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1. Purpose

The purpose of this Safety Management Plan is to outline the safety management arrangements that are in place within ANSTO Nuclear Medicine (ANM) facility (Building 88 at Lucas Heights Science and Technology Centre and the Building 2 QC Active laboratory to manufacture and test Sodium Molybdate [Mo99] (Fission) Solution, which is used as the active pharmaceutical ingredient (API) in Technetium-99m generators and exported overseas to other suppliers.

This plan should be read in conjunction with the other plans and supporting documents comprising the operating licence application, specifically Q-50083 Radiation Protection Plan (1), Q-50086 Emergency Plan (2) and Q-50081 Effective Control Plan (3).

2. Scope

The scope of this plan includes all safety and licencing requirements in accordance with the ARPANS legislation and the ANSTO safety arrangements. It specifically covers the safety arrangements referred to in the ARPANSA licensing guidelines (4) relating to the review of plans and arrangement.

3. Definitions

The following definitions have been used in this document:

- **ALARA:** As low as reasonably achievable
- **ANM:** ANSTO Nuclear Medicine
- **ANSTO:** Australian Nuclear Science and Technology Organisation
- **ARPANS:** Australian Radiation Protection and Nuclear Safety
- **ARPANSA:** Australian Radiation Protection and Nuclear Safety Agency
- **ASNO:** Australian Safeguards and Non-Proliferation Office
- **ASOC:** ANSTO Security Operations Centre
- **CAPA:** Corrective and Preventative Action
- **CEO:** Chief Executive Officer
- **CSCF:** Central Safety Coordinating Forum
- **ECWHSE:** Executive Committee – Work Health Safety & Environment
- **EOP:** Emergency Operating Procedure
- **ERT:** Emergency Response Team
- **HAZOP:** Hazard and Operability Study
- **HVAC:** Heating, Ventilating and Air Conditioning
- **LHSTC:** Lucas Heights Science and Technology Centre
- **LMS:** Learning Management System
- **Mo-99:** Molybdenum-99
- **OLC:** Operating Limits and Conditions
- **RAC:** Reactor Assessment Committee
- **SAC:** Safety Assurance Committee

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- **SAP:** Business Enterprises resource planning software
- **SAR:** Safety Analysis Report
- **SLA:** Service Level Agreement
- **SOP:** Standard Operating Procedure
- **RAC:** Reactor Assessment Committee
- **SSC:** Systems, structures and components
- **SWMES:** Safe Work Method and Environmental Statement
- **WHS:** Work Health and Safety
- **WHSE:** Work Health & Safety and Environment
- **WHSMS:** Work Health and Safety Management System

4. Responsibility

ANM Pty Ltd, as the licence applicant, has responsibility for the safe management of the facility. The ARPANSA operating licence will be issued to the CEO of ANSTO, whom will nominate the ANM General Manager as the licence nominee via the ANM Board. The responsibility for safe management of the facility is delegated by the CEO to the General Manager of ANM via the ANM Board. Under this arrangement, the General Manager has overall responsibility for the maintenance and safety of activities undertaken in the facility at all times, consistent with ANM Pty Ltd policies and general arrangements.

The General Manager is responsible for implementing the Safety Arrangement Plans. The General Manager delegates actions to the ANM Operations Manager, whom is responsible for planning and managing resources to ensure the safety of the facility. All personnel are responsible for safety, with co-ordination and monitoring provided by the ANM High Reliability Officer. Services are provided by ANSTO Work Health and Safety and ANSTO Nuclear Services, Radiation Protection.

ANM has service level agreements with ANSTO HR & WHS Division and Radiation Protection Services, whom are responsible for providing various services to support the safe operations of the ANM Mo-99 Facility and Building 2 QC Active Laboratory.

5. Safety Policy and Objectives

ANSTO Nuclear Medicine undertakes its operational activities in compliance with the ANSTO Work Health & Safety Management System (WHSMS) which is made up of Standards and Guides that support ANSTO's Work Health & Safety and Environment (WHSE) Policy. The key safety objectives are detailed in ANSTO Safety Strategy (5).

