Department of Health

Radioactive Inventory Disposal



Victoria History of Radiation Regulation



Radiation Regulations in Victoria History

1958	Radiation safety regulated under Health Act
1984	Health Act amended to specifically include radiation safety
1994	Health (Radiation Safety) Regulations made
2005	Radiation Act 2005 enacted
2007	Radiation Regulations 2007 made
2017	Radiation Regulations 2017 made

Authorised Version No. 033 Radiation Act 2005

No. 62 of 2005

Authorised Version incorporating amendments as at 1 July 2021

The Parliament of Victoria enacts as follows:

Part 1-Preliminary

1 Purpose

The purpose of this Act is to protect the health and safety of persons and the environment from the harmful effects of radiation.

Victorian Department of Health Radiation Team



Victorian Storage arrangements



Inventory project

Radionuclide	% of total inventory
Ra-226	31%
Am-241	28%
Co-60	9%
Sr-90	8%
Cs-137	7%
U-Nat	6%
Others	11%

Disposal Project – Stage 1 - Consultation

- Engage Consultants
- Provide consultants with inventory
- Consultants review inventory and work with their disposal pathways to determine disposal strategy and cost

Stage 1 findings and recommendations from consultation

- Two main overseas disposal pathways identified
- One main domestic pathway identified
- Inventory detail is incomplete. Pathways therefore come with caveats.
- HP work likely required before many disposals can be executed.

Our inventory – basic info

- Description of the source (visual observations, notes)
- Radionuclide
- Model, Serial No.
- Activity either from label or determined through measurements

Our inventory – detailed info

- Security Category
- Exempt Status
- Category / Subcategory
- Packaging

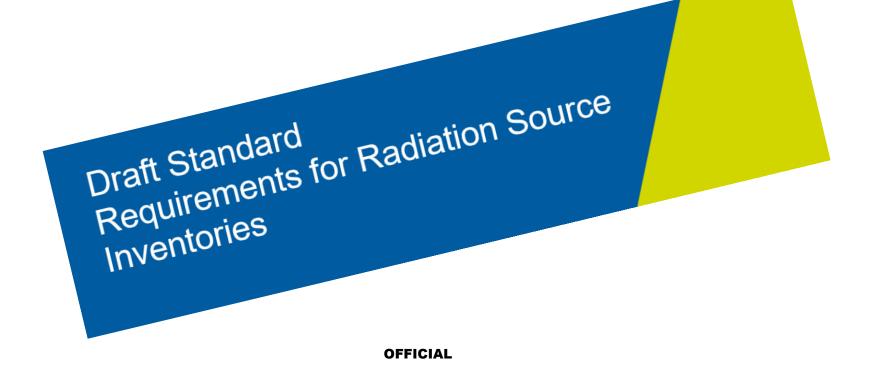
Problems with inventory info

- Vital details embedded in description fields
- Some items were combined (e.g. density gauges)
- Activity in some cases could not be determined accurately
- Missing info on concrete encased materials
- Some activity calculation formulas were making invalid assumptions
- Photos in some cases were not adequate

Problems with inventory info

- Dimensions of items largely missing
- Surface contaminated objects activity will be very difficult to quantify without direct measurement
- Leak testing not performed on sealed sources

Requirement for a guidance document



Inventory information sheet

VGISF material information sheet		Images	
Identificatio	Description		
VGISF Identification Number	<u>170503 1</u>	square of metallic foil (rigid) type source. The material is a steel	
Current Status	Held in inventory	ribon type. Activity to be estimated	
ASNO permit number	N/A	from dose rate measurement and source catalogue	
TRIM Reference	unknown		
Serial No / Unique ID	unknown		
Acquisition De	-		
Acquisition date	3/05/2017		
Collected From	Old VGISF		
Article details		Images	
Radionuclide	Am-241	1 Commence 1	
Chemical form	Unknown		
Physical form	solid		
Sealed/Unsealed	Unknown	113-01	
Gross weight (g)	TBD		
Estimated Net Weight (g)	5		
Reference Activity (Bq)	TBD		
Estimated Activity Concentration (Bq/g)	#VALUE!		
Reference Date	3/05/2017		
half life (s)	1.37E+10	R	
Estimated current activity (Bq)	#VALUE!		
Estimated current activity Concentration (Bq/g)	#VALUE!		
Surface Dose Rate (µSv/h)	TBD		

Regulatory requirements				
Regulatory status in Victoria	#VALUE!			
ASNO registration required (Yes/No)	No			
Ste	prage			
Current storage location	Storage Area A			
Current Primary containment	sample vial			
Current Secondary containment	White lead pot			
Testing re	quirements			
Wipe testing	Not required			
Radionuclide ID	Incomplete			
Heat sealed plastic bag	Not required			
Drum containment	Not required			
Dispos	al Details			
Proposed Disposal Pathway	Radioactive material facility			
Disposal facilitator required	Yes			

Where to from here

- Get certainty on details required for disposal pathway requirements
- Work through inventory item by item gathering these details for each source
- Prepare document during this process that can be used as a standard in future for radioactive source inventories.



Questions?