



POSITION DESCRIPTION

Position Title:	Mechanical Technician / Specialist (Linked)
Cluster / Business Unit / Division	Nuclear Science and Technology
Section or Unit:	Australian Centre for Neutron Scattering - Operations
Classification:	Band 4 / 5 (Linked)
Job Family:	Engineering and Technical
Position Description Number:	PD-1433
Work Contract Type:	Technical
STEMM/NON-STEMM:	STEMM

POSITION PURPOSE

The Mechanical Technician/Specialists are responsible for the safe and reliable operations of a wide range of mechanical systems related to the Neutron Beam Instruments, including neutron guides, biological shielding, vacuum systems, rotating and other mechanical plants. The role performs a wide range of tasks including project management, mechanical design & fabrication, preventative maintenance planning, troubleshooting and repair of equipment. It provides a wide range of construction and mechanical support functions to other ACNS Operational Groups and indirectly to the facility users.

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 scientific infrastructure and capabilities, with a number of them categorised as landmark infrastructure. This includes a range of scientific assets, infrastructure, capability development & delivery for multi-decadal, multi-disciplinary, multi-user platforms for the user community and for internal research and development endeavours

The Australian Centre for Neutron Scattering (ACNS) operates neutron and X-ray scattering instruments with specialised sample environment equipment utilising ANSTO's modern high flux OPAL reactor and its cold neutron source. ACNS conducts structural and functional scientific investigations for industry, health, environment, biotechnology, nanotechnology, energy, advanced materials, engineering, food and heritage / archaeology sectors. ACNS is one of the top neutron facilities worldwide and unique within the Southern Hemisphere with an internationally competitive instrument suite complemented by an extensive suite of sample environments. There is an extensive user program of >500 users (with more than 1400 visits) per year from Australian universities and institutes, international institutions and internal ANSTO researchers. ACNS also services industry needs in engineering, infrastructure, food, automotive and other sectors.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities – Band 4

- Responsible for the fabrication, machine process operations, mechanical maintenance, diagnostics, installation, and commissioning for a wide range of systems within ACNS
- Occasional design & development of prototype equipment. Development work may include selection of materials suitable to the specialised needs of the Neutron Beam Instruments.
- Participate in new plant and equipment installations, commissioning and troubleshooting, including proficient use of metrology equipment and basic knowledge of vacuum systems.
- Independently execute maintenance of systems and plants and provide technical advice on operational matters.
- Independently solve technical issues associated with the maintenance of complex equipment or plants in a multi-disciplinary team.
- Provide advice, reviewing instructions or specifications and, in general, offer technical advice utilising knowledge and expertise to ensure better outcome of projects and maintenance programs driving improvements in equipment availability.
- Undertaking area supervision and high risk works Contractor Supervision duties including monitoring, providing assurance for work undertaken by contractors to ensure it meets ACNS & WHS procedures and regulations.
- Independently undertake risk assessments for tasks and when required prepare Safe Work Method & Environmental Statements (SWMES).
- Ensuring work undertaken by contractors meets ACNS and ANSTO operational requirements and limits.
- Consulting with Group Leader and utilising judgement to assess priorities of multiple work orders.
- Approach tasks independently and exercise judgement ensuring repairs and maintenance of plants & equipment are completed in time and according to plans. Responsibilities include tracking tasks in the maintenance system and recording completed work orders.
- Develop relationships with other groups and clients and ensure services are delivered in a way that supports customer satisfaction.
- Provide ongoing operational support to improve availability and reliability of plants. Maintain equipment and plants in optimal conditions minimising downtime.

Key Accountabilities – Band 5

In addition to accountabilities at Band 4 Band 5 requires:

- Project management of operational and capital projects, including conceiving and proposing new projects, according to ACNS plans and objectives, developing the technical case, prepare costing, organising quotes and planning execution.
- Lead the team tasked with the installation and commissioning of equipment, prepare, consult, and obtain safety approvals.
- Independently undertake formal safety assessments including initiating and preparing documentation for ANSTO SRA process for safety approvals or reapprovals for plant, processes, workshop or other hazardous areas.
- Lead the maintenance of equipment and associated infrastructure related to mechanical plants including the planning of maintenance periods, repairs and upgrades.
- Independently lead maintenance planning efforts and develop maintenance plans utilising electronic maintenance planning tools, for example SAP, as a Master Data Planner in coordination and providing the service and support to other ACNS operational groups.