ANSTO has a core value relating to safety, security and environmental sustainability – safeguarding human health, ensuring high priority to safe and secure operations, and minimising our environmental footprint. Following from this, ANM is responsible for the safety of its workers as outlined in the ANSTO Work Health & Safety and Environment Policy. ANM operates in compliance with ANSTO Work Health and Safety Management System (WHSMS) which implements the safety requirements of the safety strategy and WHSE policy. The WHSE policy and WHSMS are readily available to and accessed by workers on the ANSTO intranet and are subjected to regular assurance activities.

The AS-2310 Radiation Safety Standard (6) has defence-in-depth as a main strategy committing 'Radiation Safety Training of Staff' as one of the in-depth defensive measures. Through the realisation of the radiation protection objectives, ANM is committed to enabling a positive safety culture that guides the attitudes and behaviour of all individuals. To achieve this, ANSTO ensures sound management practices; good engineering and laboratory

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practices; attention to quality assurance, training and qualification of personnel across all business areas, including safety; implementation of a comprehensive safety assessment, monitoring and review system; and feedback from lessons learned from experience and research.

An important aspect of safety culture is that people have a questioning attitude and adopt a rigorous and prudent approach to work incorporating conservative decision making. Appropriate training and awareness instilled by safety briefings, toolbox talks, safety inspections and use of the STAR (Stop, Think, Act, Review) principle all encourage a positive safety culture.

Another aspect important to safety culture is that the implementation of the Safety Strategy is not subjected to inappropriate commercial pressures. There is clear separation between ANSTO's safety approval processes and commercial decision-making processes. The ANSTO Safety Assurance Committee (SAC) holds responsibility and authority for granting safety approvals.

Effective communication, consultation and cooperation are central to providing a positive safety culture. There are effective consultation mechanisms with workers including the Central Safety Consultative Forum, the Work Health and Safety Committees and the Health and Safety Representatives. All committees have terms of reference set out in the WHSMS. Safety issues and lessons learnt are communicated to workers through various ways such as meetings, forums, toolbox talks, the intranet and other correspondence such as emails. Feedback to management occurs both formally and informally, through line management and the Facility Officer. Management review includes summary reports, trend analysis and evaluation of all safety aspects at senior management level. Toolbox talks and regular worker meetings communicate lessons learnt in safety.

At the organisation level, ANM is actively involved in the surveys on safety culture conducted by ANSTO. The HR & WHS Division provides monthly WHS reports to senior management. ANM is included in these reports under a service level agreement.

Safety indicators are used to improve operational and safety performance within the ANM Quality Management System. Some of the safety indicators include; number of events, types of events, lost time and lost shift injuries, number of opportunities for improvement identified, number of corrective actions closed out, and number of safety and/or housekeeping inspections conducted.

Responsibilities for various aspects of safety and environmental review are distributed amongst the different committees: ANSTO Work Health Safety & Environment Executive Committee, Safety Assurance Committee (SAC), Central Safety Consultative Forum (CSCF) and the Reactor Assessment Committee (RAC). Formal follow-up arrangements are in place to ensure that risks and issues identified through the review process are appropriately prioritised and resolved.

Any worker can recommend changes to the documents by notifying the custodian using the AF-2533 Safety Document Feedback Form (7) or a review of the documents can take place in line with the Audit Program for the WHS Management System. Changes to the WHS Standards and Guides may be initiated by the custodian if new information becomes available or there are changes to legislation, Australian Standards or ANSTO processes.

WHS Standards and Guides must be reviewed at least every 3 years, or earlier if required.

6. Monitoring and Measurement

ANM follows the ANSTO incident reporting process, AG-2372 Event Response Process (8). All events/incidents including near hits that occur at ANM that affect or have the potential to affect the health and safety of an ANM worker, ANSTO workers are to be reported via the ANSTO Event Management System. WHS Events Investigations must be completed within the defined timeframes as per the AG-2372 Event Response Process (8) and AG-2375 Event

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Investigations (9), the root cause of the event/incident must be determined and corrective actions must be put in place to prevent the event/incident from recurring.

Event reporting includes:

- Abnormal occurrences relating to radiation contamination or dose
- Events arising from the operation and use of ANSTO's and ANM's Controlled Apparatus, Controlled Material and Controlled Facilities. (Controlled material includes radioactive material)
- Accidents and incidents, including near hits, whether work related, sustained whilst undertaking an endorsed sporting activity during an approved break, or travel for the purpose of work
- Events with the potential to affect the environment

Initial Response and Notification

When an event/incident, including a near hit, occurs, it is immediately reported to the Work Health and Safety team and local management within 24 hours, and must as soon as possible through the ANSTO Event Management System.

