

#### MINISTRY OF INDUSTRY, INVESTMENT AND COMMERCE

8 Rekadom Avenue Building 9, Bureau of Standards, Kingston 10 Tel: 876-632-4289, 876-618-5761 Ext: 3461-68

#### NUCLEAR SAFETY AND RADIATION PROTECTION APPLICATION FORM

Section 38 of the NSRP Act, 2015 states that "every person who engages or proposes to engage in a prescribed activity shall apply, subject to subsection (4) in the prescribed form and manner to the Authority for the appropriate authorization." HSRA may require additional information that it considers necessary to determine the application, (Section 38(3) of NSRP Act, 2015). To ensure compliance with the NSRP Act, 2015 and associated Regulations, the Authority has amended the NSRP Application Form that is found in the second schedule of the NSRP Regulations, 2019 to produce the form below.

**INSTRUCTIONS:** Kindly complete all applicable sections of this application form and submit to the HSRA along with a copy of receipt for fees paid, completed *Fit and Proper Questionnaire*, a certified copy of the legal operator's valid national ID and all supporting documents stipulated in the guidance document. Additionally, a *Declaration Form* is to be completed and submitted if radioactive material or nuclear material is being used on premises that are leased. For construction of new facilities that will use sources of Categories 1 and 2, an Environmental Impact Assessment (EIA) is also to be submitted.

For the purpose of this application;

"Radiation Source" means a radiation generator, a radioactive source or other radioactive material.

"Nuclear Material" means thorium, uranium or an element with an atomic number greater than 92; a derivative or compound of thorium, uranium or of an element with an atomic number greater than 92.

"Low Risk" in relation to any activity or practice means that the possibility of suffering harm from or loss due to exposure to ionizing radiation is low. See Appendix 1 for categorization and classification of sources.

**NOTE**: Processing of applications will not commence until the completed application form, proof of payment and all required documents have been submitted to the HSRA. Once all required documents have been submitted to the HSRA, the Applicant will receive a response from the Authority within **14 days** of receipt.

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 1 of 21
Reviewed by: Authorization Team Approved by: Director General



# **SECTION I: TYPE OF APPLICATION**

Nev	v Licence		Permit	
Nev	w Registration		Renewal	
Am	endment			
Cur	rent Authorizatio	n Number:		
Rea	son for Amendm	ent:		
SEC	CTION II: DET	AILS OF A	APPLICANT	
(Pro	ovide information	i for the org	anization tha	t is to be authorized.)
(a)	Name of Organia	zation:		
(b)	Mailing Address:	:		
	Telephone :			
(e) l	Email address: _			
SEC	CTION III: DET	TAILS OF	BUSINESS	
(a)	Type of Busines	ss:		
(b)		g documents orporation o	r Certificate oj	Ibmitted with the application form - Certified Copy of f Registration of Business or charter and Certified Copy Signatories.)
	Business Number	er:		
	For Public Instit	cutions, spec	cify the enabli	ing legislation (Act):
(c)	Financial Contac	ct Person		
	Name:			
	Address:			
				Fax number:
	Email address:			
(d)	Financial Guara			
	(Provide informat Authority.)	tion regardir	ng the value an	d form of the financial guarantee, if required by the
-				

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 2 of 21
Reviewed by: Authorization Team Approved by: Director General



# SECTION IV: PURPOSE OF PROPOSED REGISTRATION/LICENCE

(a)	Registration/Lic (This application)	ense Activities: n does <u>NOT</u> cover	Import/Export ac	activities)	
	Possess/ Store		Transfe	r	
	Use		Import .	/Export	
	Service		Manufa	cture	
	Construction		Operati	on/ Decommissioning	
(b)	Location i. Address of	place of business:			
	ii. Main addre	ss of storage and/	or use/ or any othe	er activity	
	Used at		Stored at	Both	
(c)	Additional infor	mation regarding o	other locations of	storage and/or use:	
(d) Unsealed Sources (Append copy of all stan Append additional source details where licence and/or requests for removal fr Amendment of Inventory Form.		where required.	For sources to be	_	
	Radionuclide	Maximum Activity in possession at any one time	Total Activity to be acquired per year	Use	
		-			

(e) Sealed Sources ( $\underline{NOT}$  included in radiation device)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 3 of 21
Reviewed by: Authorization Team Approved by: Director General



(Append copy of all standard certificates)

Append additional source details where required. Complete and append Amendment of Inventory Form for sources to be added to existing licence and/or requests for removal from regulatory control.

