and goals</li> <li>• Staff performance (APEA review of staff) and attendance and instruction on dealing with staff issues or problems</li> <li>• Recommend and gain endorsement for improvement or development plans and goals and other initiatives</li> </ul>
CAS Head of Operations	<ul style="list-style-type: none"> <li>• Ensure safe and compliant operations of mechanical systems and infrastructure across CAS facilities, in line with ANSTO safety procedures, engineering standards and regulatory requirements.</li> <li>• Ensure compliance with safety and quality systems and applicable legislation and regulations</li> <li>• Negotiate resourcing for maintenance and development of equipment, laboratories and capabilities</li> <li>• Provide expert knowledge and input for capital development plans and asset management</li> </ul>
CAS Management Team (Peers)	<ul style="list-style-type: none"> <li>• Support team members and work collaboratively to contribute to achieving outcomes</li> </ul>

	<ul style="list-style-type: none"> <li>• Contribute to CAS decision making processes, planning and goals</li> <li>• Collaborate and share accountability</li> <li>• Negotiate and resolve conflicts</li> </ul>
CAS Mechanical team technicians and engineers (Direct Reports)	<ul style="list-style-type: none"> <li>• Provide management, guidance and support</li> <li>• Provide coaching, career counselling, mentoring, supervision, instruction, direction, support, recognition, training, and performance and attendance monitoring &amp; review.</li> <li>• Communicate work plans and activities and monitor outputs.</li> <li>• Monitor trends, performance and progress against the operational plans and communicate adjustments to work priorities which may be required to ensure delivery against the plan</li> </ul>
CAS Team Leaders (Electrical, Instrumentation, IBM, Irradiations, AMS Cosmogenic and Actinides, and AMS Chemistry)	<ul style="list-style-type: none"> <li>• Optimise shared resources, coordinate scheduling, and deliver integrated accelerator science capabilities.</li> <li>• Contribute to group discussions, decision making processes and planning. Participate in meetings, share information and provide input on issues</li> <li>• Collaborate and share accountability</li> <li>• Negotiate and resolve scheduling or lab access conflicts</li> </ul>
NST staff (scientists, researchers, post-docs) and staff across ANSTO organisation	<ul style="list-style-type: none"> <li>• Develop and maintain effective working relationships and open channels of communication</li> <li>• Understand user requirements and desired outcomes</li> <li>• Provide expert advice, analysis and training</li> <li>• Contribute to the preparation of manuscripts for journal publications</li> <li>• Support organisation-wide initiatives, strategic projects, and workgroups</li> </ul>
<b>External</b>	
Collaborators from Universities, Industry, National and International Research organisations.	<ul style="list-style-type: none"> <li>• Ensure CAS Mechanical capabilities are fit for purpose and world class</li> <li>• Provide expert advice, analysis, training, guidance and supervision</li> <li>• Build and maintain relationships and partnerships</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>• Negotiate specifications and costs for procurement and contracts for service and delivery schedules</li> </ul>

## POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the CAS Head of Operations
Direct Reports	2 x Accelerator Engineering Technician 1x Mechanical Engineer (capital funding dependent)
Indirect Reports	
Financial Data (2025/2026)	
Commercial Revenue / NCRIS Grants	
Operating Budget	\$100k
Staffing Budget	\$0.3M

Capital Budget	\$200k
Assets	

### 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 Infrequent 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) Laboratory facility and workshop physical requirements ((lifting, standing for long periods, operating machinery, equipment) Public speaking Wearing personal protective equipment for the handling of hazardous materials
Radiation areas:	May be required to work in radiation areas under tightly regulated 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 Maybe required to obtain and maintain appropriate federal government clearance

### Workplace Health & Safety

Specific role/s as specified in <u>AP-2362</u> of the ANSTO WHS Management System	All Workers Managers / Leaders / Supervisors Other specialised roles identified within the guideline a position holder may be allocated to in the course of their duties
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## ORGANISATIONAL CHART

On file

## KNOWLEDGE, SKILLS AND EXPERIENCE

### Band 6

1. Diploma level engineering qualification in a relevant discipline or equivalent experience gained from within scientific infrastructure environment
2. An in-depth understanding of accelerator engineering and/or scientific and laboratory systems to an operational and diagnostic level.
3. Extensive experience developing techniques and equipment, conducting investigations, using advanced diagnostic equipment, and analysing diagnostic data to develop hypotheses.
4. Demonstrated extensive experience and expertise designing, installing, commissioning, and operating a variety of different instruments, plant, and systems often to solve high risk and high impact problems.