The process for reporting to ARPANSA is described in AG-5445 Guide on ARPANSA Requirements (10) in compliance with ARPANSA Regulation 46: Reporting an Accident (11). This requires reporting of any accidents involving a significant failure in the safety provisions within 24 hours (by phone and emailing completed ARPANSA Accident Notification Form) and a written investigation report within 14 days.

Any incidents which are serious, critical or dangerous in nature, including death or serious injury/illness, must be reported to the safety regulator following ANSTO processes (12).

Investigation and Recommendation of Actions

All events are actioned by the appropriate ANSTO work area (Work Health and Safety team, Radiation Protection Services, Security & Safeguard and Environment), reviewed and rated according to the event severity based on the following:

- Low significance events are notification only and are recorded for trending purposes
- Minor, moderate, major or severe events require investigation following the ANSTO process.

A competent worker conducts an investigation into the event, which may be the Supervisor/ Line Manager or delegate. The investigator is to ensure that the Event Investigation is completed, including identifying direct, contributory and root causes (refer to AG-2375 Event Investigation (9)), and later reviewed as appropriate by the line manager or investigator prior to sign-off by the relevant authority. Where issues and actions are identified/developed and agreed upon during the investigation, this information is entered into the ANSTO event management system which is monitored and updated with progress notes and closed when completed.

Reports such as Health Physics surveys or contamination reports for radiological incidents, medical reports for injury information or specialised technical reports may be requested to assist with the investigation of an event.

ANM has a service level agreement with HR & WHS Division, who is responsible for the maintaining of event reports and associated records. These records contain information on the incident, the follow-up investigation reports and summary information on any injuries. The Work Health and Safety Team provide data analysis, trending and event reports. They collate, analyse and interpret work, health and safety and other related data and develop comprehensive reports and recommendations. This includes providing monthly WHS reports to senior management including the General Manager, ANM. WHS monthly reports include the

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number of events raised, whether they are closed or remain open/outstanding, event type, event severity, lost time and lost shift frequency, and feedback to divisions on safety training and housekeeping inspections. These reports are used to assist management make informed decisions with regards to strategic HR&WHS directions and improvement programs.

In the case of an accident or injury, the emergency arrangements described in the Q-50086 Emergency Plan (2) are invoked. These provide for an initial response and progressive support from radiation and safety specialists and, if required, external emergency services. The event response process includes reporting and follow-up.

The procedures undertaken are audited to ensure that the operations have been carried out in compliance with the processes and systems that are in place (refer Section 9).

The ANSTO BMS is certified to ISO 9001:2008 systems and ISO 14001:2014 system. It is important to ensure there is appropriate reporting and retention of records. The requirements for safety records and reporting are summarised in the AG-2372 Event Response Process (8) and AG-2375 Event Investigation (9). General requirements for safety records are detailed in AR-1477 ANSTO Records Management Process (13) and AR-1041 ANSTO Management System Controlled Document Process (14), outlining the storage locations, retention periods and responsibilities for maintaining the records.

7. Risk Management and Mitigation

ANSTO Nuclear Medicine adheres to the requirements of the WHS Act 2011 (15) including the identification and control of risks. Specifically the WHS Regulations 2011 (16) require taking appropriate steps to identify all reasonably foreseeable hazards and risks arising from work which may affect the health, safety and welfare of workers and other persons working for or at ANM.

ANM is responsible for identifying the hazards and assessing and controlling the associated risks and recording this in relevant documentation including SAC submissions, safety assessments and SWMES as required.

All events are reported as per the ANSTO WHS event reporting and investigation process outlined in AG-5445 Guide on ARPANSA Requirements (10), AG-2372 Event Response (8), and AG-2375 Event Investigations (9), as described in Section 6: Monitoring and Measurement. The severity of the events is rated according to AG-2373 Event Response Matrix (17). Action plans/control measures are identified and analysis of the risk associated with the health and safety of workers, the environment and the public is conducted.

Trending of events by the WHS team provides collective data of each individual incident allowing for the identification of recurring issues. Corrective actions are implemented to mitigate future recurrences.

