



POSITION DESCRIPTION

Position Title:	Tritium Laboratory Technician (Linked)
Cluster / Business Unit / Division	Nuclear Science and Technology (NST)
Section or Unit:	Research / Isotope Tracing in Natural Systems
Classification:	Band 3 / 4 (Linked)
Job Family:	Science
Position Description Number:	PD-2260
Work Contract Type:	Research & Sciences
STEMM/NON-STEMM:	STEMM

POSITION PURPOSE

Band 3

The primary objective of the Tritium Laboratory Technician is to perform routine aspects of tritium analysis: receipt and logging of samples, sample preparation, analysis and some basic data processing predominantly under supervision. The role will support the outcomes of ITNS, Research and internal and external customers.

Band 4

In addition to the Band 3 accountabilities the Band 4 role holder would be involved in scheduling, basic client liaison, intermediate data analysis and some troubleshooting. The Band 4 would work mostly unsupervised under the daily guidance of the Tritium Facility Officer.

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 and Technology (NST) incorporates ANSTO's research, innovation, landmark research infrastructure and associated platforms 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.

Isotope Tracing in Natural Systems (ITNS) comprises three groups – Stable Isotope Analysis, Geochemical and Elemental Analysis, and Low Level Radioactivity Analysis (including Ultra-low Tritiated Water) that operate specialist laboratories and instrumentation, providing expert analysis for high sensitivity measurement of radioisotopes and stable isotopes in environmental samples.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities - Band 3

Under the guidance and supervision of the Tritium Facility Officer:

- Undertake the daily operation and basic maintenance of the tritium laboratory instrumentation in all ITNS laboratories.
- Prioritise, plan and schedule sample preparation and analysis to meet the needs of clients.
- Undertake routine sample preparation and analysis.
- Monitor the tritium analysis instruments during sample counting.

- Monitor data from the tritium analysis instruments, identify any outliers and issues with the data.
- Analyse data from the tritium analysis instruments
- Learn to recognise issues with instruments and/or software and inform the Tritium Facility Officer.
- Ensure laboratory equipment and consumables are utilised in accordance with operational safety, security, sustainability requirements and adhere to applicable standards, legislative and regulatory guidelines.
- Establish a basic professional relationship with instrument service engineers to resolve issues or organise significant repairs.
- Contribute to the preparation and/or maintenance of quality, regulatory and safety documentation.
- Ensure adequate stock of chemicals, consumables and spare parts are maintained.
- Learn to track basic trends in data to identify long term averages and basic instrument performance.
- Assist the Tritium Facility Officer to provide training and supervision to visiting researchers and contractors on tritium analysis and sample preparation.
- Contribute to method development and appraisal of analytical instruments.
- As a team member, contribute to the success of the ITNS group in meeting its strategic goals, by participating in meetings, sharing new ideas, completing administrative requests in a timely manner and other activities which may arise with limited notice.
- Undertake additional duties as required and during period of leave of other staff.

Key Accountabilities - Band 4

- In consultation with the Tritium Facility Officer:
 - Undertake the daily operation and ongoing maintenance of the tritium laboratory instrumentation in all ITNS laboratories.
 - Ensure the ongoing maintenance of equipment, identifying faulty equipment and arranging for its repair. Identify and repair faulty electrodes using soldering techniques.
 - Prioritise, plan and schedule sample preparation and analysis to meet the needs of clients and assist with their enquiries when required.
 - Analyse data from the tritium analysis instruments, calculate uncertainties and prepare formal reports for clients.
- Perform all tasks associated with routine low-level tritium sample preparation with minimal supervision
- Monitor laboratory equipment and infrastructure including collecting and assessing data associated with analytical balances, air-conditioning parameters, safety interlocks and instrument parameters and take action to rectify if required.
- Monitor the tritium analysis instruments during sample counting.
- Monitor data from the tritium analysis instruments, identify any outliers and issues with the data.
- Draft analytical reports and validate laboratory results in a timely manner to meet client needs, ensure Tritium Facility Officer reviews report prior to client distribution. Review reports prepared by other staff prior to client distribution.
- Independently collect and record data involved with analysis for both routine and non-routine experiments.
- Recognise issues with instruments and/or software and undertake necessary troubleshooting at an intermediate level to ensure minimal down time . Assist the Tritium Facility Officer or the Capability Area Manager with advanced troubleshooting.
- Liaise with tritium analysis instrument manufacturers/service engineers to resolve issues, organise significant repairs and prepare for the replacement of old instruments.
- Prepare and/or maintain quality, regulatory and safety documentation.
- Prepare and/or update and/or revise technical instructions and standard operating procedures for equipment and experimental practice, ensuring that occupational, health and safety requirements are followed and ensuring continual review practices for improvement.