Radionuclide	Maximum Activity to be contained in any single source	Activity Date	Number of sealed sources - Categories 1, 2 and 3 to be acquired	Use

	(f)	Radiation Devices	(Append	copy of all	standard	certificates`
--	-----	-------------------	---------	-------------	----------	---------------

Append additional source details where required. For sources to be added to existing licence and/or requests for removal from regulatory control, complete and append Amendment of Inventory Form.

Radio- nuclide	Maximum Activity	Manufacturer	Type and Name of device	Model Number	No. of devices	Use

# SECTION V: RADIATION SAFETY PROGRAM

(Please note: This section is <u>NOT</u> to be completed for low-risk use-types. For low-risk use-types please proceed to Section VI.)

(a)	i.	Radiation Safety Officer (I (Append details of duties ar relevant RSO training certific	nd responsibilities associat	ed with RSO's role, copy	of CV and
		Name:			
		Title:			
		Telephone :	Ext	Fax:	
		Email Address:			

ii. Alternate RSO Details

 $(Append\ completed\ Alternate\ RSO\ Form\ and\ all\ required\ details\ as\ stated\ in\ Appendix\ 2.)$ 

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 4 of 21
Reviewed by: Authorization Team Approved by: Director General



(b)	(Append details of relevant qualificat	ion(s) and/or training	ibilities of the <b>Q</b> certificates. Alto	Qualified Expert's role, c ernatively, if the Qualified tration number and expire	l Expert holds a	
	Name:					
	Telephone :		Ext	Fax:		
	Email Address:					
	HSRA Registrati	on Expiration Date:				
	ii. Alternate Qualif (Append complet Appendix 3.)	-	ed Expert Form	ı and all required detai	ls as stated in	
(c)	Other Representativ	e(s) of applicant:				
	Name:					
	Title:					
	Limitations of authority (if applicable)					
	Signature of Repres	entative:				
	Date:					
(d)	Classification of Wo (Append a list of all ) and radiation sources	ob categories for wor	rkers using or w	orking in the vicinity of n	uclear material	
(e)	Individual Protectiv	e Equipment and Sa	fety Appliance	s:		
	Tick all that applies	:				
	Lab coats					
	Gloves					
	Safety glasses					
	Splash guards					
	Lucite (plexiglass, p	erspex) beta guards				
	Respiratory protecti	on				
	Please specify here:					

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 5 of 21
Reviewed by: Authorization Team Approved by: Director General



	Fume	hood(s)		
		vable table coveri	ng(s)	
			amma shielding, appropriate to photon energies	
		<u> </u>	note handling tool:	
		specify here:		
(f)	(Appe In the	pace provided, stat	ogram (RPP) evant documents that address the requirements in items (to the name of the document and page numbers that specification Guidance please refer to the NSRP Application Guidance please please refer to the NSRP Application Guidance please p	fically address
	(i)		es: d operations to be performed by staff, frequency and a s radiological risks associated with the work.)	duration of these
	(ii)	radiation safety. In including Directors	tem: ption of the management and organizational structur nclude details of roles and responsibilities of different m s in charge, Radiation Safety Officers and workers. Inclu diation protection lines of responsibility as well as o	anagement levels de organizational
	(iii)	Monitoring Occu	pational Exposure	
		(Append procea	and recording doses to workers: dures for ascertaining, monitoring and recording radiation Include dose to the eye and extremities (hands and feature) terial.)	
		b) For new licen	aces, provide dose estimates for all categories of world	xers:
		c) For renewals,	provide a summary of the annual radiation doses for	each worker:
		(Append the do	lose constraints and optimization: ose limits for planned exposure situation, the established ed as part of the organization's optimization of protection	
		(Append the lincluding the p	nd maintenance of individual monitoring equipment: list of all types of individual monitoring equipment the policy and procedure for acquisition, use, monitoring perioduling the name of the individual monitoring service procedures.	nat will be used, riod, maintenance

(iv) Workplace Monitoring

Append procedures for workplace monitoring, which should include the following details:

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 6 of 21
Reviewed by: Authorization Team Approved by: Director General



#### a) Classification of areas (control and supervised areas) and local rules:

(Append policy and procedures for classifying areas, rooms or enclosures as controlled or supervised areas, including floor plans, arrangement of equipment, shielding and other measures for protection and safety. Include access control, posting of radiation warning signs, local (site) rules and/policies to be followed by workers and work supervision, as well as, procedures for contamination control.)

