



POSITION DESCRIPTION

Position Title:	Controls Engineer
Cluster / Business Unit / Division	Clayton Campus
Section or Unit:	Controls & Scientific Computing Group
Classification:	Band 5
Position Description Number:	PD-1858
Work Contract Type:	Technical

POSITION PURPOSE

The Controls Engineer is responsible for providing control system solutions that support the needs of the science teams through effective design, development, implementation, and support activities.

ORGANISATIONAL ENVIRONMENT

ANSTO is the national organisation for nuclear science and technology. We focus on undertaking leading edge research, delivering innovative scientific services and providing specialised advice to government, industry, academia and other research organisations.

The Australian Synchrotron (AS) is a division within the Australian Nuclear Science and Technology Organisation (ANSTO) and one of the nation's premier science facilities that provides a vibrant focal point for researchers from Australia, NZ and further afield. The facility provides world-leading technical capability that delivers better and faster experimental techniques that enhance current fundamental and applied research. The facility promotes international collaboration to enable leading-edge R&D that will greatly benefit Australia and our regional neighbours.

The Controls and Scientific Computing team is responsible for enabling world-class synchrotron tools to support the Australian Synchrotron in achieving its objectives. High performance solutions come through the effective interaction of Controls and Computing with the Synchrotron's Engineering and Science teams. Controls and Computing ensures it is world-class by collaborating with peers in large science facilities nationally and internationally. Controls and Computing develops standards and specifications and engages external suppliers to provide optimal solutions. Where an appropriate solution cannot be sourced, the team designs solutions in-house.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

- Assist in the design, development and implementation activities related to control systems used on the accelerator and beamlines to provide functional and reliable control systems that support, the needs of the facility.
- Program, build or configure software that is used in the control systems using defined engineering processes and procedures to provide functional and reliable control systems that support, the needs of the facility
- Perform test and integration activities for the software and hardware systems deployed in the facility to provide functional and reliable control systems that support, the needs of the facility.
- Participate and provide engineering support on projects related to control systems to ensure timely delivery that meets expectations.
- Provide operational support by trouble shooting, diagnosing and solving problems with the installed control systems in the facility, to provide functional and reliable control systems that support, the needs of the facility

- Actively pursue learning, development and collaboration activities related to the area of responsibility in consultation with the Group Leader controls engineering to ensure the AS remains competitive internationally and fosters collaboration.
- Undertake additional duties as required and during period of leave of other staff.

Decision Making

This role makes decisions related to:

- Solving problems that have caused an immediate disruption to operations within their area of responsibility.
- Sequencing tasks to achieve the desired priorities of work assignments
- Design / implementation / testing strategies for non critical controls systems.
- 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 successful project completion whilst managing conflicting priorities and deadlines for different stakeholders including short lead times.
- Keeping abreast of recent developments in field, ensuring continual improvement and implementation of best practise
- Improving customer service, response times and delivery efficiencies
- Make complex engineering decisions based on many factors including fit for purpose, low total cost of ownership, suitability of collaborators and collaboration agreements, the skillset of team members and standardisation,
- Maintain effective relations and communication with clients, vendors, team members, engineers in other teams, and collaborators
- Ability to communicate across engineering and scientific disciplines. Interpret scientific requirements and translate them to a control system specification. Develop, apply and maintain standard solutions
- Provide solutions in a timely manner. Deployment of solutions is done during shutdown maintenance windows. Planning of work and your availability during these windows is essential

KEY RELATIONSHIPS

Who	Purpose
Internal	
Principal Scientists and Group Leaders	<ul style="list-style-type: none"> • Weekly or as required to discuss work assignments, progress, outcomes and provide advice on problem resolution
Mechanical/Electrical Engineers	<ul style="list-style-type: none"> • Monthly to consult and work together on projects/provide advice on control systems
Scientists	<ul style="list-style-type: none"> • Frequently to discuss performance of control system and develop requirements for new systems
Procurement Department	<ul style="list-style-type: none"> • To liaise for procurement as required
External	
Other Synchrotrons	<ul style="list-style-type: none"> • Quarterly or as required to collaborate with engineers/scientists at other facilities
Suppliers/contractors	<ul style="list-style-type: none"> • To engage as required by specifying and providing requirements for procurement of products/services

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Manager (discipline)
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2015/2016)	
Revenue / Grants	Nil
Operating Budget	Nil
Staffing Budget	Nil
Capital Budget	Nil
Assets	Nil

Special / Physical Requirements	
Location:	Clayton Working in different areas of designated site/campus as needed
Travel:	May be required travel to ANSTO sites from time to time
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Frequent movements (climbing, stooping, kneeling, crouching, crawling) Working in confined space environment
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 After hours work may be required for short and infrequent periods 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 AG-2362 of the ANSTO WHS Management System	All Workers Officer (definitions found in appendix 1 of AG-2362) Group Executive / General Manager Managers / Leaders / Supervisors Other specialised roles identified within the guideline a position holder may be allocated to in the course of their duties

ORGANISATIONAL CHART

Ref AS Organisation Chart.

KNOWLEDGE, SKILLS AND EXPERIENCE

A degree in an engineering discipline or a qualification in a technical field

Essential

1. Demonstrated understanding of distributed control systems.
2. Proven ability to program in at least one programming language with exposure to low level device programming.
3. Demonstrated understanding of data acquisition and real time control systems.
4. Demonstrated experience working effectively in a technical team.
5. Proven ability to follow engineering processes and procedures related to control systems.
6. The ability to quickly understand scientific concepts to a sufficient level to provide the support needed.
7. The ability to communicate and collaborate with various technical groups, engineers, scientists other experts in their field to gain accurate and relevant information.

Desirable

1. An engineering degree in either electrical, electronic, instrumentation or software.
2. Experience in a science environment or light source facility
3. Some experience in C/C++, Linux, PLCs
4. Some experience with embedded controls, motion controls, Instrumentation, PLCs

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 is the direct manager of the position.](#) [Delegated authority is the most appropriate senior manager within the Business Area \(General Manager or Head , in absence of these roles within structure, it must escalate to Group Executive\).](#)

Line Manager		Delegated Authority	
Name:	Navid Hamedi	Name:	Paul Martin
Title:	Manager – PLC	Title:	Senior Manager – Controls and Computing
Signature:		Signature:	
Date:		Date:	