- Contribute to discussions regarding client feedback about outstanding portal proposal acceptance and the development of sustainable laboratory outputs.
- Work to safety, quality and environmental requirements to ensure laboratories comply, at all times, with relevant standards, regulatory framework and documented procedures.
- Participate in international inter-laboratory comparison exercises to ensure ANSTO's tritium analysis is world-standard.
- Ensure laboratory equipment and consumables are utilised in accordance with operational safety, security, sustainability requirements and adhere to applicable standards, legislative and regulatory guidelines and ensure adequate stock of chemicals, consumables and spare parts are maintained.
- Provide regular updates to the Capability Area Manager on progress of sample analysis, instrument performance, new ideas and challenges.
- Track trends in data to identify long term averages and trends in instrument performance.
- Provide training and supervision to visiting researchers and continuing contractors on tritium analysis and sample preparation. Prepare work schedules for inexperienced staff working in the tritium laboratories and provide feedback.
- In consultation with the Tritium Facility Officer &/or the Capability Area Manager undertake method development of new techniques, processes and equipment; and implementing and assessing the effectiveness of improvements.
- Establish networks and collaborations with tritium analysis groups both within Australia and internationally and develop knowledge of world-wide best practice and technological developments in the field of tritium analysis via enrichment and scintillation counting.
- As a team member, contribute to the success of the ITNS group in meeting its strategic goals, by participating in meetings, sharing new ideas, completing administrative requests in a timely manner and other activities which may arise with limited notice.
- Undertake additional duties as required and during period of leave of other staff

Decision Making – Band 3

- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NST strategy and ITNS Business Plan provide the context for the position.
- The position is accountable for the accuracy, integrity and quality of the content of advice provided to users and staff and is required to ensure that decisions are based on sound evidence. Guidance from the Tritium Facility Officer or Capability Area Manager must be sought whenever an issue/topic first arises.
- Determine daily work priorities with guidance from the Tritium Facility Officer within the context of agreed work plans and will consult with the Capability Area Manager on complex, sensitive and major issues that have a significant impact on tritium analysis within ITNS.
- 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).

Decision Making – Band 4

- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NST strategy and ITNS Business Plan provide the context for the position.
- The position is accountable for the accuracy, integrity and quality of the content of advice provided to users and staff and is required to ensure that decisions are based on sound evidence. Guidance from the Tritium Facility Officer or Capability Area Manager should be sought for more complex issues.
- Determine daily work priorities autonomously within the context of agreed work plans and will consult with the Capability Area Manager on complex, sensitive and major issues that have a significant impact on tritium analysis within ITNS.

- 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 degree to which these challenges are managed by the role holder is dependent on their experience and abilities, in line with their Band.

The major challenges for this position include:

- Keeping abreast of recent developments in field, ensuring continual improvement and implementation of best practice.
- Together with the Tritium Facility Officer and/or Capability Area Manager managing conflicting priorities and urgent deadlines with short notice across all ITNS laboratories.
- Together with the Tritium Facility Officer and/or Capability Area Manager meeting needs of multiple stakeholders and adjusting work plans and processes, to meet user expectations.
- Ensuring compliance with WHS and ISO9001 requirements

KEY RELATIONSHIPS

Who	Purpose
Internal	
ITNS Capability Area Manager (Line Manager)	<ul style="list-style-type: none"> • Receive guidance and direction • Provide regular updates on key tasks, issues & priorities • Provide expert, authoritative and evidence-based advice • Provide information on capital equipment • Submit orders for the purchase of non-capital equipment
Tritium Facility Officer	<ul style="list-style-type: none"> • Discuss and agree on daily - yearly work priorities and schedules. • Provide daily-weekly updates on the status of analyses • Receive guidance & training on techniques that are new to the position holder • Receive guidance and training on difficult or unusual samples • Receive guidance and training on advanced instrument maintenance.
Work area team members (B21 tritium lab staff)	<ul style="list-style-type: none"> • Receive and provide data on the status of the work environment. • Discuss and agree on daily - yearly work priorities and schedules. • Contribute to group decision making processes, planning and goals. • Collaborate and share accountability • Negotiate and resolve conflicts
ITNS Platform Staff	<ul style="list-style-type: none"> • Contribute to group discussions, decision making processes and planning. Participate in meetings, share information and provide input on issues. • Collaborate and share accountability
External	
Suppliers	<ul style="list-style-type: none"> • Organise the timely purchase and delivery of consumables and other non-capital equipment. • Obtain information relating to the purchase, upgrade or repair of capital equipment.
Facility users from universities, industry,	<ul style="list-style-type: none"> • Assist applicants to provide all visiting users with a safe and productive experience during their time at ANSTO.

national and international research organisations.

POSITION DIMENSIONS

Staff Data

Reporting Line	Reports to the ITNS Capability Area Manager
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2022/2023)

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 Frequent travel to ANSTO sites within Australia Infrequent travel both internationally and nationally May be required to undertake field work in remote locations from time to time
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Standing for long periods Laboratory 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
Radiation and Hazardous chemical areas:	May be required to work in radiation areas under tightly regulated conditions May be required to 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
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements Maybe required to obtain and maintain appropriate federal government clearance

Workplace Health & Safety

	All Workers
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Specific role/s as specified in <u>AG-2362</u> of the ANSTO WHS Management System	May be required to undertake one or more of the specified roles within the context and course of their duties
	<ul style="list-style-type: none"> • Area Supervisor • Building Warden • Contractor Supervisor • Designated First Aid Officer
	Health and Safety Committee Member
	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

