

WASTE STREAM	9G73	Wet / Mobile Waste - WRATS
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SITE Trawsfynydd
SITE OWNER Nuclear Decommissioning Authority

WASTE CUSTODIAN Magnox Limited

WASTE TYPE ILW

Is the waste subject to Scottish Policy: No

WASTE VOLUMES

		Reported
Stocks:	At 1.4.2022.....	0.8 m ³
Total future arisings:		0 m ³
Total waste volume:		0.8 m ³

Comment on volumes: There are no more arisings of this waste stream.

Uncertainty factors on volumes:	Stock (upper):	x 1.2	Arisings (upper)	x
	Stock (lower):	x 0.8	Arisings (lower)	x

WASTE SOURCE Walnut Shells, dusts, pond scabbing dust, wet solids from aqueous slurries. No % data available.

PHYSICAL CHARACTERISTICS

General description: No breakdown of the waste in this stream is available.

Physical components (%vol): No breakdown of the waste in this stream is available.

Sealed sources: The waste does not contain sealed sources.

Bulk density (t/m³): 1.5

Comment on density: No data available.

CHEMICAL COMPOSITION

General description and components (%wt): No breakdown of the waste in this stream is available.

Chemical state: -

Chemical form of radionuclides:
H-3: Tritium may be present as water or in the form of other inorganic or organic compounds.
C-14: Chemical form of carbon 14 has not been determined but may be graphite.
Se-79: The chemical form of selenium has not been determined.
Tc-99: The chemical form of technetium has not been determined.
Ra: Radium isotope content is insignificant.
Th: Thorium isotope content is insignificant.
U: Chemical form of uranium isotopes has not been determined but may be uranium oxides.
Np: The chemical form of neptunium has not been determined.
Pu: Chemical form of plutonium isotopes has not been determined but may be plutonium oxides.

Metals and alloys (%wt): -

	(%wt)	Type(s) / Grade(s) with proportions	% of total C14 activity
Stainless steel.....	NE		
Other ferrous metals.....	NE		
Iron.....			
Aluminium.....	NE		
Beryllium.....			
Cobalt.....			
Copper.....	NE		
Lead.....	NE		

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Magnox/Magnesium..... NE
 Nickel.....
 Titanium.....
 Uranium.....
 Zinc..... NE
 Zircaloy/Zirconium..... NE
 Other metals..... NE

Organics (%wt): -

	(%wt)	Type(s) and comment	% of total C14 activity
Total cellulose.....	NE		
Paper, cotton.....	NE		
Wood.....	NE		
Halogenated plastics	NE		
Total non-halogenated plastics.....	NE		
Condensation polymers.....	NE		
Others.....	NE		
Organic ion exchange materials....	NE		
Total rubber.....	NE		
Halogenated rubber	NE		
Non-halogenated rubber.....	NE		
Hydrocarbons.....			
Oil or grease			
Fuel.....			
Asphalt/Tarmac (cont.coal tar)...			
Asphalt/Tarmac (no coal tar)....			
Bitumen.....			
Others.....			
Other organics.....	NE		

Other materials (%wt): -

	(%wt)	Type(s) and comment	% of total C14 activity
Inorganic ion exchange materials..	0		
Inorganic sludges and flocs.....	0		
Soil.....	0		
Brick/Stone/Rubble.....	0		
Cementitious material.....	0		
Sand.....			
Glass/Ceramics.....	0		
Graphite.....	0		
Desiccants/Catalysts.....			
Asbestos.....	NE		
Non/low friable.....			

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Moderately friable.....

Highly friable.....

Free aqueous liquids..... NE

Free non-aqueous liquids..... NE

Powder/Ash..... NE

Inorganic anions (%wt): -

(%wt) Type(s) and comment

Fluoride..... NE

Chloride..... NE

Iodide..... NE

Cyanide..... NE

Carbonate..... NE

Nitrate..... NE

Nitrite..... NE

Phosphate..... NE

Sulphate..... NE

Sulphide..... NE

Materials of interest for waste acceptance criteria: The possible presence of materials likely to represent a fire or other non-radiological hazard has not been fully assessed.

(%wt) Type(s) and comment

Combustible metals..... NE

Low flash point liquids..... NE

Explosive materials..... NE

Phosphorus..... NE

Hydrides..... NE

Biological etc. materials..... NE

Biodegradable materials..... 0

Putrescible wastes..... NE

Non-putrescible wastes.....

Corrosive materials..... NE

Pyrophoric materials..... NE

Generating toxic gases..... NE

Reacting with water..... NE

Higher activity particles.....

Soluble solids as bulk chemical compounds.....

Hazardous substances / non hazardous pollutants: -

(%wt) Type(s) and comment

Acrylamide.....

Benzene.....

Chlorinated solvents.....

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Formaldehyde.....
 Organometallics.....
 Phenol.....
 Styrene.....
 Tri-butyl phosphate.....
 Other organophosphates.....
 Vinyl chloride.....
 Arsenic.....
 Barium.....
 Boron..... 0
 Boron (in Boral).....
 Boron (non-Boral).....
 Cadmium.....
 Caesium.....
 Selenium.....
 Chromium.....
 Molybdenum.....
 Thallium.....
 Tin.....
 Vanadium.....
 Mercury compounds.....
 Others.....
 Electronic Electrical Equipment (EEE)
 EEE Type 1.....
 EEE Type 2.....
 EEE Type 3.....
 EEE Type 4.....
 EEE Type 5.....

