



POSITION DESCRIPTION

Position Title:	Synchrotron Accelerator Operator
Cluster / Business Unit / Division	NSTLI – Research Infrastructure - Australian Synchrotron
Section or Unit:	Accelerator Science & Operations
Classification:	Band 4/5 (<i>Linked Role</i>)
Position Description Number:	PD-1979
Work Contract Type:	Professional / Technical

POSITION PURPOSE

The Synchrotron Accelerator Operator is responsible for overseeing the preparation, operation, and monitoring of the Synchrotron Accelerators and related systems. The Accelerator Operator provides first line support to Synchrotron research users including key problem solving and decision making outside of standard business hours. The Accelerator Operator contributes to the development of accelerator operational processes, procedures, and systems to enhance capabilities and technical performance, in order to produce reliable and high quality scientific outcomes in both Accelerator Physics and Beamline Science.

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 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 Synchrotron Accelerator Operators interface with many different personnel at the facility including external researchers using the facility. They are responsible for the safe and reliable operation of the synchrotron. They coordinate technical personnel to make sure problems with the synchrotron are resolved promptly. After hours, they directly service the beamlines to make sure the needs of the users are met. During periods of slower activity, they contribute to or lead the development of projects that improve the Synchrotron's KPIs.

LINKED ROLE

As a linked role, it is the intention that this position will be initially recruited into the band 4 level of which the employee will develop and acquire the competence, skills, knowledge and experience, over a period of time, to competently operate at the Band 5 level.

Transition from Band 4 to Band 5 will occur following a recommendation from the Line Manager, assessment by the Director - AS and approval from the Senior Leader and Group Executive NSTLI. Transition

is not automatic and compliance with each transition criteria will need to be demonstrated, documented, assessed and signed off.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

The key accountabilities for the Band 4 position include:

- Ensure the accelerators are prepared, managed, and monitored in accordance with the standard operating procedures to support their safe and efficient operation.
- Assist beamline scientists and users by identifying, analysing, and correcting any issues relating to beamline technical equipment, particularly outside of standard business hours to improve the scientific outcomes for users.
- Assist in identifying, analysing, and diagnosing any issues relating to the technical equipment for the accelerators and provide recommendations for improvement to maintain and improve the machine KPIs.
- Assist in providing key facility support roles including first aid, building wardens, contractor supervision, and issuing work permits to look after the health and safety of users, staff, contractors, and visitors.
- Act as Chief Warden for the main building after standard business hours.
- Maintain reports on operator activities detailed in operations logs to increase the effectiveness of fault finding and creating a knowledge base of the facility operation.
- Maintain statistics on system performance and faults to direct resources according to the performance of the various systems.
- Collaborate with engineers and scientists on a regular basis to troubleshoot and assist in the development of the accelerators and beamlines.
- Support activities of the Engineering & Science groups by contributing in a technical and operational capacity to maintain and improve the performance of the technical equipment.
- Assist in the development, maintenance, and review of standard operating procedures to improve the performance and reliability of technical equipment.
- Undertake additional duties as required and during periods of leave of other staff.

In addition to performing all Band 4 key accountabilities, the key accountabilities for the Band 5 position include:

- Lead the training and mentoring of less experienced operators in the team
- Provide key problem solving and decision making for facility operations outside standard business hours.
- Lead the design, development, implementation, and maintenance of software to support the needs of the accelerator systems.
- Lead the development, maintenance, and review of standard operating procedures to improve the performance and reliability of technical equipment.
- Lead the training of staff, students, and others in the correct and safe operation and access of the accelerators and their systems.
- Manage statistics on system performance and faults that generate the facility's KPIs.
- Support activities of the Engineering & Science groups by contributing and collaborating in a technical and operational capacity, developing, maintaining and improving the performance of the accelerators, beamlines, and technical equipment.
- Undertake additional duties as required and during period of leave of other staff.

