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VERIFIER(S) Joseph A. Battaglia	SIGNATURE / DATE Electronically Approved***	Verification Method: Independent Review

****Plant Applicability:** All AP1000 plants except:
 Only the following plants: UKP

APPLICABILITY REVIEWER** J. A. Speer	SIGNATURE / DATE Electronically Approved***
RESPONSIBLE MANAGER* Dennis M. Popp	SIGNATURE / DATE Electronically Approved***

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Waste Disposability Schedule for AP1000

Waste Disposability Schedule for AP1000, Aker Solutions Document Number 63000333-000-000-111-Q-0002, provides information supporting the UK Generic Design Assessment of the Westinghouse Electric Company AP1000.

Waste Disposability Schedule

for

AP1000

AP1000 RADWASTE

AKER SOLUTIONS PROJECT NO: 63000333

Rev	PEM Status	Description	Date	By	Checked	Approved
1	S3	For Environment Report	09.06/09	AC	JMcL	GS
DOCUMENT NUMBER			63000333-000-000-111-Q-0002			
H & S File		Technical File	PER File			

Handwritten notes:
 RT VJMK
 15/06/09
 VM Yearne
 Stephenson

HISTORY SHEET

Revision	Description of Change
1	For Environment Report

Produced by Aker Solutions E&C Ltd for Westinghouse Electric Company LLC

Glossary of Terms

LLW	Waste containing levels of radioactivity greater than those acceptable for disposal with normal refuse but not exceeding 4 GBq/tonne alpha-emitting radionuclides or 12 GBq/tonne beta emitting radionuclides.
ILW	Waste with radioactivity levels exceeding the upper boundaries for low level waste but does not require heat generation to be accounted for in the design of disposal storage facility
HLW	Waste in which the temperature may rise as a result of its radioactivity, to an extent that it has to be accounted for in designing storage or disposal facility.
Mixed (waste)	hazardous and radioactive wastes mixed together
DAW	Dry active waste
WSS	Solid Radwaste System
WLS	Liquid Radwaste System
WGS	Gaseous Radwaste Systems
CVS	Chemical and Volume Control System
RNS	Normal Residual Heat Removal System
CCS	Component Cooling Water System
SFS	Spent Fuel Pool Cooling System
VFS	Containment Air Filtration System
VHS	Health Physics and Hot Machine Shop HVAC System
VRS	Radwaste Building HVAC System
FHS	Fuel Handling and Refueling System
RXS	Reactor System
RCS	Reactor Coolant System
SWS	Service Water System
DTS	Demineralized Water Treatment System
BDS	Blowdown System
CPS	Condensate Polishing System
CWS	Circulating Water System
WWS	Waste Water System
HVAC	Heating Ventilation and Air Conditioning
AHU	Air Handling Unit
Exh	Exhaust as in Containment Exhaust
hx	heat exchanger
cf	cubic feet
m ³	cubic meters
m ³ /hr	cubic meters per hour
m ³ /d	cubic meters per day
m ³ /lop	cubic meters per life of plant
uci/cc	microcuries/cubic centimeter
ci or Ci	curies
lop	life of plant (60 years)
eol	end of life (core life)
yr	year
gpd	US gallons per day
g or gal	US gallons
sv	system volume
SiC	silicon carbide
buna n	commonly used rubber like diaphragm material
edi	electro-deionization
ro	reverse osmosis
R or Rad	radioactive
N or Nonrad	not radioactive or nonradioactive
decon	decontamination
gray water	water used for showers or hand washes containing soap residual and some particulate

Produced by Aker Solutions E&C Ltd for Westinghouse Electric Company LLC

System	Waste Description	Rad / Nonrad	LLW / ILW / HLW / Mixed	Physical / Chemical Description	Waste Form	Estimated Quantity						Radioactivity ³	Pre-conditioning stage (see Key)	Disposal Method (see Key)
						normal		maximum		total quantity per life of plant ²				
						cubic feet/yr	cubic meters/yr	cubic feet/yr	m3/yr	cubic feet	m3			
CVS	CVS Mixed Bed Resin	R	ILW	spherical bead/resin compound	solid	33.3	0.94	66.7	1.89	2,399	68	4000 uci/cc (1.48E+8 MBq/m3)	1	A
CVS	CVS Cation Bed	R	ILW	spherical bead/resin compound	solid	16.7	0.47	33.3	0.94	1,201	34	3000 uci/cc (1.11E+8 MBq/m3)	1	A
SFS	SFS Demineralizer	R	ILW	spherical bead/resin compound	solid	50	1.42	100	2.83	3,600	102	600 uci/cc (2.22E+7 MBq/m3)	1	A
WLS	WLS unit 1 charcoal	R	ILW	wet granular carbon	solid	20	0.57	40	1.13	1,440	41	200 uci/cc (7.4E+6 MBq/m3)	1	A
WLS	WLS unit 1 Resin	R	ILW	spherical bead/resin compound	solid	40	1.13	80	2.27	2,880	82	200 uci/cc (7.4E+6 MBq/m3)	1	A
WLS	WLS units 2,3,4	R	ILW	spherical bead/resin compound	solid	135	3.82	270	7.65	9,720	275	200 uci/cc (7.4E+6 MBq/M3)	1	A
CPS	Condensate Polisher Spent Resin	R	LLW	spherical bead/resin compound	solid	136	3.85	272	7.7	2,868	81	5.25E-6 uci/cc (0.194 MBq/m3)	None (or 18 when combined with pre-disposal B)	F (or B when combined with pre-treatment 18)
		N	-	spherical bead/resin compound	solid								None	F (or I)
CVS	CVS RC filter cartridge	R	ILW	metallic cylinder	solid	1.12	0.03	2.24	0.06	81	2	(10% of mixed bed resin)	2, possibly 3	A
SFS	SFS filter cartridge	R	ILW	metallic cylinder	solid	1.12	0.03	2.24	0.06	81	2	(10 % sfs resin)	2, possibly 3	A
WLS	WLS inlet filter cartridge	R	ILW	metallic cylinder	solid	2.24	0.06	4.48	0.13	161	5	(10% wls resin)	2, possibly 3	A
WLS	W LS outlet filter cartridge	R	ILW	metallic cylinder	solid	1.12	0.03	2.24	0.06	81	2	(10% wls resin)	2, possibly 3	A
WSS	WSS resin fines filter cartridge	R	ILW	metallic cylinder	solid	1.12	0.03	2.24	0.06	81	2	average of other filters	2, possibly 3	A
WGS	WGS delay bed charcoal	R	LLW	dry granular carbon	solid	16	0.45	106.7	3.02	2,048	58		3 possible 17	B (or possibly F)
WGS	WGS guard bed charcoal	R	LLW	dry granular carbon	solid	2.7	0.08	8	0.23	226	6		3 possible 17	B (or possibly F)
CVS	Makeup filter	N		metallic cylinder	solid	1.12	0.03	2.24	0.06	81	2	not radioactive	9	C
WSS	DAW	R	LLW	compactible paper, tape, clothing	solid	4,500	127.44	6,740	190.88	296,880	8,408		3	B
WSS	DAW	R/N	Mixed	small batteries/corrosive	solid	5	0.14	10	0.28	360	10		8	If N; C. If R; B
WSS	DAW	R/N	LLW	other non-compactible	solid	234	6.63	373	10.56	15,708	445		8	If N; C. If R; B
WSS	Strippable coatings	R	LLW	latex paint peelings	solid								3	B