Risk management assists ANM decision makers to make informed choices, prioritise actions and distinguish alternative courses of action. Implementing appropriate controls to mitigate risks ensures that resources and efforts are maximised to address issues that have the potential to have the greatest impact on safety, product quality and the business.

Risk assessment is conducted in compliance with the AE-2301 Work Health & Safety Risk Management Standard (18). The process follows the AG-2390 Hazard Identification and Risk Assessment Guide (19) and P-50005 ANM Risk Management Procedure (20).

Risk assessment tools used include, but are not limited to:

- Hazard Operability Analysis (HAZOP)
- Preliminary Hazard Analysis (PHA)
- Failure Mode Effects Analysis (FMEA)
- Failure Mode, Effects and Criticality Analysis (FMECA)
- Fault Tree Analysis (FTA)
- Risk Ranking and Filtering

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- Supporting Statistical Tools
- The ANSTO Risk Analysis Matrix

The steps for conducting a risk assessment in consultation with stakeholders include:

- Hazard identification – analysed for likelihood and consequence
- Determine inherent risk
- Identify and implement controls
- Determine residual risk
- Review risk assessment
- Accept residual risk
- Close risk assessment

All workers are adequately trained in the risk management procedures AG-2390 Hazard Identification and Risk Assessment Guide (19) and P-50005 ANM Risk Management Procedure (20).

The risk owner designated to conduct a risk assessment as stated in the P-50005 Risk Management Procedure (20), should coordinate a group consisting of all the stakeholders potentially impacted by the issue being assessed such as persons associated with the issue/operation, a supervisor of the area, and other technical experts as required, such as the Health and Safety Representative (HSR), ANSTO System Safety and Reliability (SSR) and WHS staff and/or external specialist(s) in the field.

P-50005 ANM Risk Management Procedure (20) and AG-2390 Hazard Identification and Risk Assessment Guide (19) describe the step by step process for identifying hazards and associated risks and using AG-2395 Risk Analysis Matrix (21) to determine the risk rating and action plans/control measures. The principle of hierarchy of control is followed to control hazards and to minimise the risks to as low as reasonably practicable (ALARP). Action plans/control measures are assigned to responsible personnel to be implemented. Where the residual risk is medium or above, further controls will be identified to lower the risk to an tolerable level. Where a risk assessment is considered acceptable, the risk assessment is closed by the High Reliability Officer. On-going risk assessments must be reviewed periodically as per the P-50005 Risk Management Procedure (20), to determine if the action plans/control measures in place remain adequate. Status and trends of the risk assessments are reported in management reviews to monitor the effectiveness of the controls to adequately reduced risk.

The ANM Risk Register records information such as risk assessment number, date issued, risk owner, risk source reference, date approved, date closed, review date and risk status. The action plans/control measures arising from risk assessment are entered into appropriate tracking system which includes change control, CAPA and ANSTO event management system.

Action plans are in place for postulated incidents where deviations from the expected outcome may occur. Analysis of postulated incidents is documented in the Q-50098 Safety Analysis Report (SAR) (22) and includes P-50099 ANM Operating Limits and Conditions and P-50100 Safe and Secure Operations (23). As per ARPANS Regulations (11), the established OLCs are mandatory and must be complied with at all applicable times. OLCs are identified through examination of the systems, structures and components (SSC) based on the methodology presented in the ANSTO/T/TN/2008-11 Rev 1: Guidance on Categorisation of Structures, Systems and Components (24) and IAEA Safety Standards, Operational Limits and Conditions and Operating Procedures for Research Reactors, Safety Guide (25). Actions are in place for the OLCs if the operational limits and conditions are not met.

ANM Safe and Secure Operations, P-50100 incorporates the range of emergencies that could potentially occur, including some of covers the range of incidents and emergencies from common events with no safety consequences to more significant events with extremely low

likelihoods. The procedure addresses the subsequent actions that would be necessary before restarting operations. The events incorporated into the procedure include radiological incident, airborne emissions from the facility, ventilation failure, building fire, cell or SIAM filter fire, a health-related event affecting a staff member, radiological or chemical spills, transport event and recovery of process. The investigation of events is detailed in Section 6.