# b) Control of radioactive contamination; where unsealed radiation sources are handled:

(Append policy and procedures for maintaining contamination control, including the procedure for monitoring contamination where unsealed radiative sources are used and stored; describe actions to be taken if contamination limits are exceeded.)

#### c) Radiation detection instruments:

(Append a list of all radiation detection and measuring instruments to be used, as well as the policy and procedures for the acquisition, use, maintenance, storage and calibration of said instruments and the calibration service provider. Provide the calibration certificates for all instruments listed.)

#### (v) Health Surveillance of Workers:

(Append policies and procedures for monitoring the health of workers.)

#### (vi) Investigation Levels and Feedback of Operating Experience:

(Append details of investigation levels and the procedures to be taken if they are reached and/ or exceeded; as well as, procedure to provide HSRA and suppliers with information regarding normal operating procedures, abnormal conditions and events.)

# (vii) Record and Reporting System:

Append details of the policy and procedures:

- a) That outlines the process for retention of records and the list of documents that will be retained at each location of licensed activity, including field locations.
- b) For the reporting of accidents, incidents, as well as any event in which the Authority should be notified; e.g. investigations conducted, release of radioactive materials into the environment, remedial actions etc.

#### (viii) a) Access control and security:

(Append policy and procedures for restricting access to radiation sources and / or nuclear material, to only authorized and trained persons, as well as, the policy and procedure for alerting the applicant to the loss, theft or unauthorized use of/ access to radiation sources.)

## b) Controlling possession of radiation sources:

(Append policy and procedures to account for radiation sources and / or nuclear materials, as well as, to ensure that inventory do not exceed the licence limit.)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 7 of 21
Reviewed by: Authorization Team Approved by: Director General



## (ix) Worker Training and Authorization:

(Append a detailed description of the proposed (theoretical and practical) radiation safety training program for each job category, as well as, for contractors and subcontractors. Also include all instructions and information provided for radiation safety and protection including safe work practices.)

#### (x) Control of Public Exposure:

(Append policy and procedures for controlling and monitoring discharge to the environment.)

#### (xi) Management of Radioactive Waste and Disused Sources:

- a) Append details of the policy and procedures for handling and disposing of waste containing radioactive and/or nuclear materials namely waste generation; predisposal, pre-treatment, characterization, treatment, conditioning, storage, control of discharges, clearance, packaging strategies, transport, design and manufacturing of container, handling of waste packages, site evaluation, design, construction, closure and the post-closure stage of estate management facility.
- b) For disused sources, provide details of the safe management of the sources, as well as, means of disposal.
- c) Include financial provisions, where appropriate, and any contractual agreements regarding repatriation, disposal etc.

# (xii) Emergency Procedures:

(Append a summary of the policy and procedures that will be used in incidents, accidents and other events that involve radiation source(s) and/nuclear materials. Include procedures for notification and response to events as well as policies and prevention and mitigation of accidents.)

## (xiii) Decommissioning:

(Append policy and procedures that are related to decommissioning or remediation of licensed locations.)

## (xiv) Radiation Protection Program Policies:

# a) As Low As Reasonably Achievable (ALARA) Program:

(Summary of the policies and procedures of the ALARA program, including condition of service and special arrangement for female workers and persons under the age of 18 years.)

## b) Leak testing of sealed sources:

(Append policy and procedure for leak testing of sealed sources, including the name of the leak test service provider to be used, if applicable.)

#### c) Transfer of radiation sources:

(Append policy and procedure for the transfer of radiation sources and / or nuclear materials.)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 8 of 21
Reviewed by: Authorization Team Approved by: Director General



