

WASTE STREAM	3T10	LLW Dry Active Wastes
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SITE Hinkley Point C
SITE OWNER NNB GenCo (HPC) Ltd
WASTE CUSTODIAN NNB GenCo (HPC) Ltd
WASTE TYPE LLW

WASTE VOLUMES

	Reported (m ³)	OR	Conditioned (m ³)	Packaged (m ³)
Stocks:	At 1.4.2025			
Future arisings:	1.4.2029 - 31.3.2030	100.0		
	1.4.2030 - 31.3.2031	100.0		
	1.4.2031 - 31.3.2032	100.0		
	1.4.2032 - 31.3.2033	100.0		
	1.4.2033 - 31.3.2034	100.0		
	1.4.2034 - 31.3.2035	100.0		
	1.4.2035 - 31.3.2036	100.0		
	1.4.2036 - 31.3.2037	100.0		
	1.4.2037 - 31.3.2038	100.0		
	1.4.2038 - 31.3.2039	100.0		
	1.4.2039 - 31.3.2040	100.0		
	1.4.2040 - 31.3.2041	100.0		
	1.4.2041 - 31.3.2042	100.0		
	1.4.2042 - 31.3.2043	100.0		
	1.4.2043 - 31.3.2044	100.0		
	1.4.2044 - 31.3.2045	100.0		
	1.4.2045 - 31.3.2046	100.0		
	1.4.2046 - 31.3.2047	100.0		
	1.4.2047 - 31.3.2048	100.0		
	1.4.2048 - 31.3.2049	100.0		
	1.4.2049 - 31.3.2050	100.0		
	1.4.2050 - 31.3.2051	100.0		
	1.4.2051 - 31.3.2052	100.0		
	1.4.2052 - 31.3.2053	100.0		
	1.4.2053 - 31.3.2054	100.0		
	1.4.2054 - 31.3.2055	100.0		
	1.4.2055 - 31.3.2056	100.0		
	1.4.2056 - 31.3.2057	100.0		
	1.4.2057 - 31.3.2058	100.0		
	1.4.2058 - 31.3.2059	100.0		
	1.4.2059 - 31.3.2060	100.0		
	1.4.2060 - 31.3.2061	100.0		
	1.4.2061 - 31.3.2062	100.0		
	1.4.2062 - 31.3.2063	100.0		
	1.4.2063 - 31.3.2064	100.0		
	1.4.2064 - 31.3.2065	100.0		
	1.4.2065 - 31.3.2066	100.0		
	1.4.2066 - 31.3.2067	100.0		
	1.4.2067 - 31.3.2068	100.0		
	1.4.2068 - 31.3.2069	100.0		
	1.4.2069 - 31.3.2070	100.0		
	1.4.2070 - 31.3.2071	100.0		
	1.4.2071 - 31.3.2072	100.0		
	1.4.2072 - 31.3.2073	100.0		
	1.4.2073 - 31.3.2074	100.0		
	1.4.2074 - 31.3.2075	100.0		
	1.4.2075 - 31.3.2076	100.0		
	1.4.2076 - 31.3.2077	100.0		
	1.4.2077 - 31.3.2078	100.0		
	1.4.2078 - 31.3.2079	100.0		
	1.4.2079 - 31.3.2080	100.0		
	1.4.2080 - 31.3.2081	100.0		
	1.4.2081 - 31.3.2082	100.0		
	1.4.2082 - 31.3.2083	100.0		
	1.4.2083 - 31.3.2084	100.0		
	1.4.2084 - 31.3.2085	100.0		
	1.4.2085 - 31.3.2086	100.0		
	1.4.2086 - 31.3.2087	100.0		
	1.4.2087 - 31.3.2088	100.0		
	1.4.2088 - 31.3.2089	100.0		
Total future arisings:	6000.0			
Total waste volume:	6000.0			

Number of waste packages in stock: At 1.4.2025..... - packages

Comment on arising rates: No legacy waste, all future arisings.

Additional information on quantities: No uncertainty data currently available.

Uncertainty factors on volumes: Stock (upper): x - Arisings (upper): x 1.00
Stock (lower): x - Arisings (lower): x 1.00

WASTE SOURCE Dry Active Wastes (DAW) comprise the combustible and non-combustible LLW generated through routine and maintenance operations in HPC nuclear island and consist of contaminated personal protection equipment, monitoring swabs, plastic, clothing, contaminated tools, segregated pieces of metal, glassware and other process consumables. These wastes mainly arise during outages.