The hazards within the ANM Mo-99 facility and Building 2 Active Laboratory are identified and assessed in accordance with the WHS Management System. Safety analyses are performed for all potentially hazardous activities, in accordance with the Safety Management System. The identification of hazards is conducted following the ANSTO WHSMS procedures, AG-2390 Hazard Identification and Risk Assessment Process (19) and AG-2397 Safe Work Method & Environmental Statement (SWMES) Booklet (26). Identified risks are eliminated or mitigated through the use of the hierarchy of controls (27).

Activities within ANM are undertaken in accordance with local procedures. For non-routine activities, a SWMES will be prepared in consultation with Radiation Protection Services, WHS Advisors, the ANM High Reliability Officer, and other stakeholders where identified (AG-2397 Safe Work Method & Environmental Statement Booklet (26)). Workers undertaking any activities within ANM are required to demonstrate their knowledge of the hazards and safety controls. The workers are also involved with; preparation of SWMES, document review and sign-off. The SWMES process ensures that workers are aware of the radiation and other hazards and controls implemented in the area. This is reinforced by regular toolbox safety talks with the work groups or prior to specific hot commissioning and maintenance work.

The main radiation hazards during commissioning and operation are presented in the ANSTO/T/TN/2013-12 rev 2 ANM Safety Assessment (28) document and summarised in the Q-50098 Safety Analysis Report (22).

8. Change Management

The ANM Change Management System has been designed for the efficient management of change in compliance with requirements of regulators, such as the Therapeutic Goods Administration, ARPANSA and ASNO, and Standards Certification for ISO 9001 and 14001.

P-50003 Change Control Procedure (29) describes the management and evaluation of all proposed changes that affect the holistic safety, production, control and validated status of the active pharmaceutical ingredient manufactured by ANSTO Nuclear Medicine which can impact the product quality, regulatory compliance, radiological or nuclear safety, or WHS and the environment. The procedure includes steps for identifying, recording, review and approval of all proposed changes.

A preliminary assessment of risk is part of the change assessment process. A full risk assessment may be triggered, particularly for changes to safety systems, structures and components. The outcome is used to determine if a change is critical or lower-impact planned change. Type of changes includes critical change, planned change, like for like change or other change. The change control procedure steps are as follows:

- Registration of Change Control
- Identification of the change
- Proposed change request and justification
- Consultation, evaluation, assessment and approval to proceed
- Alterations to an approved change
- Approval to implement
- Implementation
- Verification and closure

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All changes are formally requested, documented and accepted by representatives of Quality Manager, Production, QC/QA, Engineering and Regulatory Affairs as appropriate. The likely impact (risk assessment) of the change on the quality and safety should be evaluated. The change control system should ensure that all notified or requested changes are satisfactorily evaluated, documented and authorised.

The need and objective for change are identified following an event investigation, audit finding, validation deficiency/deviation, corrective and preventive action (CAPA), product quality review, stability study, new process/equipment, new regulatory requirement, trend analysis or non-conformance.

AG-2375 Event Investigations (9) and the CAPA systems are used for root cause analysis and assessment of the best available option to be proposed for change. The suitability of the proposed option is further assessed in the evaluation and assessment of the change. The safety benefits, detriments and risks of the change are evaluated by considering validity of the change, customer impact, radiation safety and therapeutics regulatory impact, engineering safety, work health and safety impact, environmental impact, validation status impact, impact on product stability, impact on associated documentations and training requirements.

A plan for the change actions and implementation is developed together with the required documentation which is verified and approved for implementation by the Quality Manager or delegate. The officer responsible for the change provides evidence of the implementation of the change for review and verification by the Quality Manager or delegate. When all actions for the change are complete and verified, the Change Control Request is formally closed out.

The Systems Officer maintains the Change Control Register, reviews and follows up status of change controls and provides monthly reporting of the change control system.

9. Learning and Continuous Improvement

Learning and continuous improvement are achieved through audit and review of both the safety management system and the implementation of the system in the work areas as documented in the WHSMS. The HR & WHS Division maintains its procedures and conducts regular management reviews and audits of the WHS systems and procedures (which include Radiation Protection Services and Health & Safety Section). In addition, the ANM Quality System requires routine audits and review of the systems in place.

The radiation protection arrangements are described in Q-50083 Radiation Protection Plan (1). The effectiveness of this plan will be monitored by Radiation Protection Services and ANM management, taking into account any incident reports.