System	Waste Description	Rad / Nonrad	LLW / ILW / HLW / Mixed	Physical / Chemical Description	Waste Form	Estimated Quantity						Radioactivity ³	Pre-conditioning stage (see Key)	Disposal Method (see Key)
						normal		maximum		total quantity per life of plant ²				
						gpd	m3/d	gpd	m3/d	gal	m3			
WLS	CVS shim bleed (liquid)	R	LLW	diverted reactor coolant/dilute boric acid	liquid	435	1.65	776	2.94	11,020,080	41,711	100% reactor coolant	10 or 1	G or B dependent on Preconditioning stage
WLS	Equipment leaks	R	LLW	dilute boric acid	liquid	90	0.34	14400	54.5	2,835,000	10,731	100% reactor coolant	10 or 1	G or B dependent on Preconditioning stage
WLS	Floor Drains (dirty wastes)	R	LLW	dilute boric acid	liquid	1,200	4.54	5760	21.8	26,626,000	100,780	0.1% reactor coolant	10 or 1	G or B dependent on Preconditioning stage
WLS	Sampling System Drains	R	LLW	dilute boric acid	liquid	200	0.76	1000	3.79	4,560,000	17,260	100% reactor coolant	10 or 1	G or B dependent on Preconditioning stage
WLS	HotSshower	R	LLW	gray water	liquid	0	0	0	0	0	0	10E-7uci/cc (.037 MBq/m3)	5	G
WLS	Hand Wash	R	LLW	gray water	liquid	200	0.76	2000	7.57	12,264,000	46,419	10E-7uci/cc (.037 MBq/m3)	5	G
WLS	Equip and Area Decon	R	LLW	detergent waste	liquid	40	0.15	400	1.51	2,452,800	9,284	0.1% reactor coolant	5	G
WLS	chemical waste	R	LLW	spent samples containing analytical chemicals	liquid	7.14	0.03	14.28	0.05	187,639	710	< = reactor coolant	16	B
WLS	Laundry (processed offsite)	N											17 (5)	C (G)
WLS	Decon Fluids	R	LLW	liquid/w decon chemicals	liquid	0.62	0	1.24	0	16,294	62	1 uci/cc (37,000 MBq/m3)	10 or 1	G or B dependent on Preconditioning stage

System	Waste Description	Rad / Nonrad	LLW / ILW / HLW / Mixed	Physical / Chemical Description	Waste Form	Estimated Quantity						Radioactivity ³	Pre-conditioning stage (see Key)	Disposal Method (see Key)
						normal		maximum		total quantity per life of plant ²				
						cc/min	m3/hr	cc/min	m3/hr	cubic feet	m3			
WGS	RCDT drains	R	LLW	gases containing hydrogen, nitrogen and fission gases	gas	0	0	1.05	0.000063	1,170	0.0702	< 1E-4 uci/cc (3.7 MBq/m3) 90% Xe-133	6	E
WGS	CVS shim bleed (gas)	R	LLW	gases containing hydrogen, nitrogen and fission gasses	gas	45.7	0.002742	81.6	0.004896	50,904	3.05424		6	E

System	Waste Description	Rad / Nonrad	LLW / ILW / HLW / Mixed	Physical / Chemical Description	Waste Form	Estimated Quantity						Radioactivity ³	Pre-conditioning stage (see Key)	Disposal Method (see Key)
						normal		maximum		total quantity per life of plant ²				
						gpd	m3/d	gpd	m3/day	gal	m3			
CVS	RCS heatup	R	LLW	borated reactor coolant	liquid	22,440	85	44,880	170	1,077,120	4,077	100% reactor coolant sans radiogas	10	G
CVS	Boron Dilution Near Eol	R	LLW	borated reactor coolant	liquid	1,663	6	6,980	26	66,520	252	100% reactor coolant	10	G

System	Waste Description	Rad / Nonrad	LLW / ILW / HLW / Mixed	Physical / Chemical Description	Waste Form	Estimated Quantity						Radioactivity ³	Pre-conditioning stage (see Key)	Disposal Method (see Key)
						normal		maximum		total quantity per life of plant ²				
						gpm	m3/hr	gpm	m3/hr	gal	m3			
BDS	Steam Generator Blowdown	N/R	LLW if R	secondary side coolant	liquid	18.6	4.22	186	42.24	586,569,600	2,220,173	not normally radioactive diverted to WLS if radioactive	N; 11, R; 5	N; D, R; G
WWS	Condensate Demin Rinses and Backwashes	N		demin water with minor solids	liquid	0.052	0.01	2050	465.56	1,639,872	6,207	not radioactive	11	D
BDS	Condensate Demin Startup Bypass Flow	N		off specification demin water	liquid	116.65	26.49	360	81.76	5,213,531,520	19,733,276	not radioactive	11	D
DTS	Reverse Osmosis (RO) and Electrodeionization Reject	N		off specification demin water	liquid	58.32	13.24	180	40.88	2,606,639,616	9,866,161	not radioactive	11	D
BDS	Fire Testing Drains	N		demin water with minor solids	liquid	0.38	0.09	750	170.33	11,983,680	45,358	not radioactive	11	D
multiple	Turbine Island Waste Water	N		demin water with minor solids	liquid	80.04	18.18	325	73.81	4,069,153,152	15,401,791	not radioactive	11	D
CDS	Condenser Water Box Drain	N		demin water with minor solids	liquid	0	0	1,102	250.26	44,080	167	not radioactive	11	D
SWS	Strainer Backwash	N		demin water with minor solids	liquid	4.2	0.95	3,000	681.3	132,451,200	501,329	not radioactive	11	D
CWS	Strainer Backwash	N		demin water with minor solids	liquid	9.48	2.15	1,820	413.32	298,961,280	1,131,572	not radioactive	11	D
CPS	Condensate Polisher Rinse	N		demin water with minor solids	liquid	0.052	0.01	2,050	465.56	1,639,872	6,207	not radioactive	11	D
CWS	Circulating Water System Blowdown	N		heat sink water body	liquid	4,719	1071.69	14,159	3215.52	148,818,384,000	563,279,273	not radioactive	11	D
WWS	Waste Oil from Oil Separator	N		oily water mostly oil	liquid								7	F

Notes

- 1 See glossary for definition of terms
- 2 Includes the maximum quantity column once per five years for most entries.
- 3 Includes decay of some isotopes
- 4 Conservatively assumes one primary to secondary leak every 4 years requiring shutdown and repair.
- 5 For all LLW streams there is a national and commercial strategy from the LLW repository for Sorting segregation and Release (NDA Strategy and UK, Nuclear LLW Strategy:Strategic Environmental Assessment, Response to Consultation on the Scoping Report, November 2008)
- 6 The preconditioning and disposal methods have as much as possible been taken from DEFRA Report DEFRA/RAS/05.005, Nirex Report N/093, October 2005. If not, the current best known practice have been used.
- 7 Several other potential routes exist for a number of waste streams which the Utility operator may adopt in the future

