



### IONISING RADIATION MANAGEMENT ACTION PLAN

<b>APPRAISALS AND REVIEWS</b> - Regular assessment of the effectiveness, suitability and acceptance of the management of ionising radiation safety on an informal basis			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Review the operation of the ionizing radiation management plan in consultation with the Department Radiation Officers on at least an annual basis	University Radiation Safety Officer Administrative Officer (Radiation)	At least annually	
Review the recording system, the University's legal obligations, and accountability at least annually	Administrative Officer (Radiation)	At least annually	
Review the audits, corrective actions, objectives and targets, legislative compliance, and incident data, and report the results to the University Radiation Safety Committee and the University OHSW&IM Committee	OHSW Services University Radiation Safety Officer Administrative Officer (Radiation)	At least annually	

<b>INSPECTIONS</b> - The Department Radiation Safety Officers will carry out regular inspections of the locations of ionising radiation work in their areas of responsibility			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Perform regular inspections of the locations of ionizing radiation work	Department Radiation Safety Officers	Each semester	
Ensure that the local rules as those relating to appropriate PPE, waste disposal practices and regular monitoring are obeyed	Department Radiation Safety Officers	Each semester	
Inspect records for the monitoring of X-ray apparatus and the purchase of unsealed radioactive material	Department Radiation Safety Officers, as appropriate	Each semester	



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<b>INTERNAL AUDITS</b> - To ensure continuing adherence to the University's policy and the management plan will be conducted in accordance with protocols agreed by OHSW Services.			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Audit ionizing radiation work carried out by the University Radiation Safety Officer including physical work and desk audit of records	Nominated Department Radiation Safety Officer	Annually	
Audits of the records maintained by the Administrative Officer (Radiation)	Independent OHSW Services Officer	Annually	
Provide reports of the internal audits on ionising radiation work carried out by the University to the relevant Line Managers, Department Radiation Safety Officers, University Radiation Safety Committee and OHSW Services	University Radiation Safety Officer	Annually	
Provide reports of the internal audits on ionizing radiation work carried out by the University Radiation Safety Officer to the relevant Line Managers, Department Radiation Safety Officers, University Radiation Safety Committee and OHSW Services	Nominated Department Radiation Safety Officer	Annually	
Internal auditors to carry out follow-up inspections where corrective action is needed to ensure compliance	<ul style="list-style-type: none"><li>• University Radiation Safety Officer</li><li>• Department Radiation Safety Officers</li></ul>	Annually	
If the University's holdings of depleted uranium, natural uranium, thorium and plutonium exceed the statutory minimum, an audit of the University's holdings of these materials is required.	University Radiation Safety Officer	Annually	



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<b>EXTERNAL AUDITS</b> - To ensure that those directly responsible for ionizing radiation safety in the University continue to maintain a high standard of management of the hazard of radiation and enable the University to demonstrate that it meets the appropriate standards in radiation safety			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
A biennial external audit of ionising radiation safety within the University	Radiation Protection Division, EPA	Every two years	The University Radiation Safety Officer to liaise with the Radiation Protection Division, EPA of the Environmental Protection Agency
An audit to be conducted when new apparatus is installed, a change in the work being done in a laboratory or other change of circumstances	Radiation Protection Division, EPA	As required	
An audit of stored radioactive waste is to be conducted and be available for the EPA as required	Radiation Protection Division, EPA Agency	Every two years	
Appoint external auditors to operate under an agreed protocol and with clearly identified objectives with reports directed to OHSW Services in the first instance.	OHSW Services	Every two years	
Provide external audit reports are to be to the University Radiation Safety Officer, relevant Line Managers, Department Radiation Safety Officers, University Radiation Safety Committee and the University OHSW&IM Committee	OHSW Services	Every two years	



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<b>RESEARCH INVOLVING THE RADIATION EXPOSURE OF HUMANS</b> – To strictly control the exposure of human subjects to ionizing radiation for the purposes of research (as distinct from diagnosis or therapy)			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Request explicit permission from the Radiation Protection Division, EPA, for every research project involving ionising radiation and humans	University Radiation Safety Officer	As required	
A copy of all research proposals involving human subjects and ionising radiation must be forwarded to the University Radiation Safety Officer and the Administrative Officer (Radiation).	Principal Research Investigator, University Ethics Officer	As required	