Regular planned workplace safety inspections allow the General Manager and Line Managers to identify and address hazards and to monitor implemented control measures and local procedures. This is conducted according to AG-2432 Workplace Safety Inspection (30), where an inspection schedule is prepared with inspection frequency according to the severity of the risk and/or type of hazards involved. In an area of specific hazards, a checklist will be developed. Any areas/issues found to be unsatisfactory undergo changes to bring them to a satisfactory level. The workplace inspections are documented and reviewed by the General Manager/Line manager or delegate who monitors that the corrective actions have been identified and completed.

To ensure a sustained improvement in housekeeping, inspections are conducted regularly using the Housekeeping Inspection Scorecard (30). These are inspections of all areas of responsibility involving each of the Supervisors/Managers and Area Supervisors as well as managers from other divisions in at least 25% of the inspections. The inspection score for each area is reviewed as per AG-2432 Workplace Safety Inspection (30).

Non-conformances found in ANM processes and products are addressed in accordance with the P-50007 Non-conformance, Corrective and Preventive Action procedure (31). This

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procedure provides the process for corrective and preventive action and ensures continuous improvement. Any improvement identified in this process will be implemented as required.

Product quality reviews will be conducted annually with the objective of verifying the consistency of the process for manufacture of active pharmaceutical ingredients (API) and provides comprehensive review of production, analytical and customer data associated with the manufacture of the API. Evaluation and assessment of the review will result in identifying corrective actions and recommendations for improvement. Product quality review is therefore an essential means of learning and continuous improvement.

Management reviews encompassing safety, quality and manufacturing are conducted regularly (P-50053 Management Review (32)). Further improvements are identified during the management review process.

The HR & WHS Division actively seeks customer feedback on satisfaction and suggestions for improvement in accordance to AR-1667 Customer Satisfaction Process (33). Various forms of feedback including surveys, questionnaires, emails and phones calls are gathered, analysed and considered in the HR & WHS Division management review (34). Corrective/preventive actions are identified for improvement opportunities.

10. Training and Education

ANM has its own comprehensive training procedure as documented in P-50009 Training Procedure (35). It follows the ANSTO processes for training and education under a service level agreement with ANSTO HR & WHS Division. The training processes collectively ensure that potentially hazardous work is performed by and supervised by properly authorised and qualified workers. This starts with the recruitment process for workers where selection is based on the technical and personal selection requirements for the role. The criteria include the qualifications, knowledge and experience appropriate for the work.

All ANM workers are assigned an individual training plan, comprising of curriculums that pertain to their required tasks/processes/roles based upon their job responsibilities. P-50009 Training Procedure (35) describes the elements of training system at ANM which include induction, work-specific area, on-going, refresher/remedial, job-change and competency based training. Supervisors regularly review the training compliance of workers and take relevant actions to ensure compliance is maintained. All workers must ensure that their training is kept current and can view the status of their training and curriculums via the Learning Management System (LMS). Managers can view relevant persons training status via the Manager Assess function in the online LMS. The training officer provides training metrics including gap analysis reports on an ongoing basis (monthly) to ANM Management Group, and on request. Training needs are regularly evaluated in accordance with P-50009 Training Procedure (35).

ANSTO's Nuclear Services workers play an important safety role. Health Physicists (HP) and Health Physics Surveyors (HPS) are recruited with the necessary knowledge, skills and experience or are trained and authorised within ANSTO. ANSTO Nuclear Services Division provides radiation training and regularly conducts refresher training courses to ensure staff competency when working in radiological areas.

The HR & WHS Division provides advice on conventional work health and safety and provides non-radiation safety training, including induction for workers and safety training for supervisory workers. An overview is given in AG-2363 Work Health and Safety Training Guide (36). The full list of courses and the retraining period requirements is given in AG-2364 Work Health and Safety Training Needs Analysis (37). The training requirements include courses on Contractor Supervisor Training and WHS Risk Management for Supervisors.

ANSTO Nuclear Services Division provides radiation safety training and radiation protection workshops to ANM workers under a service level agreement (refer to Q-50083 Radiation Protection Plan (1)). Any workers required to do specialised tasks are provided with task-specific training prior to their assignment to the job. It is the responsibility of the Line

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Management to identify and provide the WHS training required by their workers to ensure safe conduct associated with particular tasks, roles or areas. Workers must arrange, enrol, attend and maintain currency of their training needs in line with the requirements of their tasks, work area and role. A record of the training is maintained in the ANSTO Learning Management System. The training records are maintained in a database management system and this facilitates record retrieval and usage.