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet plant life	cubic meters plant life				
CVS	regenerative hx	heat exchanger	R	insulation replace	insulation	1/lop	58.67	1.662	58.67	1.662	LLW	solid	3	B
CVS	makeup miniflo hx A & B	heat exchanger	R	insulation replace	insulation	1/lop	21.47	0.608	21.47	0.608	LLW	solid	3	B
CVS	makeup miniflo hx A & B	heat exchanger	R	gasket replace	compressible rigid plastic	50	0.13	0.004	0.13	0.004	LLW	solid	3	B
CVS	letdown hx	heat exchanger	R	gasket replace	compressible rigid plastic	1/lop	0.11	0.003	0.11	0.003	LLW	solid	3	B
CVS	letdown hx	heat exchanger	R	insulation replace	compressible rigid plastic	1/lop	57.36	1.624	57.36	1.624	LLW	solid	3	B
WLS	reactor coolant drain tank hx	heat exchanger	R	gasket replace	compressible rigid plastic	1/lop	0.04	0.001	0.04	0.001	LLW	solid	3	B
WLS	reactor coolant drain tank hx	heat exchanger	R	insulation replace	insulation	1/lop	14.31	0.405	14.31	0.405	LLW	solid	3	B
SFS	spent fuel pool hx A	heat exchanger	R	minimal waste									13	B
SFS	spent fuel pool hx B	heat exchanger	R	minimal waste									13	B
RHR	residual heat removal hx	heat exchanger	R	insulation replace	insulation	1/lop	201.12	5.696	201.12	5.696	LLW	solid	3	B
RHR	residual heat removal hx	heat exchanger	R	gasket replace	compressible rigid plastic	1/lop	0.03	0.001	0.03	0.001	LLW	solid	3	B
CCS	component cooling hx A	heat exchanger	N	gasket replace	neoprene	1/10 yrs	1.08	0.031	3.24	0.092		solid	9	C
CCS	component cooling hx B	heat exchanger	N	gasket replace	neoprene	1/10 yrs	1.08	0.031	3.24	0.092		solid	9	C
BDS	steam gen blowdown hx A&B	heat exchanger		minimal waste									13	B
various	hxs (other non-radioactive)	heat exchanger	N	minimal waste									9	C
WLS	reactor coolant drain tank	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	waste holdup tank A	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	waste holdup tank B	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	waste monitor tank A	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	waste monitor tank B	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	waste monitor tank C	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	waste monitor tank D	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	waste monitor tank E	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	waste monitor tank F	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet plant life	cubic meters plant life				
WLS	effluent holdup tank A	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
WLS	effluent holdup tank B	tank	R	gasket replace	compressible rigid plastic	3/lop	0.08	0.002	0.24	0.007	LLW	solid	3	B
CVS	boric acid batching tank	tank	N	minimal waste									9	C
CVS	boric acid tank	tank	N	minimal waste									9	C
CVS	chemical mixing tank	tank	N	minimal waste									9	C
WLS	zinc addition tank	tank	N	minimal waste									9	C
WLS	chemical waste tank	tank	R	gasket replace	compressible rigid plastic	once/18 mo	0.02	0.001	0.8	0.023	LLW	solid	3	B
CCS	component cooling wtr surge tk	tank	N	minimal waste									9	C
CCS	chemical addition tank	tank	N	minimal waste									9	C
LOS	lube oil reservoir	tank	N	oil replace	depleted oil	once/25 yrs ¹	2807	79.496	5614	158.992		liquid	7	F
various	tanks (other non-radioactive)	tank (160)	N										9	C
All Systems	valves (potentially radioactive)	valve (1461)	R	packing replace	compressible rigid plastic	once/5yrs	15.94	0.451	191.28	5.417	LLW	solid	3	B
All Systems	valves (non-radioactive)	valve (3694)	N	packing replace	packing/seat and trim replace	once/5yrs	40.3	1.141	483.6	13.696	LLW	solid	3	B
CVS	reactor coolant filter A	filter	R	gasket replace	compressible rigid plastic	once/yr	0.03	0.001	1.8	0.051	LLW	solid	3	B
CVS	reactor coolant filter B	filter	R	gasket replace	compressible rigid plastic	once/yr	0.03	0.001	1.8	0.051	LLW	solid	3	B
CVS	makeup filter	filter	R	gasket replace	compressible rigid plastic	once/yr	0.03	0.001	1.8	0.051	LLW	solid	3	B
WLS	waste prefilter	filter	R	gasket replace	compressible rigid plastic	once/yr	0.03	0.001	1.8	0.051	LLW	solid	3	B
WLS	waste after filter	filter	R	gasket replace	compressible rigid plastic	once/yr	0.03	0.001	1.8	0.051	LLW	solid	3	B
WLS	resin fines filter	filter	R	gasket replace	compressible rigid plastic	once/yr	0.03	0.001	1.8	0.051	LLW	solid	3	B
SFS	spent fuel system filter A	filter	R	gasket replace	compressible rigid plastic	once/yr	0.03	0.001	1.8	0.051	LLW	solid	3	B
CCS	spent fuel system filter B	filter	R	gasket replace	compressible rigid plastic	once/yr	0.03	0.001	1.8	0.051	LLW	solid	3	B

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet plant life	cubic meters plant life				
WLS	charcoal deep bed filter	adsorber	R	minimal waste									13	B
WGS	guard bed	adsorber	R	minimal waste									13	B
WGS	delay bed A	adsorber	R	minimal waste									13	B
WGS	delay bed B	adsorber	R	minimal waste									13	B
WGS	moisture separator	small vessel	R	minimal waste									13	B
CVS	mixed bed demineralizer A	ion exchanger	R	minimal waste									13	B
CVS	mixed bed demineralizer B	ion exchanger	R	minimal waste									13	B
CVS	cation bed demineralizer	ion exchanger	R	minimal waste									13	B
CVS	waste ion exchanger A	ion exchanger	R	minimal waste									13	B
CVS	waste ion exchanger B	ion exchanger	R	minimal waste									13	B
CVS	waste ion exchanger C	ion exchanger	R	minimal waste									13	B
SFS	spent fuel sys demin A	ion exchanger	R	minimal waste									13	B
SFS	spent fuel sys demin B	ion exchanger	R	minimal waste									13	B
CVS	makeup pump A	pump	R	mech seals 2/pmp	carbon/SiC	once/10 yr	0.1	0.003	0.2	0.006	LLW	solid	3	B
CVS	makeup pump/motor A	pump	R	oil replace	waste oil	once/5yrs	1.34	0.038	16.08	0.455	LLW	liquid	7	F
CVS	makeup pump B	pump	R	mech seals 2/pmp	carbon/SiC	once/10 yr	0.1	0.003	0.2	0.006	LLW	solid	3	B
CVS	makeup pump/motor B	pump	R	oil replace	waste oil	once/5yrs	1.34	0.038	16.08	0.455	LLW	liquid	7	F
WLS	zinc injection pump	pump	N	minimal waste									9	C
RNS	residual heat removal pump A	pump	R	mech seals 2/pmp	carbon/SiC	once/5yrs	0.1	0.003	1.2	0.034	LLW	solid	3	B
RNS	residual heat removal pump B	pump	R	mech seals 2/pmp	carbon/SiC	once/5yrs	0.1	0.003	1.2	0.034	LLW	solid	3	B
CCS	ccw pump A	pump	R	mech seals 2/pmp	carbon/SiC	once/5yrs	0.1	0.003	1.2	0.034	LLW	solid	3	B