<b>PERSONAL MONITORING EXEMPTIONS</b> - The University is obliged to provide the means of determining the radiation dose to its radiation workers where a suitable method exists (Regulation 18). Many institutions in SA have obtained exemption from this regulation for particular workers.			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Applications for exemptions must be prepared by the University Radiation Safety Officer, and approved by the University Radiation Safety Committee and OHSW Services	University Radiation Safety Officer	As required	
If an exemption is obtained the situation must be audited to ensure that any conditions are complied with.	University Radiation Safety Officer	As required	
All copies of exemptions are to be forwarded to the Administrative Officer (Radiation) for recording purposes	University Radiation Safety Officer	As required	



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<b>TRAINING</b> - Radiation workers must receive training appropriate to their use of ionizing radiation.			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
All radiation workers must receive training in the elementary principles of radiation safety and ALARA (As Low As Reasonably Achievable)	University Radiation Safety Officer	2004	
All radiation workers must receive training relating to the University Policy relating to ionizing radiation	University Radiation Safety Officer	2004	
All radiation workers must receive training relating to the University Radiation Management Plan	University Radiation Safety Officer	2004	
All radiation workers must receive training relating to the University Radiation Safety Manual	University Radiation Safety Officer	2004	
All radiation workers must receive training relating to the SA Radiation Protection and Control Regulations	University Radiation Safety Officer	2004	
Radiation workers to be provided with detailed instruction in procedures and operations relevant to the work being carried.	Supervisors of radiation workers Department Radiation Safety Officers	As required	
The University should develop web-based radiation safety training material to be used in addition to formal training Sessions.	University Radiation Safety Officer OHSW Services	2004	



### IONISING RADIATION MANAGEMENT ACTION PLAN

<b>WORK AT OTHER INSTITUTIONS - Premises in another institution that are occupied by the University.</b>			
The University Policy on the use of ionising radiation sets the minimum standards that must apply when staff or students are working at another institution.			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
UniSA has the responsibility for the training, registration, and licensing (where required) of staff and students using ionising radiation where the UniSA occupies or leases a laboratory or other area in an institution or hospital	University Radiation Safety Officer Department Radiation Safety Officers	As required	
UniSA has the prime responsibility for registering the premises in which unsealed radioactive materials are used when the University is the occupier of the premises.	University Radiation Safety Officer Department Radiation Safety Officers	As required	
The University must provide the owner of the premises with the names of the registered radiation workers and details of the licenses of members of the university using the premises	University Radiation Safety Officer Administrative Officer (Radiation)	As required	
The University must provide the owner of the premises with details of the registration of the premises	University Radiation Safety Officer Administrative Officer (Radiation)	As required	
The University must provide the owner of the premises with details of registered apparatus or sources registered by the University and used in the other institution	University Radiation Safety Officer Administrative Officer (Radiation)	As required	



### IONISING RADIATION MANAGEMENT ACTION PLAN

<b>WORK AT OTHER INSTITUTIONS - University staff and students working in the premises of another institution</b>			
The University Policy on the use of ionizing radiation sets the minimum standards that must apply when staff or students are working at another institution.			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
The occupier of premises in which work with ionising radiation is carried out by staff or students of our university, will provide the University Administrative Officer (Radiation) with details of the registration of the premises	Department Radiation Safety Officer	As required	
The occupier of premises in which work with ionising radiation is carried out by staff or students of our university, will provide reports of all radiation incidents and accidents, involving our staff or students, according to the rules of the institution, to the University Radiation Safety Officer and the Administrative Officer (Radiation)	Department Radiation Safety Officer	As required	

<b>STORAGE</b> The potential use of radioactive materials in acts of terrorism requires the University to pay particular attention to the security of radioactive material			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
The University must develop a security policy for sealed sources that addresses the potential threat. The policy must take into account the storage of long-lived radioactive waste for which currently no disposal pathway exists in SA.	University Radiation Safety Officer Radiation Safety Committee	2004	Why a separate policy for sealed sources? Or is this part of a General Security Policy?