- Resolve complex technical issues by applying expertise in mechanical fabrication, radiation shielding and protection, neutron optics and rotating plants to ensure Neutron Beam Instruments functionality and optimisation.
- Advise the selection of materials appropriate for works related to the Neutron Beam Facility under irradiation or other extreme conditions.
- Independently maintaining and balancing heavy rotating plants (Neutron Velocity Selectors and Choppers) and ability to independently perform calibrations using electronic controls and computational systems.
- Independently performing quality controls on newly installed or procured plants, planning and performing alignment and other highly sensitive installation works selecting appropriate equipment and providing written reports.
- Maintain technical expertise, train, coach and develop less experienced staff and apprentices to ensure technical knowledge is shared across the team in relevant areas of technical expertise.
- Responsible for the management of the Australian Centre for Neutron Scattering mechanical workshop, including but not limited to the management of workshop inventory, machinery safety and staff training on the correct and safe use of equipment. Assessing and signing off of competency of other staff in the use of workshop machineries.
- Undertake additional duties as required and during periods of leave of other staff.

A selection of accountabilities is required for the higher band transition as indicated in the band transition checklist.

Decision Making

Band 4

- Provides independent and informed advice to the Scientific Operations Group Leader within the competence and expertise developed at the different band levels.

Band 5

- Independently responsible for maintenance planning, maintenance frequency and upgrade of ACNS systems according to the group work strategies established by the Group Leader and ACNS Operations Manager.
- Determines, in agreement with the Group Leader, and independently documents: maintenance interval, commissioning tests and safety requirements for new plants.
- When managing workshop operations, approves or restricts access to the workshop and workshop equipment to staff according to their proficiency and abilities in the use of equipment and safety.
- 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

Challenges for the position include:

Band 4

- Develop and maintain skills relevant to the tasks demanded by the Scientific Operations team within the Neutron Beam Facility.
- Maintaining and upgrade ACNS neutron delivery equipment in a purposeful and time effective way complying at all times with ANSTO safety standards and requirements in a highly regulated environment.
- Resolve run-in and plant start-up problems in complex systems, often with no previous operating or maintenance history for reference.
- Build and maintain productive working relationships within ANSTO, external suppliers and partners

Band 5

- Managing the delivery of projects providing at the same time high level of operational support, continuous maintenance to plants and assistance to ACNS groups, juggling competing priorities.
- Maintain project budgets and provide advice on costs including Capital and Labour.

KEY RELATIONSHIPS

Who	Purpose
Internal	
ACNS Scientific Operations Group Leader/Operations Manager	<ul style="list-style-type: none"> • Receive guidance and direction • Provide expert, authoritative and evidence-based advice • Negotiate and report on projects budgets and resources consistent with strategic plans and goals (Band 5) • Recommend and gain endorsement for plans, goals and initiatives (Band 5)
Operational Groups	<ul style="list-style-type: none"> • Provide expert advice and analysis on a full range of matters relating to shielding, rotating plants, mechanical fabrication, maintenance software and user support. • Provide high level mechanical design and fabrication work for user support and instrument repairs and upgrades. • Work closely with all operational groups in the ACNS to deliver high value add services.
Instrument Scientists and Users	<ul style="list-style-type: none"> • Proactively work with instrument scientists and managers to ensure their experimental needs are met. • Ensure the high reliability of equipment and provide support when required. • Develop solutions to assist with immediate experimental needs for planned neutron beam experiments. • Continuous improvement neutron instrument operations via process improvements, shielding upgrades and adding capabilities.
External	
Contractors/Suppliers	<ul style="list-style-type: none"> • Complete all tasks required as a contractor supervisor and/or Area Supervisor. • Ensure all work completed is to ANSTO standards and meets safety and regulatory approval. • Ensure all site or ACNS managed maintenance activities are completed by appropriately skilled contractors.

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Scientific Operations Group Leader
Direct Reports	Nil
Indirect Reports	Nil
Financial Data (2021/2022)	
Revenue / Grants	Nil
Operating Budget	Nil
Staffing Budget	Nil
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 and from time to time
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Labour intensive physical requirements (sitting, standing, frequent manual handling) Standing for long periods Frequent movements (climbing, stooping, kneeling, crouching, crawling) Working in a loud environment Public speaking Industrial facility physical requirements (lifting, standing for long periods, operating machinery, equipment and manipulators) Wearing personal protective equipment for the handling of hazardous and/or radioactive materials Working in confined space environment including wearing respiratory equipment
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 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 May be required to participate on an on-call roster 24x7x365
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 AP2362 of the ANSTO WHS Management System	All Workers

ORGANISATIONAL CHART

Refer to the published Organisational Chart.