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet plant life	cubic meters plant life				
CCS	ccw pump B	pump	R	mech seals 2/pmp	carbon/SiC	once/5yrs	0.1	0.003	1.2	0.034	LLW	solid	3	B
SFS	spent fuel cooling pump A	pump	R	mech seals 2/pmp	carbon/SiC	once/5yrs	0.1	0.003	1.2	0.034	LLW	solid	3	B
SFS	spent fuel cooling pump/motor A	pump	R	oil replace	waste oil	once/5yrs	1.34	0.038	16.08	0.455	LLW	liquid	7	F
SFS	spent fuel cooling pump B	pump	R	mech seals 2/pmp	carbon/SiC	once/5yrs	0.1	0.003	1.2	0.034	LLW	solid	3	B
SFS	spent fuel cooling pump/motor B	pump	R	oil replace	waste oil	once/5yrs	1.34	0.038	16.08	0.455	LLW	liquid	7	F
WLS	degassifier seperator pump A	pump	R	replace pump	canned pump	once/lop	1	0.028	1	0.028	LLW	solid	13	B
WLS	degassifier seperator pump B	pump	R	replace pump	canned pump	once/lop	1	0.028	1	0.028	LLW	solid	13	B
WLS	degassifier discharge pump A	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	degassifier discharge pump B	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	effluent holdup pump A	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	effluent holdup pump B	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	waste holdup pump A	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	waste holdup pump B	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	monitor pump A	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	monitor pump B	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	monitor pump C	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	monitor pump D	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	monitor pump E	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	monitor pump F	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	chemical waste pump	pump	R	replace diaphragms	buna n	once/5yrs	0.1	0.003	1.2	0.034	LLW	plastic	3	B
WLS	rcdt pump A	pump	R	mech seal 1/pmp	carbon/SiC	3/lop	0.3	0.008	0.9	0.025	LLW	solid	3	B

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet plant life	cubic meters plant life				
WLS	rcdt pump B	pump	R	mech seal 1/pmp	carbon/SiC	3/lop	0.3	0.008	0.9	0.025	LLW	solid	3	B
WLS	degassifier vacuum pump A	pump	R	mech seal 2/pmp	carbon/SiC	3/lop	0.1	0.003	0.3	0.008	LLW	solid	3	B
WLS	degassifier vacuum pump B	pump	R	mech seal 2/pmp	carbon/SiC	3/lop	0.1	0.003	0.3	0.008	LLW	solid	3	B
WSS	resin transfer pump	pump	R	replace pump	screw pump	once/10 yr	0.1	0.003	0.6	0.017	LLW	solid	13	B
WLS	containment sump pump A	pump	R	mech seal 1/pmp	carbon/SiC	2/lop	0.1	0.003	0.2	0.006	LLW	solid	3	B
WLS	containment sump pump B	pump	R	mech seal 1/pmp	carbon/SiC	2/lop	0.1	0.003	0.2	0.006	LLW	solid	3	B
FWS	Main Feedwater Pump A	pump	N	mech seal 4/pmp	carbon/SiC	once/5yrs	1	0.028	12	0.34		solid	9	C
FWS	Main Feedwater Pump B	pump	N	mech seal 4/pmp	carbon/SiC	once/5yrs	1	0.028	12	0.34		solid	9	C
FWS	Main Feedwater Pump A	pump	N	replace oil/100 gal	lube oil	once/5yrs	13.37	0.379	160.44	4.544		liquid	7	F
FWS	Main Feedwater Pump B	pump	N	replace oil/100 gal	lube oil	once/5yrs	13.37	0.379	160.44	4.544		liquid	7	F
various	other non-rad pumps	pump (34)	N	replace parts									9	C
various	compres and vac pumps	pump (18)	N	replace parts	metal/ plastic								9	C
various	shop and maint equipment	tools	N	replace tools	metal/ plastic								9	C

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							mass in pounds each change	mass in tonne each change	mass in pounds plant life ²	mass in tonne plant life				
EDS1	NNS1 125V 60 Cell 8 Hour Bat 1	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
EDS2	NNS2 125V 60 Cell 8 Hour Bat 1	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
EDS3	NNS1 125V 60 Cell 8 Hour Bat 2	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
EDS4	NNS2 125V 60 Cell 8 Hour Bat 2	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSA	Div A 125V 24 HR Battery 1A	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSA	Div A 125V 24 HR Battery 1B	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSB	Div B 125V 24 HR Battery 1A	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSB	Div B 125V 24 HR Battery 1B	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSB	Div B 125V 72 HR Battery 2A	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSB	Div B 125V 72 HR Battery 2B	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSC	Div C 125V 24 HR Battery 1A	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSC	Div C 125V 24 HR Battery 1B	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSC	Div C 125V 72 HR Battery 2A	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSC	Div C 125V 72 HR Battery 2B	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSD	Div D 125V 24 HR Battery 1A	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSD	Div D 125V 24 HR Battery 1B	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSS	Spare 125V 60 Cell Battery A	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	
IDSS	Spare 125V 60 Cell Battery B	battery	N	replace battery	lead/acid/ plastic	once/20yrs	39,000	18	78,000	35	solid/liquid	9	C	