Decision Making

The Band 4 position decisions regarding:

- Application of standard procedures and settings.
- Resetting of equipment and settings during fault recovery.
- Determining the settings of operational systems in response to changes in performance.
- Application of ALARA principles to radiation levels.
- The position at both levels work within a framework of legislation, policies, professional standards and resource parameters. Within this framework the position has some independence in determining how to achieve objectives of the unit, including deciding on methods and approaches, operations, project planning and allocation of resources.
- The position at both levels are fully accountable for the accuracy, integrity and quality of the content of his/her work provided to the users, 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.
- 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, the Band 5 position makes decisions regarding:

- Solving problems that have caused an immediate disruption to regular operations of the accelerator systems.
- Adaptation, modification, and implementation of standard operating procedures and settings in response to a varying operating environment.
- Adapting solutions and experience gained from one situation to another with a differing operating environment to enable an efficient resolution to the immediate disruption.
- Determination of when faults result in users being informed that their experiments will be delayed or cancelled.
- Determination, adaptation and implementation of the sequence of tasks to ensure an efficient and smooth transition from a faulted state to reduce impact on key stakeholders.
- Effectively engage, instruct, and assign on call resources out of standard business hours.
- Determine when to recall Operators to duty for critical operational requirements.
- Ensuring the safety of persons and equipment during out of hours emergencies and notifying relevant services and personnel.

Key Challenges

The major challenges include:

- The Accelerator Operator team work around the clock on 12.25 hour rotating shifts. Shift work can be challenging to maintain a work/life balance.
- Shift work can result in limited access to the knowledge and experience of others on the team, as well as making collaboration challenging.
- Keeping abreast of recent developments in the field, ensuring constant improvement and implementation of best practices.
- Due to the complexity of the synchrotron and the constant upgrades and repairs, there is a requirement to continuously learn new skills and modify procedures.
- Responding to a variety of afterhours user needs.
- Providing acceptable solutions to often complex problems within an environment in which problems are affected by and impact on other systems.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager, Accelerator Operators	<ul style="list-style-type: none"> • Receive guidance and direction. • Provide expert, authoritative and evidence-based advice. • Staff engagement and quality recruitment. • Negotiate and report on budgets and resources consistent with strategic plans and goals. • Recommend and gain endorsement for plans and goals and other initiatives.
Accelerator Physicists/Instrumentation Specialist	<ul style="list-style-type: none"> • By collaborating with and being directed by Accelerator Science group for machine study shifts, projects and daily operations on a daily basis.
User Support Office	<ul style="list-style-type: none"> • Assist with after-hours user inductions, safety training, beamline inductions, and general user support issues.
Engineering, Technical staff and Beamline Science staff	<ul style="list-style-type: none"> • Engineering and technical staff, providing engineering and technical staff with information and advice relating to the maintenance and improvement of technical systems on a daily basis. • Beamline Science, daily providing after hours support of users.
External	
Students	<ul style="list-style-type: none"> • On a weekly basis to operate the Accelerator systems during machine studies to support student experiments.
Users	<ul style="list-style-type: none"> • Afterhours as needed to troubleshoot beamline technical issues
Contractors	<ul style="list-style-type: none"> • Manage contractor work to ensure delivery as per scope of work and requirements.

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Manager, Accelerator Operators
Direct Reports	Nil
Indirect Reports	This role may be required to project manage or provide technical expertise including supervise and provide guidance to other operators, students and contractors.

Special / Physical Requirements	
Location:	Clayton Working in different areas of designated site/campus as needed
Travel:	Occasional travel, national or international, may be required
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer). Working in a loud environment. 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:	Must work on a rotating shift roster 24x7 during operational periods of the facility to ensure user needs are met. May have to work occasional overtime.
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 Published Org Chart

KNOWLEDGE, SKILLS AND EXPERIENCE

The knowledge, skills and experience requirements for the Band 4 position include:

1. Diploma in a discipline such as physics, electronics, computing, or engineering with some relevant working experience in a similar technical environment.
2. Some knowledge in programming languages and software packages.
3. Well-developed, effective, oral and written communication skills, with ability to work effectively with people at all levels.
4. Demonstrated experience in managing effective relationships with key stakeholders
5. Demonstrated ability to manage competing priorities to produce quality work within tight time constraints and defined procedural frameworks.
6. Show initiative and make objective decisions in a sometimes-stressful environment, be deadline driven and reliable in following through with actions with minimal guidance.
7. Ability to learn effectively in a dynamic environment through on the job training.
8. Ability to maintain a work-life balance working to a rotating shift roster.
9. Flexible approach to work and the ability to apply judgement to manage conflicting priorities

In addition to demonstrating strong knowledge, skills and experience at a Band 4 position, the Band 5 position also requires:

10. A diploma or degree in a discipline such as physics, electronics, computing, or engineering, with a minimum of five years relevant work experience in a similar technical environment.
11. Demonstrated experience in training and mentoring of staff.
12. Demonstrated ability to effectively engage, instruct, and assign work to various technical groups to maintain operation performance.