Any contractors engaged by ANSTO to complete a defined job over a specified period of time must be reviewed, arranged and supervised by a nominated and approved ANSTO Contractor Supervisor proportional to the level of risk the contractors work poses. The Contractor Supervisors must have identified and arranged for the contractors to complete Training courses as outlined in AG-2364 Work Health and Safety Training Needs Analysis (37) to enable correct authorisations and accesses to complete defined work including Contractor Safety Induction, Basic Radiation Safety and Worker Safety Toolbox Talk (relevant to their work).

11. Review Process

The safety management plan will be reviewed on an annual basis according to AG-3416 Reviewing Plans and Arrangements for ARPANSA Licences (38). Should the plans and arrangements need to be reviewed for a specific reason outside the annual review period, additional reviews will be scheduled. The review will be recorded and approval obtained from the facility Nominee.

12. References

1. Q-50083 ANM Radiation Protection Plan.
2. Q-50086 ANM Emergency Plan.
3. Q-50081 ANM Effective Control Plan.
4. Regulatory Guide: Plans and Arrangements for Managing Safety v5. ARPANSA, 2014.
5. ANSTO Safety Strategy.
6. AS-2310 Radiation Safety Standard.
7. AF-2533 Safety Document Feedback Form.
8. AG-2372 Event Response Process.
9. AG-2375 Event Investigations.
10. AG-5445 Guide on ARPANSA Requirements.
11. Australian Radiation Protection and Nuclear Safety (ARPANS) Regulations. 1999.
12. AG-2377 Reporting Notifiable Incidents to Comcare.
13. AR-1477 ANSTO Records Management Process.
14. AR-1041 ANSTO Management System Controlled Document Process.
15. Work health and Safety Act 2011.
16. Work health and Safety Regulation 2011.
17. AG-2373 Event Response Matrix.
18. AE-2301 Risk Management Standard.
19. AG-2390 Hazard Identification and Risk Assessment Guide.
20. P-50005 Risk Management Procedure.
21. AG-2395 Risk Analysis Matrix.
22. Q-50098 ANM Safety Analysis Report.
23. P-50100 Safe and Secure Operations.
24. ANSTO/T/TN/2008-11 Rev 1: Guidance on Categorisation of Structures, Systems and Components.
25. NS-G-4.4 IAEA Safety Standards, Operational Limits and Conditions and Operating Procedures for Research Reactors, Safety Guide.

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26. AG-2397 Safe Work Method & Environmental Statement (SWMES) Booklet.
27. AG-2407 Hierarchy of Risk Control Flowchart.
28. ANSTO/T/TN/2013-12 rev 2 ANM Safety Assessment.
29. P-50003 Change Control Procedure.
30. AG-2432 Workplace Safety Inspection.
31. P-50007 Non-conformance, Corrective and Preventive Action procedure.
32. P-50053 Management Review.
33. AR-1667 Customer Satisfaction Process.
34. AR-1006 ANSTO Management Review Process.
35. P-50009 Training Procedure.
36. AG-2363 Work Health and Safety Training Guide.
37. AG-2364 Work Health and Safety Training Needs Analysis.
38. AG-3416 Reviewing Plans and Arrangements for ARPANSA Licences.

END OF PLAN

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History			
Revision:	Prepared by:	Issue/Revision Summary:	Date:
0		New safety plans and arrangements document for ANM to support ARPANSA facility licence application.	02 / 03 / 2015
1		Update to document as per SAC assessment. Section 4: Update responsibilities. Section 5: Added in safety indicators Section 6: Inclusion of ANSTO response event system. Minor general updates.	27 / 07 / 2015
2		Included Building 2 QC Active Laboratory as part of the operations of ANM. General update referencing current ANSTO processes.	09/01/2017
3		Minor general updates	29/03/2017
Reviewers			
Name:		Position: Leader WHS Operations	Date: 30 /03/2017
Name:		Position: Manager, Government Affairs (Acting)	Date: 29/03 /2017
Name:		Position: Safety & Reliability Advisor	Date: 29/03/2017
Approval			
Name:		Position: Operations Manager	Date: 30 /03/2017
Name:		Position: General Manager	Date: 30 /03/2017
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END OF DOCUMENT			

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