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet life of plant	cubic meters life of plant				
VAS	Auxiliary/Annex Building Supply AHU A	hvac filter	N	replace filters 12 prefilters	fiberglass/ metal	2/ year	96	2.72	11520	326.25		solid	9	C
VAS	Auxiliary/Annex Building Supply AHU B	hvac filter	N	replace filters 6 prefilters and	fiberglass/ metal	2/ year	96	2.72	5760	163.13		solid	9	C
VAS	Fuel Handling Area Supply AHU A	hvac filter	N	replace filter 3 prefilters and	fiberglass/ metal	2/ year	48	1.36	2880	81.56		solid	9	C
VAS	Fuel Handling Area Supply AHU B	hvac filter	N	replace filter 3 prefilters and	fiberglass/ metal	2/ year	48	1.36	2880	81.56		solid	9	C
VAS	CVS Pump Room Unit Cooler A	hvac filter	N	replace filters 2 filter	fiberglass/ metal	2/ year	16	0.45	960	27.19		solid	9	C
VAS	CVS Pump Room Unit Cooler B	hvac filter	N	replace filters 2 filter	fiberglass/ metal	2/ year	16	0.45	960	27.19		solid	9	C
VAS	RNS Pump Room Unit Cooler A	hvac filter	N	replace filters 2 filter	fiberglass/ metal	2/ year	16	0.45	960	27.19		solid	9	C
VAS	RNS Pump Room Unit Cooler B	hvac filter	N	replace filters 2 filter	fiberglass/ metal	2/ year	16	0.45	960	27.19		solid	9	C
VBS	Supplemental Air Filtration Unit A high efficiency filters	hvac filter	N	replace filters 4 filter	fiberglass/ metal	once/5yrs	16	0.45	192	5.44		solid	9	C
VBS	Supplemental Air Filtration Unit B high efficiency filters	hvac filter	N	replace filters 4 filter	fiberglass/ metal	once/5yrs	16	0.45	192	5.44		solid	9	C
VBS	Supplemental Air Filtration Unit A HEPA filters	hvac filter	N	replace filters 2 filter	fiberglass/ metal	once/5yrs	8	0.23	96	2.72		solid	9	C
VBS	Supplemental Air Filtration Unit B HEPA filters	hvac filter	N	replace filters 2 filter	fiberglass/ metal	once/5yrs	8	0.23	96	2.72		solid	9	C
VBS	Supplemental Air Filtration Unit A charcoal filter	hvac filter	N	replace charcoal	granulated charcoal	once/10yrs	85.7	2.43	514.2	14.56		solid	9	C
VBS	Supplemental Air Filtration Unit B charcoal filters	hvac filter	N	replace charcoal	granulated charcoal	once/10yrs	85.7	2.43	514.2	14.56		solid	9	C
VBS	MCR/TSC Supply AHU A	hvac filter	N	replace filters 12 prefilters	uncompacted fiberglass/metal	2/year	192	5.44	11520	326.25		solid	9	C
VBS	MCR/TSC Supply AHU B	hvac filter	N	replace filters 12 prefilters	uncompacted fiberglass/metal	2/ year	192	5.44	11520	326.25		solid	9	C
VBS	A/C 1E Elect Room Supply AHU A	hvac filter	N	replace filters 12 prefilters	uncompacted fiberglass/metal	2/ year	192	5.44	11520	326.25		solid	9	C
VBS	B/D 1E Elect Room Supply AHU B	hvac filter	N	replace filter 6 prefilters and	uncompacted fiberglass/metal	2/ year	96	2.72	5760	163.13		solid	9	C
VBS	A/C 1E Elect Room Supply AHU C	hvac filter	N	replace filters 12 prefilters	uncompacted fiberglass/metal	2/ year	192	5.44	11520	326.25		solid	9	C
VBS	B/D 1E Elect Room Supply AHU D	hvac filter	N	replace filter 6 prefilters and	uncompacted fiberglass/metal	2/ year	96	2.72	5760	163.13		solid	9	C
VFS	Containment Supply AHU Low Efficiency Filter A	hvac filter	N	replace filter 2 prefilters and	uncompacted fiberglass/metal	2/ year	32	0.91	1920	54.38		solid	9	C

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet life of plant	cubic meters life of plant				
VFS	Containment Supply AHU Low Efficiency Filter B	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	32	0.91	1920	54.38		solid	9	C
VFS	Containment Supply High Efficiency Filter A	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	32	0.91	1920	54.38		solid	9	C
VFS	Containment Supply High Efficiency Filter B	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	32	0.91	1920	54.38		solid	9	C
VFS	Containment Exh Upstream High Efficiency Filter A	hvac filter	R	replace filter	uncompacted fiberglass/ metal	once/3yrs	16	0.45	320	9.06	LLW less than 5 mr/hr	solid	3	B
VFS	Containment Exh Upstream High Efficiency Filter B	hvac filter	R	replace filter	uncompacted fiberglass/ metal	once/3yrs	16	0.45	320	9.06	LLW less than 5 mr/hr	solid	3	B
VFS	containment exh HEPA filter A	hvac filter	R	replace filter	uncompacted fiberglass/ metal	once/5yrs	16	0.45	192	5.44	LLW less than 5 mr/hr	solid	3	B
VFS	containment exh HEPA filter B	hvac filter	R	replace filter	uncompacted fiberglass/ metal	once/5yrs	16	0.45	192	5.44	LLW less than 5 mr/hr	solid	3	B
VFS	cont exh charcoal filter A	hvac filter	R	replace charcoal	granulated charcoal	once/10yrs	85.7	2.43	514.2	14.56	LLW less than 5 mr/hr	solid	3	B
VFS	cont exh charcoal filter B	hvac filter	R	replace charcoal	granulated charcoal	once/10yrs	85.7	2.43	514.2	14.56	LLW less than 5 mr/hr	solid	3	B
VFS	cont exh downstream high efficiency filter A	hvac filter	R	replace filter	uncompacted fiberglass/ metal	once/3yrs	16	0.45	320	9.06	LLW less than 5 mr/hr	solid	3	B
VFS	cont exh downstream high efficiency filt B	hvac filter	R	replace filter	uncompacted fiberglass/ metal	once/3yrs	16	0.45	320	9.06	LLW less than 5 mr/hr	solid	3	B
VHS	Health Physice & Hot Machine Shop AHU A	hvac filter	R	replace filter	uncompacted fiberglass/ metal	2/ year	128	3.63	2560	72.5	LLW less than 5 mr/hr	solid	3	B
VHS	Health Physice & Hot Machine Shop AHU B	hvac filter	R	replace filter	uncompacted fiberglass/ metal	2/ year	128	3.63	2560	72.5	LLW less than 5 mr/hr	solid	3	B
VRS	Radwaste Bldg Supply AHU A	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	96	2.72	5760	163.13		solid	9	C
VRS	Radwaste Bldg Supply AHU B	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	96	2.72	5760	163.13		solid	9	C
VTS	Turbine Bldg Personnel Area AHU A	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	64	1.81	3840	108.75		solid	9	C
VTS	Turbine Bldg Personnel Area AHU B	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	64	1.81	3840	108.75		solid	9	C
VTS	Turbine Bldg Electrical Eqp Room AHU A	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	96	2.72	5760	163.13		solid	9	C
VTS	Turbine Bldg Electrical Eqp Room AHU B	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	96	2.72	5760	163.13		solid	9	C
VXS	Annex Bldg General Area AHU A	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	64	1.81	3840	108.75		solid	9	C
VXS	Annex Bldg General Area AHU B	hvac filter	N	replace filter	uncompacted fiberglass/ metal	2/ year	64	1.81	3840	108.75		solid	9	C

