



POSITION DESCRIPTION

Position Title:	Electronics Engineer
Cluster / Business Unit / Division	Commercial Products and Services
Section or Unit:	ANSTO Detection and Imaging
Classification:	Band 6/7
Job Family:	Engineering
Position Description Number:	PD-2299
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Engineering

POSITION PURPOSE

As part of the ANSTO Detection & Imaging (AD&I) business unit, the Electronics Engineer will use their subject matter expertise to undertake a lead role in research and development of advanced radiation detection technologies, deliver technical advice and support the commercial objectives of the unit. The position also takes a proactive role in supporting and developing team members.

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.

The ANSTO Detection & Imaging (AD&I) business unit is part of Commercial Products and Services which drives and stimulates integration, innovation, and engagement amongst our internal and external stakeholders. The group plays a key role in ANSTO's future growth and development projects and helps to facilitate ANSTO's evolution into a more outward-looking organisation.

The AD&I business unit houses a multi-disciplinary team focused on the detection and imaging of ionising radiation. Core activities within the team include product development, research and development, transitioning radiation detection & imaging technologies to market and the provision of scientific & technical advice, on behalf of ANSTO, to stakeholders in Government.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

The key accountabilities for the Band 6 position include:

- Apply high level specialist knowledge and experience in the design and development of electronics engineering problems.
- Taking a leading role in conceptualising and conceiving design approaches to ensure engineering solutions are fit for purpose, cost-effective & practical.
- Undertake engineering design development and validation to conform to Australian and international standards.

- Work within a multi-disciplinary team and apply high level specialist knowledge to develop & maintain electronic systems used for interfacing radiation detectors to related instrumentation in novel cutting-edge instruments.
- Undertake design and development of electrical & instrumentation systems that range from simple prototypes through to commercial products and bespoke solutions for clients and customers. This includes engineering design analysis, justification and review of proposals, concepts, detailed designs, manufacturing and commissioning.
- Deliver on the project management of research projects as required and directly liaise with/manage external stakeholder relationships.
- Recognised at ANSTO as the technical lead in the discipline keeping abreast of technical advances and statutory changes in profession and disseminating to members of the discipline. Challenge established ways of working in favour of more productive approaches. Contribute to the development of ANSTO's technologies and processes by identifying and developing innovative ideas that add value to ANSTO.
- Contribute to staff development and retention by providing structured development opportunities, coaching, mentoring and encouraging the sharing of knowledge and experiences within the electrical and instrumentation discipline.
- Represent ANSTO nationally and internationally and build networks to develop sharing of information.
- Undertake additional duties as required and during periods of leave of other staff.
- Fulfil WHS responsibilities as specified in AG-2362 of the ANSTO WHS system.

In addition to performing all Band 6 key accountabilities, the key accountabilities for a Band 7 position include:

- Support the CTO, AD&I, in establishing the strategic direction and technical vision for the business unit.
- Drive the development of original and innovative ideas directed at enhancing the current state of the art ionising radiation instrumentation capabilities.
- Develop international networks to allow for external collaboration and sharing of information.

Decision Making

The decision making required for this position include:

- 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 manage electrical and instrumentation engineering safely and effectively, including deciding on methods and approaches.
- The position is fully accountable for the accuracy, integrity and quality of the content of data and advice provided to managers and customers and is 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.
- Determines key work priorities within the context of agreed work plans and consults with management on complex, sensitive and major issues that have a significant impact on projects.
- 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).

In addition to all Band 6 decision making, the Band 7 role includes these additional decision making requirements

- When required, manage the financial resource allocation for operational and capital expenditure, including the engagement of subcontractors. Negotiation of commercial contracts, including the technological scope and outcomes, with external clients.

Key Challenges

The major challenges for this position include:

- Providing quality support and to manage workload in time-constrained situations.
- Ensuring compliance to a variety of both internal and external policy, guidelines and regulatory requirements.
- Keeping abreast of developments and undertaking appropriate training and personal development programs to enhance knowledge and skills.
- Using innovative & inventive skills to devise novel solutions to problems encountered in development of products.
- Modelling appropriate behaviours of responsibility, electrical safety & professionalism.
- Maintaining consistent professional standards of service in line with strategic direction and ANSTO policies and procedures.
- Developing technically competent and workable solutions requiring a diverse range of knowledge and experience in a nuclear environment.
- Balancing work commitments set by management, demonstrating the flexibility needed to respond to unplanned changes in priorities.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Project Manager/Line Manager	<ul style="list-style-type: none"> • Receive guidance and direction. • Provide expert, authoritative and evidence-based advice. • Provide regular updates on key tasks, issues & priorities. • Recommend and gain endorsement for project activities, plans and other initiatives. • Escalate issues and propose solutions.
Work area team members	<ul style="list-style-type: none"> • Provide expert advice and analysis. • Provide guidance and support. • Contribute to group decision making processes, planning and goals. • Collaborate and share accountability. • Negotiate and resolve conflicts.
Other ANSTO staff/groups	<ul style="list-style-type: none"> • Build constructive and productive relationships in support of the delivery of client services, advice and radiation detection equipment.
External	
Customers/Collaborators	<ul style="list-style-type: none"> • Establish constructive relationships. • Consult to identify requirements and desired outcomes. • Provide advice on analytical capabilities, analysis and training.