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<b>NUCLEAR MATERIALS</b> Ensure accountability required by the Australian government for nuclear materials. Australia's adherence to the Nuclear Non-Proliferation Treaty (NNPT) is administered by the Department of Foreign Affairs and Trade (DEFAT) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Identify if a permit is required for the University's holdings of depleted uranium, natural uranium, thorium and plutonium. If the University's holdings exceed the statutory minimum, the University should apply for a permit.	University Radiation Safety Officer Administrative Officer (Radiation)	2004	
<b>RADIOACTIVE SPILLS:</b> Any loss of control of radioactive material is an abnormal situation and spills will produce contamination of laboratory benches and equipment, and in more serious cases, the floor and people.			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Ensure that radiation workers are trained in how to deal with radioactive spills and in relevant remedial actions	Department Radiation Safety Officers	2004	
Ensure that spill kits are available in registered laboratories.	University Radiation Safety Officer Department Radiation Safety Officers	2004	
<b>RADIATION INCIDENTS:</b> These are situations in which a source of ionising radiation is temporarily out of control but no significant dispersal of radioactive material takes place and no person receives a dose or an intake of material more than twice that likely in normal operations			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Ensure that radiation workers are trained in how to deal with radiation incidents and in relevant emergency actions	University Radiation Safety Officer Department Radiation Safety Officers	2004	



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**RADIATION ACCIDENTS:** A loss of control of a source of ionising radiation where control is not regained, or a significant dispersal of radioactive material takes place, or a person is likely to receive a dose or intake that is at least twice that normally received in the work with that source

ACTION	RESPONSIBILITY	TIME FRAME	PROGRESS/COMMENT
Ensure that radiation workers are trained in how to deal with radiation accidents and in relevant emergency actions	University Radiation Safety Officer Department Radiation Safety Officers	2004	

**RADIATION EMERGENCIES:** Radiation Emergency means a situation in which a source of ionising radiation is out of control to such an extent that the continued exposure of a person to excessive amount of ionising radiation while the source of ionising radiation remains out of control is unavoidable unless the normal functions or operations of the facility or place in which the source of ionising radiation is being used are grossly disrupted

ACTION	RESPONSIBILITY	TIME FRAME	PROGRESS/COMMENT
Ensure that radiation workers are trained in how to deal with radiation emergencies as described in the University Radiation Safety Manual and in relevant emergency actions	University Radiation Safety Officer Department Radiation Safety Officers	2004	



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<b>SEALED RADIATION SOURCE EMERGENCIES CATEGORY 1:</b> The source is temporarily "loose" from its proper housing or shielding but the dose to the operator is less than 500 $\mu$ Sv per hour (about 10 $\mu$ Sv per minute).			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Ensure that radiation workers are trained in how to deal with radiation emergencies and in relevant emergency actions	University Radiation Safety Officer Department Radiation Safety Officers	2004	

<b>SEALED RADIATION SOURCE EMERGENCIES CATEGORY 2:</b> The source cannot be returned to its proper storage configuration due to failure of mechanical or electrical actuators. This is a serious emergency			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Ensure that radiation workers are trained in how to deal with radiation emergencies and in relevant emergency actions	University Radiation Safety Officer Department Radiation Safety Officers	2004	



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<b>NEUTRON MOISTURE METER EMERGENCIES:</b> In the event of an accident or emergency in the field			
<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>TIME FRAME</b>	<b>PROGRESS/COMMENT</b>
Ensure that radiation workers are trained in how to deal with radiation emergencies and in relevant emergency actions in the event of a vehicle accident	University Radiation Safety Officer Department Radiation Safety Officers	2004	
Ensure that radiation workers are trained in how to deal with the mechanical breakdown of a meter in the field	University Radiation Safety Officer Department Radiation Safety Officers	2004	
Ensure that radiation workers are trained in how to deal with a lost or jammed probe down a borehole	University Radiation Safety Officer Department Radiation Safety Officers	2004	