13. Advanced knowledge in modern programming languages, controls systems, and software packages including Python, EPICS, and MatLab.
14. Proven, highly developed, effective oral and written communication skills, with ability to work effectively with people at all levels across a wide range of departments.
15. Strong analytical and problem solving skills, balanced by the ability to develop practical solutions.
16. Demonstrated track record of leading projects that improve the operability of the facility and its ability to meet KPIs, including delivering projects on timely schedules.
17. Demonstrated track record of ability to independently and successfully, troubleshoot common accelerator and beamline issues.
18. Completion of all training requirements.
19. Sustained commitment to demonstrating a proactive attitude and practical application of ANSTO values.

Desirable:

20. Minimum four years of experience in Synchrotron Accelerator Operations.

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:	Mike Lafky	Name:	Dr. Dean Morris
Title:	Manager, Accelerator Operators	Title:	Acting Senior Manager- Accelerator Science & Operations
Signature:		Signature:	
Date:	20 February 2019	Date:	20 February 2019

Appendix : Transition Checklist

Synchrotron Accelerator Operator - Linked Role (PD-1979)

Band 4 to Band 5 Transition Checklist

Note: Full written submission demonstrating and justifying how the employee meets the requirements must also be attached.

Name:	
Commencement Date:	
Assessment Date:	

Requirements for transition	Met Criteria
<ul style="list-style-type: none"> • Performing Band 4 accountabilities, as described in this PD (or equivalent experience in a similar environment). 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Performing Band 5 accountabilities as described in this PD (or equivalent experience in a similar environment). 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Demonstrated behaviours and ability to independently and responsibly perform all Band 4 and Band 5 accountabilities - through exercising sound individual judgement that will not challenge the safety and reliability of the facilities and meet all regulatory requirements. 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Demonstrated experience or competency in:</p> <ul style="list-style-type: none"> • Degree qualification in Engineering, Physics, Engineering or related field with a minimum five years relevant work experience in a similar technical environment. • Demonstrated frequent and documented experience in training and mentoring of staff. • Demonstrated ability to effectively engage, instruct, and assign work to various technical groups to maintain operation performance. • Advanced knowledge in modern programming languages, controls systems, and software packages including Python, EPICS, and MatLab. • Proven, highly developed, effective oral and written communication skills, with ability to work effectively with people at all levels across a wide range of departments. • Leading projects that improve the operability of the facility and its ability to meet KPIs. • Demonstrated track record of leading projects that improve the operability of the facility and its ability to meet KPIs, including delivering projects on timely schedules. • Demonstrated track record of ability to independently and successfully, troubleshoot common accelerator and beamline issues. 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
Sustained commitment to demonstrating a proactive attitude and practical application of ANSTO values.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Completion of all training requirements.	<input type="checkbox"/> Yes <input type="checkbox"/> No

Line Manager to attach a written submission demonstrating and justifying how the employee meets each of the requirements.

Line Manager

I have reviewed the employee's competence in accordance with Linked Role PD- 1979 and certify that the employee meets all requirements for transition and recommend transition from Band 4 to Band 5be endorsed.

Line Manager Name:	
Signature:	
Date:	
Recommended Date of Transition:	

I have assessed the submission and confirm that the employee meets all requirements for transition from Band 4 to Band 5

Sr. Manager / Director Name:		
Signature:		
Date:		

Approvals

General Manager / Senior Leader - NSTLI

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

General Manager / Senior Leader Name:	
Signature:	
Date:	

Group Executive - NSTLI

Group Executive Name:	
Signature:	
Date:	
Effective Date of Transition:	