2:  SECTION  (This section low-risk unitems (i) to specifically Guide.)  (a) i. R  (A) rel  Na  Titt  Te	(Append policy ar and/nuclear material formula review (Append arrangeme Programme.)  end Safety Assessment  only to be completed to the special section of the s	ents for supervising and auditing for facilities of activities in the second section of	ng and transporting radiation source rocedure for receiving such shipments.)  In the Radiation Protection  volving sources of Categories 1 and
2:  SECTION  (This section low-risk unitems (i) to specifically Guide.)  (a) i. R  (A) rel  Na  Titt  Te	(Append arrangeme Programme.)  end Safety Assessment  on VI: RADIATION Section is only to be competuse-types. Append RPP to (xiv) below. In the specify address each requirer address each requirer Append details of duties the elevant RSO training certification.	for facilities of activities in the second section of activities in the second section of activities in the second section of the secti	wolving sources of Categories 1 and  WRISK SOURCES  See Appendix 1 for classification of that addresses the requirements stated in of the document and page numbers that please refer to the NSRP Application
2:  SECTION  (This section low-risk unitems (i) to specifically Guide.)  (a) i. R  (A) rel  Na  Titt  Te	tion is only to be completed in is only to be completed in the specific of the specific of the specific of the specific of duties and the specific of the spec	leted for low-risk use-types. or other relevant documents tace provided, state the name ment. For further guidance for (RSO) Details	W RISK SOURCES  See Appendix 1 for classification of that addresses the requirements stated in of the document and page numbers that please refer to the NSRP Application
(This section low-risk unitems (i) to specifically Guide.)  (a) i. R  (A)  rel  Na  Tit	tion is only to be compluse-types Append RPP o (xiv) below In the specific address each requirer Radiation Safety Officer Append details of duties belevant RSO training certification.	leted for low-risk use-types. or other relevant documents tace provided, state the name ment. For further guidance for (RSO) Details and responsibilities associa	See Appendix 1 for classification of that addresses the requirements stated in of the document and page numbers that please refer to the NSRP Application
low-risk unitems (i) to specifically Guide.)  (a) i. R  (A)  rel  Na  Tit	use-types Append RPP o (xiv) below In the sportly address each requirer Radiation Safety Officer Append details of duties elevant RSO training certifications.	or other relevant documents to ace provided, state the name ment. For further guidance part (RSO) Details  and responsibilities associates	that addresses the requirements stated in of the document and page numbers that please refer to the NSRP Application
(A) rel Na Tit Te	Append details of duties elevant RSO training certi	and responsibilities associa	ted with RSO's role, copy of CV and
Tit Te	Name:		
Tit Te			
Te	itle:		
			Fax:
	Alternate RSO Details (Append completed Altern		ed details as stated in Appendix 2.)
(A	elevant qualification(s) an	and responsibilities of the Qud/or training certificates. Alte	Qualified Expert's role, copy of CV and ernatively, if the Qualified Expert holds a tration number and expiration date.)
N	Name:		
Te			

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 9 of 21
Reviewed by: Authorization Team Approved by: Director General



HSRA Registration No. (if applicable):
HSRA Registration Expiration Date:
<ul> <li>ii. Alternate Qualified Expert         (Append completed Alternate Qualified Expert Form and all required details as stated in Appendix 3.)</li> </ul>
Monitoring Occupational Exposure
Append the following:
<ul><li>i. Procedures for ascertaining, monitoring and recording radiation doses received by all workers.</li><li>ii. Summary of the annual radiation doses for each worker, for renewals only.</li></ul>
iii. Dose limits for planned exposure situation, the established dose constraints that will be used as part of the organization's optimization of protection and safety.
iv. Append the list of the type(s) of individual and workplace monitoring equipment that will be used, including the policy and procedure for acquisition, use, monitoring period, maintenance and storage, including the policy for calibration and the name of all service providers.
Record and Reporting System:
Append details of the policy and procedures:
<ul> <li>a) That outlines the process for retention of records and the list of documents that will be retained at each location of licensed activity including field locations.</li> <li>b) For the reporting of accidents, incidents, as well as, any event in which the authority should be notified; e.g. investigations conducted, release of radioactive materials into the environment, remedial actions etc.</li> </ul>
Access Control and Security:  (Append policy and procedures for restricting access to radiation sources, to only authorized and trained persons, as well as, the policy and procedure for alerting the applicant to the loss, theft or
unauthorized use of/access to radiation sources.)
Worker Training, Information and Instructions:
(Append details of the proposed radiation safety training program and all instructions and information provided for radiation safety including local rules.)
Leak Testing of Sealed Sources:
(Append policy and procedure for leak testing of sealed sources, including the name of the leak test service provider to be used, if applicable.)
Emergency Procedures:  (Append a summary of the policy and procedures that will be used in incidents, accidents and other

(c)

(d)

(e)

(f)

(g)

(h)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 10 of 21
Reviewed by: Authorization Team Approved by: Director General

events that involve radiation source(s). Include procedures for notification and response to events as

well as policies and prevention and mitigation of accidents.)