5. Significant prior experience troubleshooting complex multiple parameter instruments and systems and a proven ability to investigate and resolve problems within and outside your main field of qualification.
6. Demonstrated experience and proven success as the technical lead in the development of methodologies, techniques, engineering investigation or upgrade/enhancement projects.
7. Ability to lead and co-ordinate work activities of other staff to achieve effective outcomes.
8. Demonstrated experience providing technical leadership and coaching to technicians and engineers and external work experience personnel.
9. Demonstrated ability to undertake duties independently and expertly.

**In addition to the required knowledge skills and experience above the Band 7 level will require:**

10. Degree level engineering qualification in a relevant discipline or equivalent relevant experience gained from within scientific infrastructure environment
11. Demonstrated ability to lead the design, delivery, and integration of mechanical systems, infrastructure upgrades and capital projects, independently and at scale.
12. Experience identifying and mitigating mechanical infrastructure risks through proactive planning, diagnostic analysis, and engineering redesign.
13. Recognised authority in identifying and resolving cross-platform infrastructure risks related to mechanical systems.
14. Proven contribution to facility strategy through design foresight, scalable architecture development, and user-aligned engineering.
15. Established profile in national or international mechanical or accelerator communities, contributing to best practice exchange and technology roadmap alignment.

## 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:	
		Andrew Peele	
Title: Head of Operations, CAS		Title: GE, NST	
Signature:		Signature:	
Date:		Date:	

## Appendix 1

<b>ANSTO Job Families</b>
Accounting & Finance
Administration
Communications & Marketing
Compliance & Regulation
Engineering and Technical
Human Resources
ICT & Digital Solutions
Information & Knowledge Management
Legal
Manufacturing
Monitoring & Audit
Operations
Organisational Leadership
Project & Program
Research
Science
Security & Intelligence
Senior Executive
Service Delivery
Strategic Policy
Trades & Labour



**CAS Mechanical Team Lead - Linked Role (PD-2578)****Band 6 to Band 7 Transition Checklist**

Name:	
Commencement Date:	
Assessment Date:	

**Note: Full written submission demonstrating and justifying how the employee meets the requirements must also be attached.**

Requirements for transition	Met Criteria
Demonstrates independent leadership of capital mechanical infrastructure projects, including design, fabrication oversight, installation, and handover.	Yes No
Leads facility-wide mechanical planning activities and represents mechanical capability in cross-functional operational and shutdown coordination.	Yes No
Provides authoritative review of mechanical engineering work across CAS, ensuring compliance with safety, integrity, and performance standards.	Yes No
Develops and maintains external engineering partnerships and uses insights to guide CAS mechanical strategy or capital upgrade pathways.	Yes No
Identifies critical mechanical risk areas (e.g., vacuum systems, shielding, structural components) and implements preventative mitigation plans.	Yes No
Acts as a recognised mechanical systems expert within CAS, delivering innovative engineering solutions for high-complexity infrastructure problems.	Yes No
Provides coaching and capability development to technical staff, fostering autonomous team delivery of routine and complex mechanical work.	Yes No
Advises on future mechanical capability development and contributes to CAS-wide infrastructure investment and reliability strategy.	Yes No

**Manager Recommendation:**

I have reviewed the employee's competence in accordance with Linked Role PD-2578 and certify that the employee meets all requirements for transition and recommend transition from Band 6 to Band 7 be endorsed.

Manager Name:	
Signature:	
Date:	

**General Manager Assessment**

I have assessed the submission and confirm that the employee meets all requirements for transition from Band 6 to Band 7

General Manager Name:	
Signature:	
Date:	