KNOWLEDGE, SKILLS AND EXPERIENCE

Band 4

- Certificate III in Mechanical Fabrication or equivalent trade certificate in a relevant field (Mechanical/Mechatronics)
- Minimum 3 years relevant industrial experience in operating and maintaining mechanical plant and equipment in a mechanical workshop
- Proficient in the safe use of Lathe's, Milling Machines and workshop equipment to produce precision work pieces. Basic proficiency or working towards basic proficiency in CNC machining
- Experience in the supervision of contractors and trade personnel
- Knowledge of mechanical plant and associated equipment applicable to Neutron Beam Instruments (NBI)
- Problem solving skills and ability to assess and resolve technical issues in a timely manner
- Understanding of WHS regulations and procedures
- Must possess, or work to possess, all relevant ANSTO safety roles, Contractor Supervisor High Risk, Area Supervisor, Working at Heights, Forklift, Confined Spaces and EWP
- Knowledge of CMMS systems, primarily SAP and relevant software programs as a user
- Understanding of ACNS quality system and use of ANSTO standard software tools
- Basic knowledge (or working towards) of CAD packages preferably SolidWorks and knowledge of accessing ANSTO information on EDD and EPDM.
- Operational knowledge of the use of metrology equipment, including laser trackers and scanners
- Personal qualities that add value to a team operating in a high-level client service, safety & quality environment including being proactive & mentoring others, interpersonal and communication skills including conflict resolution skills and/or experience
- Deadline driven, reliable in following through with actions, and pro-active when attending to ANSTO and customer interests
- Proficiency in Microsoft office suite of programs

Band 5

- Minimum 5 years' experience with Diploma or equivalent experience in a relevant engineering field that covers operation, maintenance, calibration, and upgrade of mechanical, neutron optics and other equipment at the ACNS or an equivalent work experience at ACNS or in a similar environment.
- Specialist knowledge in neutron beam plants especially neutron velocity selector and choppers hardware and ability to troubleshoot control systems.
- Demonstrated knowledge of project management principles and related work experience
- Leadership skills include ability to develop desired cultures of safety and quality, ability to provide performance feedback, coaching skills and ability to manage a project team.
- An independent proactive mind with well-developed planning and organisational skills and the ability to manage projects from idea to operation.
- Excellent communication skills, including proven ability to interact within a team environment and provide timely status updates to projects and tasks.

- Ability to solve problems independently and pro-actively with a demonstrated high level of self-motivation.
- The ability to independently perform a range of metrology tasks, including vibrational analysis, and produce reports using a combination of metrology devices.
- Advanced Knowledge of ANSTO EPDM and EDD systems for design and review work and Intermediate level use of Solidworks and CAM packages.
- Experience as SAP Master Data planner and management of the ACNS Operational Maintenance plans.

Linked Role Transition

Transition to the higher band within the linked role is not automatic and ability to perform higher band accountabilities will need to be demonstrated and assessed. This can be done by completing the attached form and completing a full written submission demonstrating and justifying how an employee meets the transition requirements.

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:	Olsen Scott	Name:	Jamie Schulz
Title:	Scientific Operations Group Leader	Title:	Leader, ACNS
Signature:		Signature:	
Date:	20/1/2023	Date:	20/1/2023

Mechanical Technician / Specialist Band 4 to Band 5 Transition Checklist		PD-XXXX
Name:		
Commencement Date:		
Assessment Date:		

Written submission demonstrating and justifying how the employee meets requirements must also be attached.

Requirements for transition	Met Criteria
a) Minimum 5 years working as Mechanical Technician (Band 4) OR b) Minimum 5 years of equivalent experience	<input type="checkbox"/> Yes <input type="checkbox"/> No OR <input type="checkbox"/> Yes <input type="checkbox"/> No
Qualification for Band 5 or equivalent (include details)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Extensive experience and demonstrate meeting all below requirements	<input type="checkbox"/> Yes <input type="checkbox"/> No