National and international stakeholders	<ul style="list-style-type: none"> • Establish constructive relationships. • Develop fit-for-purpose ionising radiation products to meet stakeholder needs. • Communicate scientific outcomes, identify opportunities for continuous improvement and identify commercial/development opportunities.
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POSITION DIMENSIONS

Staff Data	
Reporting Line	CTO/Principal Scientist
Direct Reports	Nil
Indirect Reports	Nil
Special / Physical Requirements	
Location:	<ul style="list-style-type: none"> • Lucas Heights Campus. • Working in different areas of designated site/campus as needed.
Travel:	<ul style="list-style-type: none"> • May be required to travel to ANSTO sites from time to time. • May be required to travel both nationally and internationally.
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). • Laboratory work may require standing for long periods and operating equipment. • Laboratory facility physical requirements (lifting, sitting, standing, operating equipment, manual handling). • Wearing personal protective equipment for the handling of hazardous and/or radioactive materials.
Radiation areas:	<ul style="list-style-type: none"> • 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 radioactive 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.
Clearance requirements:	<ul style="list-style-type: none"> • Satisfy ANSTO Security and Medical clearance requirements. • Obtain and maintain appropriate federal government clearance.
Workplace Health & Safety	
Specific role/s as specified in AP-2362 of the ANSTO WHS Management System	<ul style="list-style-type: none"> • 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

The knowledge, skills and experience required for the Band 6 position include:

1. Degree in Bachelor of Engineering (Electronics or Mechatronics) and at least 3 years relevant experience.
2. Knowledge of standard electronic laboratory instruments.
3. Experience & competence in the use of industry-standard CAD/CAM packages. Specific experience of multilayer PCB design and SMD assembly is preferred.
4. Experience is preferred in some or all of the following: electronic engineering of instrumentation & control systems using analogue techniques, microcontrollers, single-board computers, FPGAs, or programmable-logic based hardware, computing hardware and software, and networking.
5. An aptitude for hands-on design & assembly, and familiarity with, and safe use of, basic machine tools.
6. Experience in a research or hardware development environment, requiring resourcefulness & innovation.
7. Experience in the analysis, interpretation and reporting of technical findings.
8. Experience in client relationships, meeting client expectations and operating within deadlines.
9. Ability to develop and maintain productive working relationships internal and external to ANSTO.
10. Excellent verbal communication skills with emphasis on the ability to communicate clearly with people at a variety of organisational levels and varied technical understanding.

In addition to Band 6 requirements, the knowledge, skills and experience for a Band 7 position include:

1. Degree in Bachelor of Engineering (Electronics or Mechatronics) and significant years relevant experience.
2. Extensive experience with detector electronics and other spectroscopic devices, such as SiPM power supplies and digital acquisition systems.
3. Extensive experience in client relationships, meeting client expectations and operating within deadlines.

LINKED ROLE TRANSITION REQUIREMENTS

- Minimum 4 years working as Electronics Engineer (Band 6) or equivalent experience.
- Demonstrated capability to independently manage substantial projects to successful completion.
- Demonstrated ability to perform Band 6 accountabilities and apply required knowledge, skills and experience for the Band 7 position independently and responsibly, including:
 - Undertake Band 6 accountabilities independently with no direct supervision.
 - At least 3 years relevant experience with detector electronics and other spectroscopic devices.
 - Proven experience in client relationships, meeting client expectations and operating within deadlines.
 - Proven experience in developing innovative solutions for technical, scientific or engineering problems.
 - Demonstrated mentoring of team members and sharing of specialist knowledge.
 - Represented ANSTO nationally and/or internationally, building networks to develop sharing of information.

Transition from Band 6 to Band 7 will occur following a recommendation from the relevant line manager, assessment by management and approval from the general manager.

Transition within the linked role is not automatic and ability to perform Band 7 accountabilities will need to be demonstrated and assessed. This is to be done by completing the attached form and completing a full

written submission demonstrating and justifying how the employee meets the transition requirements noted above.

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:	David Boardman	Name:	Bruce Begg
Title:	AD&I CTO/Principal Scientist	Title:	
Signature:		Signature:	
Date:		Date:	

**Electronics Engineer (PD-2299)
Band 6 to Band 7 Transition Checklist**

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 3 years working as Electronics Engineer (Band 6) OR b) Minimum 3 years equivalent experience	<input type="checkbox"/> Yes <input type="checkbox"/> No OR <input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated capability to independently manage substantial project tasks to successful completion	<input type="checkbox"/> Yes <input type="checkbox"/> No

Demonstrated ability to independently and responsibly perform Band 6 accountabilities and apply required knowledge, skills and experience for the Band 7 position including:	
Undertake Band 6 accountabilities independently with no direct supervision	<input type="checkbox"/> Yes <input type="checkbox"/> No
At least 3 years relevant experience with detector electronics and other spectroscopic devices.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Proven experience in client relationships, meeting client expectations and operating within deadlines.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Proven experience in developing innovative solutions for technical, scientific or engineering problems.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated mentoring of team members and sharing of specialist knowledge.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Represented ANSTO nationally and/or internationally, building networks to develop sharing of information.	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

Manager Recommendation

I have reviewed the employee's competence in accordance with Linked Role PD-2299 and certify that the employee meets all requirements for transition and recommend transition from Band 6 to Band 7 be endorsed as demonstrated in the attached written submission detailing how the employee meets each of the requirements.

Name & Title:			
Signature:		Date:	

AD&I CTO/Principal Scientist/Line Manager

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

Name & Title:			
Signature:		Date:	

General Manager Business Development

I have reviewed all information and approve transition from Band 6 to Band 7.

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