#### (i) Management of Radioactive Waste and Disused Sources:

- i. Append details of the policy and procedures for handling and disposing of waste containing radioactive materials namely waste generation; predisposal, pre-treatment, characterization, treatment, conditioning, storage, control of discharges, clearance, packaging strategies, transport, design and manufacturing of container, handling of waste packages, site evaluation, design, construction, closure and the post-closure stage of estate management facility.
- ii. For disused sources, provide details the safe management of the sources as well as means of disposal.
- iii. Include financial provisions where appropriate, and any contractual agreements regarding repatriation, disposal etc.

# SECTION VII – SPECIFIC REQUIREMENTS BASED ON PROPOSED LICENCE ACTIVITY

Complete only the applicable practices/activities and append all required documents to the completed application form. In the space provided, state the name of the document and page numbers that specifically address each requirement.

# (a) MEDICAL PRACTICES

(If there are multiple Medical Practitioners, append and complete the Additional Medical Practitioners Form in Appendix 4 for each Medical Practitioner to be listed.)

i.	Medical Practitioner
	Name :
	Address:
	Telephone:
	Fax number:
	Email:
	Licence No.:
ii.	Acknowledgement of Medical Practitioner:
	Signature:
	Date:
iii.	Signature of Applicant Authority to indicate designation of medical practitioner:
	Signature:
	Date:

iv. Administration of Radiation Doses for Therapeutic Treatment:

(Append policy and procedures for delivering radiation doses to patients for therapeutic purposes. Include protocols and procedures for administering radiation doses to pregnant patients.)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 11 of 21
Reviewed by: Authorization Team Approved by: Director General



#### v. Quality Assurance Programme for Medical Exposure:

Quality assurance programme shall provide as appropriate: adequate assurance that the specified requirements relating to protection and safety are satisfied.

(Append quality control mechanisms and procedures for reviewing and assessing the overall effectiveness of protection and safety measures. Include, where applicable: protocol and procedures for calibration, acceptance and commissioning testing and reports, maintenance and quality control testing of all equipment and software used for medical exposure.)

## vi. Instructions to Caregivers:

(Append instructions that are to be given to persons who will care for a patient who has undergone nuclear medicine therapy.)

#### vii. Instructions to Patients and their Families:

(Append instructions that are to be given to patients who have recently received nuclear medicine therapy in order to control radioactive contamination effects and radiation exposures to others.)

#### viii. Release of Patients:

(Append procedures for determining when patients that have received nuclear medicine therapy must be isolated and when they may be released from isolation.)

#### ix. Decontamination and Release of Treatment Rooms:

(Append procedures for returning rooms that have been used for nuclear medicine therapy to a condition where they can be safely released for other purposes.)

#### x. Medical Emergencies:

(Append policy and procedures for responding to medical emergencies that involve patients treated with radiation sources during the activities to be licensed, as well as investigations of unintended and accidental medical exposures.)

# xi. For Therapeutic Nuclear Medicine: Assignment of Nuclear Medicine Therapy Rooms:

(Append procedures used to assure that patients undergoing nuclear therapy will be assigned to a specifically designated private room with a private washroom.)

#### xii. Diagnostic Studies Protocols and Procedures:

(Append protocols and procedures for conducting diagnostic studies.)

# xiii. For Biomedical Research:

(Append research studies protocol and procedures. Include a statement of the proposed research studies and their proposed radiation dose constraints. Append policy and criteria for selecting human research volunteers. Append policy and procedures for obtaining and assuring informed consent of volunteers.)

#### xiv. Research Review Committee:

(Append information regarding proposed human research review committee or its equivalent.)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 12 of 21
Reviewed by: Authorization Team Approved by: Director General



## (b) INDUSTRIAL RADIOGRAPHY

i. Emergency and Operating Procedures:

(Append summary of the Emergency and Operating Procedures.)

ii. Application for Registration of Use of Packages (one per certificate):

(Append a copy of the Registration of Use of Packages application for each package.)

iii. Maintenance and Use of Exposure Devices (for renewals only):

(Append sample copies of records of the quarterly and annual maintenance of exposure devices and associated equipment and of camera use records.)

iv. Safety and Emergency Equipment:

(All safety and emergency equipment which is used as part of the daily radiography operations. List any additional shielding materials.)

v. Transport Plan:

(Append policy and procedure for transporting gauges; include all special requirements for personnel, vehicle, monitoring, security and emergencies.)