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet life of plant	cubic meters life of plant				
VXS	Annex Bldg Equipment Room AHU A	hvac filter	N	replace filter 5 prefilters and	uncompacted fiberglass/ metal	2/ year	80	2.27	4800	135.94		solid	9	C
VXS	Annex Bldg Equipment Room AHU B	hvac filter	N	replace filter 5 prefilters and	uncompacted fiberglass/ metal	2/ year	80	2.27	4800	135.94		solid	9	C
VXS	MSIV Compartment A AHU-A	hvac filter	N	replace filter 2 filters	uncompacted fiberglass/ metal	2/ year	16	0.45	960	27.19		solid	9	C
VXS	MSIV Compartment B AHU-B	hvac filter	N	replace filter 2 filters	uncompacted fiberglass/ metal	2/ year	16	0.45	960	27.19		solid	9	C
VXS	MSIV Compartment B AHU-C	hvac filter	N	replace filter 2 filters	uncompacted fiberglass/ metal	2/ year	16	0.45	960	27.19		solid	9	C
VXS	MSIV Compartment A AHU-D	hvac filter	N	replace filter 2 filters	uncompacted fiberglass/ metal	2/ year	16	0.45	960	27.19		solid	9	C
VXS	Switchgear Room AHU A	hvac filter	N	replace filter 5 prefilters and	uncompacted fiberglass/ metal	2/ year	80	2.27	4800	135.94		solid	9	C
VXS	Switchgear Room AHU B	hvac filter	N	replace filter 5 prefilters and	uncompacted fiberglass/ metal	2/ year	80	2.27	4800	135.94		solid	9	C
VXS	Mechanical Equipment Area AHU A	hvac filter	N	replace filter 2 prefilters and	uncompacted fiberglass/ metal	2/ year	32	0.91	1920	54.38		solid	9	C
VXS	Mechanical Equipment Area AHU B	hvac filter	N	replace filter 2 prefilters and	uncompacted fiberglass/ metal	2/ year	32	0.91	1920	54.38		solid	9	C
VXS	Valve/Piping Penetration Room AHU A	hvac filter	N	replace filter 1 filter	uncompacted fiberglass/ metal	2/ year	8	0.23	480	13.59		solid	9	C
VXS	Valve/Piping Penetration Room AHU B	hvac filter	N	replace filter 1 filter	uncompacted fiberglass/ metal	2/ year	8	0.23	480	13.59		solid	9	C
VZS	Service Module AHU A	hvac filter	N	replace filter 2 prefilters and	uncompacted fiberglass/ metal	2/ year	32	0.91	1920	54.38		solid	9	C
VZS	Service Module AHU B	hvac filter	N	replace filter 2 prefilters and	uncompacted fiberglass/ metal	2/ year	32	0.91	1920	54.38		solid	9	C
VZS	Engine Room AHU A	hvac filter	N	replace filter 3 prefilters and	uncompacted fiberglass/ metal	2/ year	48	1.36	2880	81.56		solid	9	C
VZS	Engine Room AHU B	hvac filter	N	replace filter 3 prefilters and	uncompacted fiberglass/ metal	2/ year	48	1.36	2880	81.56		solid	9	C
various	doors	doors (266)	N	replace gaskets	fiberglass cloth	once/lop	22.17	0.63	22.17	0.63		solid	9	C
various	fire doors	doors (157)	N	replace gaskets	fiberglass cloth	once/lop	13.08	0.37	13.08	0.37		solid	9	C
various	hatches	hatches (33)	N	replace gaskets	fiberglass cloth	once/lop	5.51	0.16	5.51	0.16		solid	9	C
FHS	refueling pool under water filtration system	filter	R	replace cartridge	pleated polyestr	once/yr	2.95	0.08	177	5.01	LLW	solid	3	B
FHS	underwater cameras	camera (4)	R	minimal waste							LLW	solid	3	B

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet life of plant	cubic meters life of plant				
FHS	FHS underwater camera sys	camera	R	minimal waste							LLW	solid	3	B
FHS	fixed underwater light	light	R	minimal waste							LLW	solid	3	B
FHS	portable underwater light	light	R	minimal waste							LLW	solid	3	B
WSS	resin slurry inlet camera	camera	R	minimal waste							LLW	solid	3	B
WSS	resin slurry recirc camera	camera	R	minimal waste							LLW	solid	3	B
WSS	resin slurry conditions monitor	camera	R	minimal waste							LLW	solid	3	B
4033	hot machine shop decon system portable	skid	R								LLW	solid	13	B
4033	hot machine shop decon glove box	skid	R								LLW	solid	13	B
all sys	fans blowers and drives	fans (122)	R/N									solid	N; 9, If R; 13	N; C, If R; B
all sys	instrumentation elements	instruments (3337)	R/N	replace elements							LLW	solid	N; 9, If R; 13	N; C, If R; B
RXS	control rod cluster	rx control (53)	R			once/20yrs	198.75	5.63	3975	112.57	ILW	solid	4	A
RXS	gray rod cluster	rx control (16)	R			once/20yrs	60	1.7	1200	33.98	ILW	solid	4	A
RXS	fuel assembly	rx control (157)	R	burnup	spent fuel rods	40%/18 mos	485	13.74	19400	549.42	HLW		14	H
all sys	wire and cable ac	ac circuits (2498)	R/N										N; 9, If R; 13	N; C, If R; B
all sys	wire and cable dc	dc circuits (328)	R/N										N; 9, If R; 13	N; C, If R; B
various	power transformers	transformers (50)	R/N										N; 9, If R; 13	N; C, If R; B
RCS	pressurizer heaters	heater (31)	R										9	B
CVS	boric acid tank immersion heater	heater (2)	N										9	C
CVS	boric acid batching tk Immer htr	heater	N										9	C
VFS	containment exhaust elec ht	heater (2)	R										9	B
BDS	electrodeionization filters A&B	filter (4)	N	replace cartridge		once/6 mos	6.72	0.19	806	22.83			9	C

System	Component	Type	Rad/ Nonrad	Waste Source	Waste Description	Frequency	Waste Quantity				Waste Activity Level	Waste Form	Pre-conditioning stage (see Key)	Disposal Method (see Key)
							cubic feet each change	cubic meters each change	cubic feet life of plant	cubic meters life of plant				
BDS	electrodeionization units A&B	ion migration	R	replace stack	resin/membrane module	once/12 yrs	27	0.76	135	3.82	LLW	solid	1 or possible 17	B or possible F
BDS	electrodeionization units A&B (alternate supplier)	ion migration	R	replace stack	resin/membrane module	once/5 yrs	31.66667	0.9	324	9.18	LLW	solid	1 or possible 17	B or possible F
DTS	electrodeionization filters A&B	filter (2)	N	replace cartridge		once/6mos	3.36	0.1	403	11.41			9	C
DTS	electrodeionization unit	ion-migration	N	replace stack	resin/membrane module	once/12yrs	47.25	1.34	236	6.68			9	C
DTS	reverse osmosis filters A&B	filter (2)	N	replace cartridge		once/6mos	3.36	0.1	403	11.41			9	C
DTS	reverse osmosis units 1&2	ion-migration	N	replace modules		once/7yrs	557	15.77	4774	135.2			9	C

- 1 based on 21,000 gallon tank
- 2 Two battery exchanges are used. The third will be included in determining decommissioning wastes. Each cell is 650lb, of this weight approximately 90 % is lead. It is highly likely that the lead will be recycled and reused.
- 3 frequency based on design engineer experience volume is actual size
- 4 For all LLW streams there is a national and commercial strategy from the LLW repository for Sorting segregation and Release (NDA Strategy and UK, Nuclear LLW Strategy:Strategic Environmental Assessment, Response to Consultation on the Scoping Report, November 2008)
- 5 The preconditioning and disposal methods have as much as possible been taken from DEFRA Report DEFRA/RAS/05.005, Nirex Report N/093, October 2005. If not, the current best known practise have been used.
- 6 Several other potential routes exist for a number of waste streams which the Utility operator may adopt in the future