Complexing agents (%wt): No

(%wt) Type(s) and comment

EDTA.....
 DPTA.....
 NTA.....
 Polycarboxylic acids.....
 Other organic complexants.....
 Total complexing agents..... 0

Potential for the waste to contain discrete items: Not yet determined. In & of itself not a DI; waste stream may include DIs (notably any stainless steel components)

PACKAGING AND CONDITIONING

Conditioning method: Waste streams 9G64, 9G72, 9G73, 9G79, 9G125, 9G126, 9G129 and 9G131 will be co-packaged. Container numbers for all these streams are allocated to stream 9G129.

Plant Name: -

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Location: -
 Plant startup date: -
 Total capacity (m³/y incoming waste): -
 Target start date for packaging this stream: -
 Throughput for this stream (m³/y incoming waste): -
 Other information: -

Likely container type:	Container	Waste packaged (%vol)	Waste loading (m ³)	Payload (m ³)	Number of packages

Likely container type comment: -
 Range in container waste volume: -
 Other information on containers: -
 Likely conditioning matrix:
 Other information: -
 Conditioned density (t/m³): -
 Conditioned density comment: -
 Other information on conditioning: -
 Opportunities for alternative disposal routing: -

Baseline Management Route	Opportunity Management Route	Stream volume (%)	Estimated Date that Opportunity will be realised	Opportunity Confidence	Comment
-	-	-	-	-	-

RADIOACTIVITY

Source: This is a holding waste stream until the wastes are identified and allocated to the relevant stream for disposal.

Uncertainty: No data is available at the moment.

Definition of total alpha and total beta/gamma: Where totals are shown on the table of radionuclide activities they are the sums of the listed alpha or beta/gamma emitting radionuclides plus 'other alpha' or 'other beta/gamma'.

Measurement of radioactivities: -

Other information: -

WASTE STREAM

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Nuclide	Mean radioactivity, TBq/m ³				Nuclide	Mean radioactivity, TBq/m ³			
	Waste at 1.4.2022	Bands and Code	Future arisings	Bands and Code		Waste at 1.4.2022	Bands and Code	Future arisings	Bands and Code
H 3		8			Gd 153		8		
Be 10		8			Ho 163		8		
C 14		8			Ho 166m		8		
Na 22		8			Tm 170		8		
Al 26		8			Tm 171		8		
Cl 36		8			Lu 174		8		
Ar 39		8			Lu 176		8		
Ar 42		8			Hf 178n		8		
K 40		8			Hf 182		8		
Ca 41		8			Pt 193		8		
Mn 53		8			Tl 204		8		
Mn 54		8			Pb 205		8		
Fe 55		8			Pb 210		8		
Co 60		8			Bi 208		8		
Ni 59		8			Bi 210m		8		
Ni 63		8			Po 210		8		
Zn 65		8			Ra 223		8		
Se 79		8			Ra 225		8		
Kr 81		8			Ra 226		8		
Kr 85		8			Ra 228		8		
Rb 87		8			Ac 227		8		
Sr 90		8			Th 227		8		
Zr 93		8			Th 228		8		
Nb 91		8			Th 229		8		
Nb 92		8			Th 230		8		
Nb 93m		8			Th 232		8		
Nb 94		8			Th 234		8		
Mo 93		8			Pa 231		8		
Tc 97		8			Pa 233		8		
Tc 99		8			U 232		8		
Ru 106		8			U 233		8		
Pd 107		8			U 234		8		
Ag 108m		8			U 235		8		
Ag 110m		8			U 236		8		
Cd 109		8			U 238		8		
Cd 113m		8			Np 237		8		
Sn 119m		8			Pu 236		8		
Sn 121m		8			Pu 238		8		
Sn 123		8			Pu 239		8		
Sn 126		8			Pu 240		8		
Sb 125		8			Pu 241		8		
Sb 126		8			Pu 242		8		
Te 125m		8			Am 241		8		
Te 127m		8			Am 242m		8		
I 129		8			Am 243		8		
Cs 134		8			Cm 242		8		
Cs 135		8			Cm 243		8		
Cs 137		8			Cm 244		8		
Ba 133		8			Cm 245		8		
La 137		8			Cm 246		8		
La 138		8			Cm 248		8		
Ce 144		8			Cf 249		8		
Pm 145		8			Cf 250		8		
Pm 147		8			Cf 251		8		
Sm 147		8			Cf 252		8		
Sm 151		8			Other a	NE			
Eu 152		8			Other b/g	NE			
Eu 154		8			Total a	NE		0	
Eu 155		8			Total b/g	NE		0	

Bands (Upper and Lower)

- A a factor of 1.5
- B a factor of 3
- C a factor of 10
- D a factor of 100
- E a factor of 1000

Note: Bands quantify uncertainty in mean radioactivity.

Code

- 1 Measured activity
- 2 Derived activity (best estimate)
- 3 Derived activity (upper limit)
- 4 Not present
- 5 Present but not significant
- 6 Likely to be present but not assessed
- 7 Present in significant quantities but not determined
- 8 Not expected to be present in significant quantity