Demonstrated ability to independently and responsibly perform Band 5 accountabilities and apply required knowledge, skills and experience for the Band 5 position including:	
Common requirements for Band transition	<input type="checkbox"/> Yes <input type="checkbox"/> No
Undertake Band 4 accountabilities at a technical expert level and independently without supervision or guidance.	<input type="checkbox"/> Yes <input type="checkbox"/> No
5 years minimum experience with a Diploma or equivalent experience that covers operation, maintenance, calibration and upgrade of mechanical, neutron optics and other equipment at the ACNS or equivalent work experience.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Leadership skills include ability to develop desired cultures of safety and quality and ability to provide performance feedback and coaching skills and to manage a project team.	<input type="checkbox"/> Yes <input type="checkbox"/> No
An independent proactive mind with well-developed planning and organisational skills and the ability to manage projects from idea to operation.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Excellent communication skills, including proven ability to interact within a team environment and provide timely status updates to projects and tasks.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Undertake additional duties as required and during periods of leave of other staff	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintain technical expertise, train, coach and develop less experienced staff and apprentices to ensure that technical knowledge is shared across the team in relevant areas of technical knowledge.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Resolve complex technical issues by applying expertise in mechanical fabrication, radiation shielding and protection, neutron optics and rotating plants to ensure Neutron Beam Instruments functionality and optimisation.	<input type="checkbox"/> Yes <input type="checkbox"/> No
In addition, the following requirements must be met (Project Management focus):	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated knowledge of project management principles and related work experience	<input type="checkbox"/> Yes <input type="checkbox"/> No
The ability to independently perform a range of metrology tasks, including vibrational analysis, and produce reports using a combination of metrology devices.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Specialist knowledge in neutron beam plants especially neutron velocity selector and choppers hardware and ability to troubleshoot control systems.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Project management of operational and capital projects, including conceiving and proposing new projects, according to ACNS plans and objectives, developing the technical case, prepare costing, organising quotes and planning execution.	<input type="checkbox"/> Yes <input type="checkbox"/> No

Lead the team tasked with the installation and commissioning of equipment, prepare and obtain safety approvals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Independently undertaking formal safety assessments including initiating and preparing documentation for ANSTO SRA process for safety approvals or reapprovals for plant, processes, workshop or other hazardous area.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Independently performing quality controls on newly installed or procured plants and alignment work selecting the appropriate equipment and providing written reports.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Or the following (Planning and Master Data focus):	<input type="checkbox"/> Yes <input type="checkbox"/> No
Experience as SAP Master Data planner and management of the ACNS Operational Maintenance plans.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Management of the Australian Centre for Neutron Scattering mechanical workshop, including but not limited to the management of workshop inventory, machinery safety and staff training on the correct and safe use of equipment. Assessing and signing off of competency of other staff in the use of workshop machineries.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Advanced Knowledge of ANSTO EPDM and EDD systems for design and review work and Intermediate level use of SolidWorks and CAM packages	<input type="checkbox"/> Yes <input type="checkbox"/> No
Independently lead maintenance planning efforts and develop maintenance plans utilising electronic maintenance planning tools as (SAP) as a Master Data Planner in coordination and providing the service and support to other ACNS operational groups.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Independently undertake formal safety assessments including initiating and preparing documentation for ANSTO SRA process for safety approvals or reapprovals for plant, processes, workshop or other hazardous area.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Project management of operational and capital projects, including conceiving and proposing new projects, according to ACNS plans and objectives, developing the technical case, prepare costing, organising quotes and planning execution.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Or the following (Advanced Technical Skills focus):	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lead the maintenance of equipment and associated infrastructure related to mechanical plants including the planning of maintenance periods, repairs and upgrades.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Responsible for independently maintaining and balancing heavy rotating plants (Neutron Velocity Selectors and Choppers) and ability to independently perform calibrations using electronic control and computational systems.	<input type="checkbox"/> Yes <input type="checkbox"/> No
The role requires an understanding of neutron shielding, basic neutron optics and the position has responsibility in advising the selection of appropriate materials for work related to the Neutron Beam Facility.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Resolve complex technical issues by applying expertise in mechanical fabrication, radiation shielding and protection, neutron optics and rotating plants to ensure Neutron Beam Instruments functionality and optimisation.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Specialist knowledge in neutron beam plants especially neutron velocity selector and choppers hardware and ability to troubleshoot control systems	<input type="checkbox"/> Yes <input type="checkbox"/> No
The ability to independently perform a range of metrology tasks, including vibrational analysis, and produce reports using a combination of metrology devices	<input type="checkbox"/> Yes <input type="checkbox"/> No
Advanced Knowledge of ANSTO EPDM and EDD systems for design and review work and Intermediate level use of Solidworks and CAM packages	<input type="checkbox"/> Yes <input type="checkbox"/> No

Attach written submission demonstrating and justifying how the employee meets each of the above requirements.

Line Manger Recommendation

I have reviewed the employee's competence in accordance with Linked Role PD-XXXX and certify that the employee meets all requirements for transition and recommend transition from Band 4 to Band 5 be endorsed as demonstrated in the attached written submission detailing how the employee meets each of the requirements.

Name & Title:	
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Signature:		Date:	
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ACNS Operations Manger

I have reviewed all information and support transition from Band 4 to Band 5.

Name & Title:			
Signature:		Date:	

Leader, ACNS

I have reviewed all information and approve transition from Band 4 to Band 5.

Name & Title:			
Signature:		Date:	
Effective date of transition:			

Appendix 1

ANSTO Job Families
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