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
RXS	Reactor Vessel	tank	R	11,603	328.61	600,166	272.8	Note 1	ILW	9 & 4	A
RXS	Reactor Integrated Head Package including CRDM latch housing (closure head assembly)	head	R	7,685	217.64	145,000	65.91	Note 1	LLW	13	B
RXS	Studs, Nuts and Washers	fasteners	R	133	3.765	33,900	15.41	Note 1	LLW	3	B
RXS	Reactor Integrated Head Package Shroud	integrated head	R	90	2.552	44,139	20.06	Note 1	LLW	9 & 15	B
RXS	Reactor Integrated Head Package CRDM Cooling Fans	integrated head	R	26.9	0.762	13,200	6	Note 1	LLW	9 & 15	B
RXS	Reactor Integrated Head Package Tripod	integrated head	R	22.5	0.637	11,017	5.01	Note 1	LLW	9 & 15	B
RXS	Reactor Integrated Head Package Radial Arm Hoist	integrated head	R	20.1	0.569	9,858	4.48	Note 1	LLW	9 & 15	B
RXS	Reactor Integrated Head Package Top Plate	integrated head	R	14.2	0.402	6,957	3.16	Note 1	LLW	9 & 15	B
RXS	Reactor Integrated Head Package Remaining Items	integrated head	R	58.2	1.648	28,505	12.96		LLW	9 & 15	B
RXS	Reactor Upper Internals	internals	R	see individual pieces		116,659	53.03	Note 1	ILW	9 & 4	A
RXS	Reactor Lower Internals	internals	R			205,310	93.32	Note 1	ILW	9 & 4	A
RXS	Reactor Cavity Neutron Shield upper (4)	internals	R	12.5	0.354	5,708	2.59	Note 1	ILW	9 & 4	A
RXS	Reactor Cavity Neutron Shield middle (4)	internals	R	12.5	0.354	5,052	2.3	Note 1	ILW	9 & 4	A
RXS	Reactor Cavity Neutron Shield lower (4)	internals	R	12.5	0.354	5,572	2.53	Note 1	ILW	9 & 4	A
RXS	Non-Threaded Fasteners	internals	R					Note 1	ILW	9 & 4	A
RXS	Threaded Structural Fasteners	internals	R					Note 1	ILW	9 & 4	A
RXS	Lower Core Support Plate	internals	R	144	4.07	46,342	21.06	Note 1	ILW	9 & 4	A
RXS	Secondary Core Support	internals	R	70	1.99	4,464	2.03	Note 1	ILW	9 & 4	A
RXS	Vortex Suppression Plate	internals	R	11	0.3	3,195	1.45	Note 1	ILW	9 & 4	A
RXS	Core Shroud Assembly	internals	R	1,542	43.68	44,357	20.16	Note 1	ILW	9 & 4	A
RXS	Radial Supports [4]	internals	R	2.28		1,142	0.52	Note 1	ILW	9 & 4	A
RXS	Core Barrel	internals	R	3,627	102.72	132,900	60.41	Note 1	ILW	9 & 4	A
RXS	Core Barrel Nozzle	internals	R	15	0.43	4,729	2.15	Note 1	ILW	9 & 4	A
RXS	Head and Vessel Pins	internals	R	1	0.02	330	0.15	Note 1	ILW	9 & 4	A
RXS	Lower Support Plate Fuel Alignment Pins	internals	R	0.37	0.01	94.2	0.04	Note 1	ILW	9 & 4	A
RXS	Core Barrel Hold Down Spring	internals	R	4.65	0.13	2,277	1.0	Note 1	ILW	9 & 4	A
RXS	Upper Core Plate	internals	R	65	1.85	7,105	3.2	Note 1	ILW	9 & 4	A
RXS	Support Columns [42]	internals	R	361	10.23	9,257	4.2	Note 1	ILW	9 & 4	A
RXS	Guide Tube Assemblies [69]	internals	R	671	18.99	49,404	22.5	Note 1	ILW	9 & 4	A

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
RXS	Upper Support Plate Fuel Alignment Pins (314)	internals	R	1.27	0.04	314	0.1	Note 1	ILW	9 & 4	A
RXS	Upper Core Plate Inserts (8)	internals	R	0.25	0.01	116	0.1	Note 1	ILW	9 & 4	A
RXS	Direct Vessel Injection A Deflector	internals	R	0.5	0.01	250	0.1	Note 1	ILW	9 & 4	A
RXS	Direct Vessel Injection B Deflector	internals	R	0.5	0.01	250	0.1	Note 1	ILW	9 & 4	A
RXS	Irradiation Specimen Guide Tubes	internals	R			1,975	0.9	Note 1	ILW	9 & 4	A
RXS	Head Cooling Nozzles	internals	R					Note 1	ILW	9 & 4	A
RXS	Control Rod Cluster	rx control (53)	R	198.75	5.63				ILW	14	H
RXS	Gray Rod Cluster	rx control (16)	R	60	1.7				ILW	14	H
RXS	Fuel Assembly	rx control (157)	R	485	13.74	273,965	124.53		HLW	14	H
RXS	Reactor Vessel Cavity Reflective Insulation	insulation	R	625	17.7	15,000	6.82		LLW	9 & 15	B
RXS	Integrated Head Package Dome Insulation	insulation	R	140	3.96	3,400	1.55		LLW	9 & 15	B
RCS	Steam Generator 1	heat exchanger	R	25,700	727.84	1,378,329	626.51		LLW	9 & 15	B
RCS	Steam Generator 2	heat exchanger	R	25,700	727.84	1,378,329	626.51		LLW	9 & 15	B
RCS	Pressurizer	tank	R	2,100	59.47	336,680	153.04		ILW	9 & 4	A
RCS	Pressurizer Heaters	heater (31)	R	2	0.05	358	0.16		ILW	9 & 4	A
RCS	SG 1 Normal Rotation RX Coolant Pump	pump	R	885	25.07	179,862	81.76		ILW	9 & 4	A
RCS	SG 1 Reverse Rotation RX Coolant Pump	pump	R	885	25.07	179,862	81.76		ILW	9 & 4	A
RCS	SG 2 Normal Rotation RX Coolant Pump	pump	R	885	25.07	179,862	81.76		ILW	9 & 4	A
RCS	SG 2 Reverse Rotation RX Coolant Pump	pump	R	885	25.07	179,862	81.76		ILW	9 & 4	A
CVS	Regenerative HX	heat exchanger	R	216	6.12	7,240	3.29		ILW	9 & 4	A
CVS	Makeup Miniflo HX A	heat exchanger	R	5	0.15	538	0.24		LLW	9 & 15	B
CVS	Makeup Miniflo HX B	heat exchanger	R	5	0.15	538	0.24		LLW	9 & 15	B
CVS	Letdown HX	heat exchanger	R	116	3.28	14,040	6.38		ILW	9 & 4	A
SFS	Spent Fuel Pool HX A	heat exchanger	R	67	1.9	3,327	1.51		LLW	9 & 15	B
SFS	Spent Fuel Pool HX B	heat exchanger	R	67	1.9	3,327	1.51		LLW	9 & 15	B
RNS	Residual Heat Removal HX	heat exchanger	R	1,095	31.01	49,948	22.7		LLW	9 & 15	B
WGS	Waste Gas System Gas Cooler	heat exchanger	R	4	0.11	194	0.09		LLW	9 & 15	B
WLS	Reactor Coolant Drain Tank HX	heat exchanger	R	27	0.75	855	0.39		LLW	9 & 15	B