#### (c) VETRINARY NUCLEAR MEDICINE

i. Administering Treatment to Animals:

(Append policies and procedures used to administer radiation sources to animals. Owners of animals should provide a (written) consent before radionuclides is used on animals. Append a copy of the treatment consent form.)

ii. Animal Housing:

(Append policy and procedures regarding the housing controls imposed on animals undergoing veterinary nuclear medicine.)

iii. Disposal of Animal Waste:

(Append policy and procedures for management of animal waste arising from veterinary nuclear medicine.)

iv. Monitoring and Release of Animal Housing:

(Append policy and procedures for monitoring and release of animal housing.)

v. Release of Animals:

(Append the criteria used by the applicant to decide when animals treated with radiation sources can be released to their owners.)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 13 of 21
Reviewed by: Authorization Team Approved by: Director General



## (d) OTHER INDUSTRIES THAT USE NUCLEAR MATERIAL:

(This section is only applicable for industries where nuclear material is used; however, the industry or use is not otherwise specified in this application form.)

i. Procedures:

(Append procedures regarding the controls of the use of nuclear material.)

ii. Disposals:

(Append policy and procedures for management of waste arising from the use of nuclear material.)

iii. Monitoring:

(Append policy and procedures for monitoring the use of nuclear material.)

#### (e) GAUGES (FIXED & PORTABLE)

i. Handling Procedures:

(Append policy and procedures that detail the handling of fixed and/or portable gauges.)

ii. Rules for Entry into the Vessels or Hoppers:

(Append policy and procedures to enter vessels or hoppers fitted with gauges.)

iii. Operating Conditions and Maintenance Programme:

(Append policy and procedures for the operating conditions and maintenance programme.)

iv. Operation of Insertion-Type Fixed Gauges:

(Append policy and procedure to handle the insertion-type fixed gauges.)

v. Installation and Dismounting of Fixed Gauges:

(Append policy and procedures for the installing and dismounting of fixed gauges.)

vi. Transport Plan:

(Append policy and procedure for transporting gauges; include all special requirements for personnel, vehicle, monitoring, security and emergencies.)

vii. Emergency Procedures:

(In addition to the information provided in Section V: f(xii) append procedures specific to dealing with fire. For portable gauges this must include procedures for responding to and managing situations involving crushed or damaged portable gauges.)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 14 of 21
Reviewed by: Authorization Team Approved by: Director General



#### viii. If No Radiation Survey Meter is Available on Site:

(Append information to demonstrate that the survey meter will be available during an emergency in less than four (4) hours.)

# (f) PETROLEUM EXPLORATION (Well logging)

i. Release of Radiation Sources and/Nuclear Material to the Environment:

(Append policy for monitoring release of radiation source(s) and/ nuclear materials to the environment.)

ii. Fishing for Stuck Tools/Sources:

(Append policy and procedure that will be used during an emergency that involves fishing for stuck tools and sources.)

iii. Abandonment of Sealed Sources:

(Append policy and procedure for the proposed abandonment of sealed source.)

iv. Abandonment of Unsealed Sources:

(Append policy and procedures for the abandonment of unsealed radiation sources and/nuclear materials following sub-surface zone location or sub-surface tracer studies.)

# (g) SERVICING

i. Servicing Procedures:

(Append a copy of servicing procedures, specific to each radiation device identified in the application for this activity.)

# (h) MANUFACTURING

i. Manufacturing or Development Procedures:

(Append a copy of all manufacturing or development procedures, specific to each sealed source or radiation device identified in the application for this activity.)