PHYSICAL CHARACTERISTICS

General description: Heterogeneous low active waste consisting of small pieces of metal, plastic, clothes.

Changes since waste generated: -

Bulk density (t/m³): NE

Comment on density: Raw waste density

CHEMICAL COMPOSITION

General description and components (%wt): Heterogeneous low active waste consisting of small pieces of metal, plastic, clothes.

Chemical state: -

Sheet metal proportion / thickness: -

Metals and alloys (%wt):

	(%wt)	Type(s) / Grades(s) with proportions	% of total C14 activity
Stainless steel.....		-	
Other ferrous metals.....		-	
Iron.....		-	
Aluminium.....		-	
Beryllium.....		-	
Cobalt.....		-	
Copper.....		-	
Lead.....		-	
Magnox/Magnesium.....		-	
Nickel.....		-	
Titanium.....		-	
Uranium.....		-	
Zinc.....		-	
Zircaloy/Zirconium.....		-	
Other metals.....	~ 0.10	Antimony	

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.....	NE	-	
Oil or grease.....	NE	-	
Fuel.....	NE	-	
Asphalt/Tarmac (cont.coal tar).....	NE	-	
Asphalt/Tarmac (no coal tar).....	NE	-	
Bitumen.....	NE	-	
Others.....	NE	-	
Other organics.....	NE	-	

Other materials (%wt):

	(%wt)	Type(s) and comment	% of total C14 activity
Inorganic ion exchange materials.....	NE	-	
Inorganic sludges and flocs.....	NE	-	
Soil.....	NE	-	
Brick/Stone/Rubble.....	NE	-	
Cementitious material.....	NE	-	
Sand.....	NE	-	
Glass/Ceramics.....	NE	-	
Graphite.....	NE	-	
Desiccants/Catalysts.....	NE	-	
Asbestos.....	NE	-	
Non/low friable.....	NE	-	
Moderately friable.....	NE	-	
Highly friable.....	NE	-	
Free aqueous liquids.....	NE	-	
Free non-aqueous liquids.....	NE	-	
Powder/Ash.....	NE	-	

COMPONENTS OF MATERIALS, WASTE PROPERTIES, MATERIALS NOT CONTRIBUTING TO MASS

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:

	(%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.....	NE	-
Putrescible wastes.....	NE	-
Non-putrescible wastes.....	NE	-
Corrosive materials.....	NE	-
Pyrophoric materials.....	NE	-
Generating toxic gases.....	NE	-
Reacting with water.....	NE	-
Higher activity particles.....	NE	-
Soluble solids as bulk chemical compounds.....	NE	-

Hazardous substances / non hazardous pollutants:

	(%wt)	Type(s) and comment
Acrylamide.....		-
Benzene.....		-
Chlorinated solvents.....		-
Formaldehyde.....		-
Organometallics.....		-
Phenol.....		-
Styrene.....		-
Tri-butyl phosphate.....		-
Other organophosphates.....		-
Vinyl chloride.....		-
Arsenic.....		-
Barium.....		-
Boron.....	~ 0.01	-
Boron (in Boral).....		-
Boron (non-Boral).....		-
Cadmium.....		-
Caesium.....		-
Selenium.....		-
Chromium.....		-
Molybdenum.....		-
Thallium.....		-
Tin.....		-
Vanadium.....		-
Mercury compounds.....		-
Others.....		-

Complexing agents (%wt):

No		
	(%wt)	Type(s) and comment
EDTA.....		-
DPTA.....		-
NTA.....		-
Polycarboxylic acids.....		-
Other organic complexants.....		-
Total complexing agents.....		-

Physical components:

	Number	Type(s) and comment
Sources.....		-
Electronic & Electrical Equipment (EEE)		-
EEE Type 1.....		-
EEE Type 2.....		-
EEE Type 3.....		-
EEE Type 4.....		-
EEE Type 5.....		-

TREATMENT, PACKAGING AND DISPOSAL

Planned on-site / off-site treatment(s):

Treatment	On-site / Off-site	Stream volume %
Size reduction		
Decay storage		
Low force compaction		
Supercompaction (HFC)	Off-site	= 25.0
Incineration	Off-site	= 75.0
Drying/dewatering/liquid separation		
Tie down/fixatives/strippable coating/painting application		
Decontamination		
Metal treatment		
Recycling / reuse		
Thermal treatment, including vitrification		
Encapsulation		
Polymer encapsulation		
Other physical treatment		
Other chemical treatment		
Containerisation		
Treatment not yet determined		
None		

Comments on planned treatments:

DAW excluding metals - incineration, including metals - supercompaction followed by disposal to LLWR

Conditioning method:

-

Conditioning plants:

Plant Name	Location

Likely conditioning matrix:

-

Further information on the conditioning matrix:

-

Waste Packaging:

Likely container type:

Container	Waste packaged (vol%)	Waste loading (m³)	Payload (m³)	Number of packages	Estimated start date for packaging
1/2 Height WAMAC IP-2 ISO (TC08)	25.0	7.2	18.8	209	-

Range in container waste loading:

Other information on packaging and conditioning:

-

Conditioned density (t/m³):

-

Conditioned density comment:

-

Management Routes:

Disposal Route	Stream volume %	Raw density t/m ³	Start date
Expected to be consigned to a Near Site, Near Surface Disposal Facility (Scotland)	= 25.0	NE	
Expected to be Non-NSD HAW managed under Scottish Government's policy			
Expected to be disposed to LLW Vaults NRS Dounreay			
Expected to be consigned to the Geological Disposal Facility			
Expected to be consigned to a Near Surface Disposal Facility			
Expected to be consigned to the LLW Repository	= 75.0	NE	
Expected to be consigned to a Landfill Facility			
Expected to be disposed On-Site			
Expected to be managed by In-Situ Disposal			
Expected to be consigned to an Incineration Facility			
Expected to be consigned to a Metal Treatment Facility			
Expected to be Out of Scope			
Expected to be recycled / reused			
Disposal route not known			

Classification codes for waste expected to be consigned to a landfill facility:

Opportunities for alternative disposal routing: No

Baseline Management Route	Opportunity Management Route	Stream volume (%)	Opportunity Confidence	Comment
-	-	-	-	-

RADIOACTIVITY

Source: Contamination of items inside nuclear island buildings.

Uncertainty: -

Measurement of radioactivities: -

Chemical form of radionuclides: H-3: -
C-14: -
Cl-36: -
Se-79: -
Tc-99: -
I-129: -
Ra: -
Th: -
U: -
Np: -
Pu: -

WASTE STREAM 3T10 LLW Dry Active Wastes									
Nuclide	Mean radioactivity, TBq/m³				Nuclide	Mean radioactivity, TBq/m³			
	Waste at 1.4.2025	Bands and Code	Future Arisings	Bands and Code		Waste at 1.4.2025	Bands and Code	Future Arisings	Bands and Code
H 3					Gd 153				
Be 10					Ho 163				
C 14			~ 6.98E-07	B B 2	Ho 166m				
Na 22					Tm 170				
Al 26					Tm 171				
Cl 36					Lu 174				
Ar 39					Lu 176				
Ar 42					Hf 178n				
K 40					Hf 182				
Ca 41					Pt 193				
Mn 53					Tl 204				
Mn 54				6	Pb 205				
Fe 55				6	Pb 210				
Co 60			~ 6.34E-05	B B 2	Bi 208				
Ni 59					Bi 210m				
Ni 63					Po 210				
Zn 65				6	Ra 223				
Se 79					Ra 225				
Kr 81					Ra 226				
Kr 85					Ra 228				
Rb 87					Ac 227				
Sr 90					Th 227				
Zr 93					Th 228				
Nb 91					Th 229				
Nb 92					Th 230				
Nb 93m					Th 232				
Nb 94					Th 234				
Mo 93					Pa 231				
Tc 97					Pa 233				
Tc 99					U 232				
Ru 106					U 233				
Pd 107					U 234				
Ag 108m					U 235				
Ag 110m				6	U 236				
Cd 109					U 238				
Cd 113m					Np 237				
Sn 119m					Pu 236				
Sn 121m					Pu 238				
Sn 123					Pu 239				
Sn 126					Pu 240				
Sb 125				6	Pu 241				
Sb 126					Pu 242				
Te 125m					Am 241				
Te 127m					Am 242m				
I 129			~ 3.26E-12	B B 2	Am 243				
Cs 134				6	Cm 242				
Cs 135					Cm 243				
Cs 137				6	Cm 244				
Ba 133					Cm 245				
La 137					Cm 246				
La 138					Cm 248				
Ce 144					Cf 249				
Pm 145					Cf 250				
Pm 147					Cf 251				
Sm 147					Cf 252				
Sm 151					Unsp a				
Eu 152					Unsp b/g				
Eu 154					Total a	0	*	0	*
Eu 155					Total b/g	0	*	6.41E-05	*

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 the 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
* Total calculated from the 114 declared radionuclides