Band 3

1. Diploma in Chemistry or Laboratory Technology, or equivalent (Essential)
2. At least 2 years practical experience working within a chemical laboratory. (Desirable)
3. Practical knowledge and experience in analytical data calculations (Desirable)
4. Strong focus on maintaining attention to detail whilst meeting deadlines (Essential)
5. Experience in operating scientific software for data acquisition and data processing. (Desirable)
6. Demonstrated ability to work under limited supervision, and take initiative in responding to changing priorities and deadlines (Essential)
7. Demonstrated ability to follow policy, procedures and guidelines.
8. Experience in operating within laboratory quality and safety requirements
9. Interpersonal and communication skills including technical writing skills, with the ability to interact and communicate clearly, develop and maintain productive working relationships.
10. Desire to establish productive relationships.
11. Desire to prepare analytical reports and data interpretation.
12. Desire to prepare and maintain quality documentation and analytical records.

Band 4

1. Degree in Chemistry or related field or demonstrated equivalent experience (e.g. TAFE tertiary qualification and extensive experience in scientific field). (Essential).
2. Practical analytical laboratory experience including operating and maintenance of instrumentation. (Essential).
3. Practical knowledge and experience in analytical data calculations (Essential).
4. Strong focus on maintaining attention to detail whilst meeting deadlines (Essential).
5. Experience in operating scientific software for data acquisition and data processing. (Essential)
6. Ability to prepare analytical reports and data interpretation.
7. Demonstrated ability to work under limited supervision, and take initiative in responding to changing priorities and deadlines (Essential)
8. Experience in preparing and maintaining quality documentation and analytical records.
9. Demonstrated ability to follow policy, procedures and guidelines.
10. Experience in operating within laboratory quality and safety requirements
11. Interpersonal and communication skills including technical writing skills, with the ability to interact and communicate with a varied and multidiscipline audience, develop and maintain productive working relationships. Experience with basic training and supervision of others in the use and application of relevant analytical techniques.

Linked Role Transition

Transition to the higher band within the linked role is not automatic and ability to perform Band 4 accountabilities will need to be demonstrated and assessed. This can be done by completing the attached form and completing a full written submission demonstrating and justifying how an employee meets the transition requirements.

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:	Robert Chisari	Name:	Cath Hughes
Title:	ITNS Capability Area Manager	Title:	Acting Leader, ITNS
Signature:		Signature:	
Date:		Date:	

Tritium Laboratory Technician (PD-XXXX)

Band 3 to Band 4 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 a tritium Laboratory Technician (Band 3) or b) Minimum 4 years equivalent experience	<input type="checkbox"/> Yes <input type="checkbox"/> No
Degree (BSc or BSc (Hons)) in Chemistry or Environmental Science, or Tafe Certificate with extensive laboratory experience	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated ability to independently and responsibly perform Band 4 responsibilities and apply required knowledge, skills and experience for the Band 4 position including:	
Undertake Band 3 accountabilities at a technically proficient level and independently with minimum supervision or guidance.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrate ability to undertake the daily operation and intermediate-level maintenance of the instrumentation routinely utilised for tritium analysis in ITNS laboratories.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated ability to contribute to the revision and updating of compliance documentation and processes, including quality control and safety documents as part of the process of continual improvement in safety, quality and efficiency within the Tritium Laboratories	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated ability to recognise issues with instruments and/or software and undertake necessary troubleshooting at an intermediate to advanced level to ensure minimal down time	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated ability to provide detailed technical information on sample processing methods, scheduling, and sample outcomes to internal and external customers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated ability to occasionally undertake select additional duties for short periods of time when senior staff are absent.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated ability to provide training on methods and techniques to inexperienced laboratory users and visiting students.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated ability to arrange maintenance work in the event of breakdowns to equipment and facilities.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated ability to prioritise, plan and schedule sample preparation and analysis in consultation with Tritium Facility Officer (or delegate).	<input type="checkbox"/> Yes <input type="checkbox"/> No

Demonstrated commitment to a sustained proactive work ethic, by assisting others to meet deadlines or finish tasks in times when there is spare capacity.	<input type="checkbox"/> Yes <input type="checkbox"/> No
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Attach written submission demonstrating and justifying how the employee meets each of the above requirements.

VERIFICATION

Manager Recommendation

I have reviewed the employee's competence in accordance with Linked Role PD- XXXX and certify that the employee meets all requirements for transition and recommend transition from Band 3 to Band 4 be endorsed as demonstrated in the attached written submission detailing how the employee meets each of the requirements.

Name & Title:	
Signature:	
Date:	

Leader, Isotope Tracing in Natural Systems

I have reviewed all information and approve transition from Band 3 to Band 4

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

Appendix 1

ANSTO Job Families
Accounting & Finance
Administration
Communications & Marketing
Compliance & Regulation
Engineering and Technical
Human Resources
ICT & Digital Solutions
Information & Knowledge Management
Legal
Manufacturing
Monitoring & Audit
Operations
Organisational Leadership
Project & Program
Research
Science
Security & Intelligence
Senior Executive
Service Delivery
Strategic Policy
Trades & Labour