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 15 of 21
Reviewed by: Authorization Team Approved by: Director General



# **DECLARATION**

	ereby declare that the information contained herein s application are correct to the best of my knowledge	
Legal Operator	Name:	
Signature:		Date:
If company, Aff	fix Company Seal	
To submit the co	completed application:	
Mail the comple	eted application form, together with all relevant doc	cumentation to:
Hazardous Subs	stances Regulatory Authority:	
Address: 8	Rekadom Avenue, Kingston 10	
Email: in	nfo@hsra.org.jm	
Fax: n/	/a	
electronically.	n form, together with all relevant documentat	•
	FOR OFFICIAL USE ONLY:	
Approved by H	Hazardous Substances Regulatory Authority	
Date:		
Licence No.		
Registration No	0.	
Permit No.		
Renewal No.		
Remarks:		
Signature:		

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 16 of 21
Reviewed by: Authorization Team Approved by: Director General



<u>Recommended Categories for Sources Used in Common Practices</u>
For further assistance, refer to IAEA, SAFETY GUIDE, No. RS-G-1.9- Category of Sources

CATEGORY	SOURCE AND PRACTICE	ACTIVITY RATIO (A/D)	RISK
1	Radioisotope thermoelectric generators (RTGs) Irradiators Teletherapy sources Fixed, multi-beam teletherapy (gamma knife) sources	A/D > 1000	HIGH
2	Industrial gamma radiography sources High/medium dose rate brachytherapy sources	1000 > A/D > 10	HIGH
3	Fixed industrial gauges that incorporate high activity sources Well logging gauges	10 > A/D > 1	MEDIUM
4	Low dose rate brachytherapy sources (except eye plaques and permanent implants) Industrial gauges that do not incorporate high activity sources Bone densitometers Static eliminators	1 > A/D > 0.01	LOW
5	Low dose rate brachytherapy eye plaques and permanent implant sources X ray fluorescence (XRF) devices Electron capture devices Mossbauer spectrometry sources Positron emission tomography (PET) check sources	0.01 > A/D and A > exempt	LOW

For details on exemption levels refer to the IAEA Safety Standards GSR Part 3

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 17 of 21 Reviewed by: Authorization Team Approved by: Director General



#### ALTERNATE RSO FORM

To designate additional individuals as the alternate RSO, please return this completed form and attach the following required information with the completed application form to the Hazardous Substances Regulatory Authority.

- i. Details of the duties and responsibilities associated with the RSO's role.
- ii. Copy of the curriculum vitae or resume of the prospective alternate RSO indicating radiation safety-related experience.
- iii. Copies of relevant RSO training certificates of the prospective RSO.

RSO Name:		
Title:		
Telephone:		
Email Address:		
RSO Name:		
Title:		
Telephone:		
Email Address:		
RSO Name:	_	
Title:		
Telephone:		
Email Address:		
RSO Name:		
Telephone:		
Email Address:		

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 18 of 21
Reviewed by: Authorization Team Approved by: Director General



#### ALTERNATE QUALIFED EXPERT FORM

To designate additional individuals as the alternate Qualified Expert, please return this completed form and attach the following required information with the completed application form to the Hazardous Substances Regulatory Authority.

- i. Details of the duties and responsibilities associated with the Qualified Expert's role.
- ii. Copy of the curriculum vitae or resume of the prospective alternate Qualified Expert indicating radiation safety-related experience.
- iii. Copies of relevant training certificates of the prospective Qualified Expert.

However, if the Qualified Expert holds a valid HSRA Certificate of Registration, provide the registration number and expiration date, in lieu of the above stated requirements.

Qualified Expert Name:	
Title:	
Telephone:	Fax:
Email Address:	
HSRA Registration No. (if applicable):	
HSRA Registration Expiration Date: _	
Qualified Expert Name:	
Title:	
Telephone:	
Email Address:	
HSRA Registration No. (if applicable):	
HSRA Registration Expiration Date: _	
Qualified Expert Name:	
Title:	
Telephone:	_ Fax:
Email Address:	
HSRA Registration No. (if applicable):	
HSRA Registration Expiration Date:	

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 19 of 21
Reviewed by: Authorization Team Approved by: Director General



# ADDITIONAL MEDICAL PRACTITIONER FORM

This form is to be used if there are multiple Medical Practitioners to be listed. Complete and append one form for each Medical Practitioner to be listed. Each form is to be duly signed by the Medical Practitioner and Applicant's Legal Operator.

Iedical Practitioner Name :
ddress:
elephone:
ax number:
mail:
icence No.:
cknowledgement of Medical Practitioner:
ate:
ignature of Applicant's Legal Operator to indicate designation of Medical Practitioner:
ignature:
ate:

HSRA/AUT/F/17 Rev No: 02 Eff. Date: 11/01/2021 Page 20 of 21
Reviewed by: Authorization Team Approved by: Director General