



POSITION DESCRIPTION

Position Title:	Electronic Technician
Cluster / Business Unit / Division	ACNS
Section or Unit:	Computing and Electronics
Classification:	Band 5
Position Description Number:	PD-0387
Work Contract Type:	Technical
STEMM/NON-STEMM:	STEMM

POSITION PURPOSE

The primary objective of the Electronic Technician is to develop, maintain and install electronic systems for neutron beam instrument in the Australian Centre for Neutron Scattering, which is a 24x7 production environment.

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 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 research infrastructure 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

The key accountabilities for this position include:

- Maintain facility operations, through (corrective and preventative) maintenance and diagnostics to maximise the facility availability to the national and international scientific community.

- Support project related activities involving the design, development, installation and commissioning of new instruments to maintain the ACNS facility's international reputation.
- Develop prototype designs for instrument upgrades under the instruction of team leader.
- Document and draft instrument changes to the as built and original specifications.
- Install and test electronic instrumentation and systems from engineering documentation and drawings.
- Recommendations and procurement for spare components and modules based on system performance history.
- Responsible for planning, undertaking and completing technical work as allocated by team leader.
- Undertake maintenance to set schedules and utilise system down times to conduct preventative maintenance activities so facility operations are maximised.
- Analyse maintenance activities and provide solutions by diagnosing faults and implementing corrective actions to minimise unplanned stoppages.
- Ensure all equipment is maintained by carrying out unplanned maintenance on a timely basis to support operational requirements.
- Contribute to design and development of projects to enhance the production facility in a program of continuous improvement to meet business objectives.
- Provide specialist skills and technical advice to identify needs which contribute to the continuous improvement of the instruments.

Decision Making

- 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

The major challenges for this position include:

- Carry out work in a heavily regulated environment where adherence to all regulations and quality assurance requirement is mandatory.
- Ensure all safety precautions are followed and all tasks are carried out safely.
- Carry out work in accordance with operational requirements to tight deadlines.
- Maintaining knowledge and expertise with new complex systems that are highly unique and custom built.
- Troubleshooting complex and uniquely specialised systems.

KEY RELATIONSHIPS

Who	Purpose
Internal	
DAE Team Leader	<ul style="list-style-type: none"> • Receive tasks, guidance, and direction
Detector Specialist	<ul style="list-style-type: none"> • Receive advice and direction
Work area team members	<ul style="list-style-type: none"> • Provide advice on data acquisition electronics and cabling. • Contribute to group decision making processes, planning and goals. • Collaborate and share accountability for delivery and outcomes
ACNS internal clients	<ul style="list-style-type: none"> • Liaise regarding prioritisation of maintenance, repairs, and testing activities. • Establish and maintain ongoing open communication to ensure the product meets needs and user requirements
External	

Hardware vendors	<ul style="list-style-type: none"> • Work with vendors to obtain quotes, do procurements, identify, and repair faults and make improvements
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POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the DAE Team Leader
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2019/2020)	
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. May be required to travel both internationally and nationally
Physical:	<ul style="list-style-type: none"> • 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) • Wearing personal protective equipment for the handling of hazardous and/or radioactive materials • Working in confined space environment • Working at heights
Radiation areas:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • Willingness to work extended and varied hours based on operational requirements. • After hours work may be required for short and infrequent periods • May be requested to participate as part of a 24x7 on-call roster
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements

Workplace Health & Safety	
Specific role/s as specified in <u>AP- 2362</u> 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



Refer to published Organisational Chart.

KNOWLEDGE, SKILLS AND EXPERIENCE

1. Diploma in Electronic Engineering or related discipline and/or equivalent experience in Instrumentation electronics.
2. Extensive Scientific and or Industrial experience in computer and electronic based instrumentation technologies.
3. Knowledge of Australian and International electronic, radiation, electrical safety and computer instrumentation standards.
4. Experience in Nuclear instrumentation systems including radiation detectors, analog amplifiers, discrimination systems and high voltage power supplies.
5. Ability to diagnose, isolate and rectify faults in complex instrumentation systems.
6. Experience analysing schematic diagrams, drawings and manuals on complex systems including electronic schematics and printed circuit board layouts.
7. Experience working with programmable devices and equipment such as PLD, FPGA and Embedded Microprocessor/Microcontroller technologies.
8. Ability to safely operate high voltage power supplies and electronic test equipment including digital storage oscilloscopes, logic analysers and arbitrary waveform generators.
9. Ability to work in a team environment, communicate effectively, manage time efficiently, meet tight deadlines, solve problems independently and pro-actively with a demonstrated high level of self-motivation.
10. Advanced computing skills with experience using Altium, SolidWorks or similar, embedded system IDE software, Microsoft Word, Excel and Outlook.

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:	Luke Lu	Name:	Jamie Schulz
Title:	Senior Electronic Engineer Team Leader	Title:	Director, ACNS
Signature:		Signature:	
Date:	24/01/2024	Date:	8/2/2024