Australian Government

ANSTO
Science. Ingenuity. Sustainability.

POSITION DESCRIPTION

Position Title:	Manager, Accelerator Controls Support System
Cluster / Business Unit / Division	Clayton Campus
Section or Unit:	Controls & Scientific Computing Group
Classification:	Band 7
Job Family:	Engineering
Position Description Number:	Pd-1849
Work Contract Type:	Technical, Professional, Leadership
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Engineering

POSITION PURPOSE

The Leader is responsible for taking ownership and providing technical leadership for specific subsystems or technical areas of control systems across the facility to support the capability required to deliver science outcomes.

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 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

- Provide guidance, advice and support in a technical area or subsystem related to control systems and represent the organisation as the subject matter expert to provide capability, reliability and robustness of control systems used to deliver scientific outcomes.
- Provide technical advice to support the development of policy and process related to hardware, software and the optimum use of controls resources
- Project management including planning, delegation and execution of large scale projects with multi-disciplined engineering aspects to ensure timely delivery that meets expectations
- Conceptual / detailed design, development and implementation of control systems across the facility and within the area of responsibility.

- Supervise, mentor and train other engineers and technicians as required to provide functional and reliable control systems that support, the needs of the facility developing the level of skill within the controls group.
- Proactively assess reliability issues and advise on continuous improvement activities related to the area of responsibility.
- Develop and maintain collaborative relationships with subject matter experts at other comparable facilities and within industry 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:

- Technical areas in relation to the future development of control systems within the area of responsibility.
- Creating suitable work packages and assignments for direct reports and other controls engineers.
- Prioritisation of tasks within a project and related to smaller jobs and bugs.
- Design / implementation / testing strategies. Guidelines exist for some standard procedures, but the role often involves developing new approaches and processes.
- Corrective actions to deal with circumstances, problems or incidents that have caused an immediate disruption to operations when on call and on-site.
- Choice of hardware and software components to purchase within the area of responsibility.
- Sequencing work assignments to achieve desired priorities.
- Influence the decisions of senior managers e.g. on appropriate resourcing of projects and solutions to problems.
- Daily delivery of knowledge specific to their area of expertise
- 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 the successful implementation of strategic objectives and project completion whilst managing conflicting priorities and deadlines;
- 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	
Group Leaders/Department Heads	• Frequently to provide advice on technical matters, resources, timescales and budgets
Peers within the Engineering team	• Frequently to ensure effective and efficient working across the groups within engineering, participate in problem solving and to provide technical or mentoring guidance as required
Principal Scientists/Group Leaders	• Frequently to discuss work assignments, progress outcomes and provide advice on problem resolution
Mechanical/Electrical Engineers/Scientists	• Weekly or more often to work collaboratively together on projects/provide advice and instructions on control systems
Controls Engineers (team)	• Daily or more often to work collaboratively together on projects/provide advice and instructions on control systems policy and processes
Procurement Department	• To liaise for procurement as required
External	
Technical authorities and peers at other facilities	• As required to maintain currency of engineering knowledge, gain or share knowledge and to identify technological trends which may benefit the Australian Synchrotron

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Senior Manager, Controls & Scientific Computing
Direct Reports	This role has up to 5 direct reports which includes the Principal Engineer, Senior and other Engineers, technicians and contractors
Indirect Reports	The Leader may be assigned a delivery / project team or an individual to deliver a scope of work and will be required to monitor progress, quality of work and take ultimate responsibility for the outcomes. Leadership responsibilities also extend to management and responsibility for contractors, interns, work experience students and their work.

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

Special / Physical Requirements	
Location:	Clayton Working in different areas of designated site/campus as needed
Travel:	May be required to 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) Labour intensive physical requirements (sitting, standing, frequent manual handling up to 20kg) Standing for long periods Frequent movements (climbing, stooping, kneeling, crouching, crawling) Public speaking Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	May be required to work in radiation areas under tightly regulated 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

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) 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 published Organisation Chart

KNOWLEDGE, SKILLS AND EXPERIENCE

A degree or higher level in an engineering discipline or suitable qualification in a technical field.

Essential

1. Minimum of 10 years relevant industry experience
2. Demonstrated experience in leading a multi-disciplined project with significant controls aspects.
3. Demonstrated experience with complex distributed control systems.
4. Demonstrated experience in providing guidance advice and support in a technical discipline in hardware and/or software related to control systems.
5. Demonstrated experience with data acquisition and real time control systems as applied in large complex systems.
6. Proven ability to develop and instruct on relevant standards and processes used in controls engineering.
7. Breadth of knowledge in control systems.
    a. EPICS development skill (role specific)
    b. Advanced PLC Programming skills (role specific)
    c. Software engineering and SDLC methodologies (role specific).

d. Design and development of safety systems in a radiation environment (role specific)

e. Motion controls and DAQ integration experience (role specific)

8. Systems engineering experience in

    a. Developing and using configuration management systems.

    b. Developing control system architectures.

    c. Documentation and engineering processes.

9. The ability to quickly understand scientific concepts to a sufficient level to provide the support needed.

10. The ability to communicate and collaborate with various technical groups, engineers, scientists other experts in their field to gain accurate and relevant information.

11. The ability to work autonomously

Desirable

1. An engineering degree in either electrical, electronic, instrumentation or software.

2. Experience in a science environment or with accelerators or beamlines.

3. Advanced skills in C/C++. Software development experience on Linux and/or PLC platforms.

4. Electronics design experience.

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:	Paul Martin	Name:	Dean Morris
Title:	Senior Manager, Controls & Scientific Computing	Title:	Senior Manager, Synchrotron Operations
Signature:		Signature:	
Date:		Date:	