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
WLS	Vapor Condenser	heat exchanger	R	62	1.75	3,175	1.44		LLW	9 & 15	B
WLS	Reactor Coolant Drain Tank	tank	R	128	3.62	2,569	1.17		LLW	9 & 15	B
WLS	Waste Holdup Tank A	tank	R	2,072	58.68	15,317	6.96		LLW	9 & 15	B
WLS	Waste Holdup Tank B	tank	R	2,072	58.68	15,317	6.96		LLW	9 & 15	B
WLS	Waste Monitor Tank A	tank	R	2,072	58.68	15,317	6.96		LLW	9 & 15	B
WLS	Waste Monitor Tank B	tank	R	2,072	58.68	15,317	6.96		LLW	9 & 15	B
WLS	Waste Monitor Tank C	tank	R	2,072	58.68	15,317	6.96		LLW	9 & 15	B
WLS	Waste Monitor Tank D	tank	R	2,072	58.68	15,317	6.96		LLW	9 & 15	B
WLS	Waste Monitor Tank E	tank	R	2,072	58.68	15,317	6.96		LLW	9 & 15	B
WLS	Waste Monitor Tank F	tank	R	2,072	58.68	15,317	6.96		LLW	9 & 15	B
WLS	Effluent Holdup Tank A	tank	R	3,846	108.93	25,520	11.6		LLW	9 & 15	B
WLS	Effluent Holdup Tank B	tank	R	3,846	108.93	25,520	11.6		LLW	9 & 15	B
WLS	Chemical Waste Tank	tank	R	268	7.58	4,234	1.92		LLW	9 & 15	B
All Sys	Valves (potentially radioactive)	valve (1461)	R						LLW	9 & 15	B
CVS	Reactor Coolant Filter A	filter	R	29	0.82	2,600	1.18	drained flushed and crud contaminated	ILW	2	A
CVS	Reactor Coolant Filter B	filter	R	29	0.82	2,600	1.18	drained flushed and crud contaminated	ILW	2	A
WLS	Waste Prefilter	filter	R	29	0.82	2,600	1.18	drained flushed and crud contaminated	ILW	2	A
WLS	Waste After Filter	filter	R	29	0.82	2,600	1.18	drained flushed and crud contaminated	ILW	2	A
WLS	Resin Fines Filter	filter	R	29	0.82	2,600	1.18	drained flushed and crud contaminated	ILW	2	A
SFS	Spent Fuel System Filter A	filter	R	29	0.82	2,600	1.18	drained flushed and crud contaminated	ILW	2	A
CCS	Spent Fuel System Filter B	filter	R	29	0.82	2,600	1.18	drained flushed and crud contaminated	ILW	2	A
WLS	Charcoal Deep Bed Filter	adsorber	R	68	1.92	1,888	0.86		LLW	9 & 15	B
WGS	Guard Bed	adsorber	R	8	0.23	511	0.23		LLW	9 & 15	B
WGS	Delay Bed A	adsorber	R	88	2.49	3,423	1.56		LLW	9 & 15	B
WGS	Delay Bed B	adsorber	R	88	2.49	3,423	1.56		LLW	9 & 15	B
WGS	Moisture Separator	small vessel	R	0.53	0.02	51	0.02		LLW	9 & 15	B
CVS	Mixed Bed Demineralizer A	ion exchanger	R	74	2.1	17,200	7.82		LLW	9 & 15	B

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
CVS	Mixed Bed Demineralizer B	ion exchanger	R	74	2.1	17,200	7.82		LLW	9 & 15	B
CVS	Cation Bed Demineralizer	ion exchanger	R	74	2.1	17,200	7.82		LLW	9 & 15	B
WLS	Waste Ion Exchanger A	ion exchanger	R	40	1.14	1,496	0.68		LLW	9 & 15	B
WLS	Waste Ion Exchanger B	ion exchanger	R	40	1.14	1,496	0.68		LLW	9 & 15	B
WLS	Waste Ion Exchanger C	ion exchanger	R	40	1.14	1,496	0.68		LLW	9 & 15	B
SFS	Spent Fuel Sys Demin A	ion exchanger	R	95	2.69	2,455	1.12		LLW	9 & 15	B
SFS	Spent Fuel Sys Demin B	ion exchanger	R	95	2.69	2,455	1.12		LLW	9 & 15	B
CVS	Makeup Pump A	pump	R						LLW	9 & 15	B
CVS	Makeup Pump/Motor A	pump	R	224.60	6.36				LLW	9 & 15	B
CVS	Makeup Pump B	pump	R						LLW	9 & 15	B
CVS	Makeup Pump/Motor B	pump	R	224.60	6.36				LLW	9 & 15	B
RNS	Residual Heat Removal Pump A	pump	R	155.00	4.39				LLW	9 & 15	B
RNS	Residual Heat Removal Pump B	pump	R	155.00	4.39				LLW	9 & 15	B
CCS	Component Cooling Water Pump A	pump	R			5961.30	2.70		LLW	9 & 15	B
CCS	Component Cooling Water Pump B	pump	R			5961.30	2.70		LLW	9 & 15	B
SFS	Spent Fuel Cooling Pump A	pump	R	38.30	1.08	1495.00	0.68		LLW	9 & 15	B
SFS	Spent Fuel Cooling Pump/Motor A	pump	R	84.70	2.40	3732.00	1.69		LLW	9 & 15	B
SFS	Spent Fuel Cooling Pump B	pump	R	38.30	1.08	1495.00	0.68		LLW	9 & 15	B
SFS	Spent Fuel Cooling Pump/Motor B	pump	R	84.70	2.40	3732.00	1.69		LLW	9 & 15	B
WLS	Degassifier Seperator Pump A	pump	R						LLW	9 & 15	B
WLS	Degassifier Seperator Pump B	pump	R						LLW	9 & 15	B
WLS	Degassifier Discharge Pump A	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Degassifier Discharge Pump B	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Effluent Holdup Pump A	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Effluent Holdup Pump B	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Waste Holdup Pump A	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Waste Holdup Pump B	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Monitor Pump A	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Monitor Pump B	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Monitor Pump C	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
WLS	Monitor Pump D	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Monitor Pump E	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Monitor Pump F	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	Chemical Waste Pump	pump	R	6.70	0.19	248.00	0.11		LLW	9 & 15	B
WLS	RCDT Pump A	pump	R	13.24	0.37	850.00	0.39		LLW	9 & 15	B
WLS	RCDT Pump B	pump	R	13.24	0.37	850.00	0.39		LLW	9 & 15	B
WLS	Degassifier Vacuum Pump A	pump	R			1400.00	0.64		LLW	9 & 15	B
WLS	Degassifier Vacuum Pump B	pump	R			1400.00	0.64		LLW	9 & 15	B
WSS	Resin Transfer Pump	pump	R			2540.00	1.15		LLW	9 & 15	B
WLS	Containment Sump Pump A	pump	R	4.60	0.13	1300.00	0.59		LLW	9 & 15	B
WLS	Containment Sump Pump B	pump	R	4.60	0.13	1300.00	0.59		LLW	9 & 15	B
VFS	Containment Exh Upstream High Efficiency Filter A	hvac filter	R	1,224	34.66	17,900	8.14	< 5mr/hr	LLW	2, possible 3	B
VFS	Containment Exh Upstream High Efficiency Filter B	hvac filter	R						LLW	2, possible 3	B
VFS	Containment Exh HEPA Filter A	hvac filter	R						LLW	2, possible 3	B
VFS	Containment Exh HEPA Filter B	hvac filter	R						LLW	2, possible 3	B
VFS	Cont Exh Charcoal Filter A	hvac filter	R						LLW	2, possible 3	B
VFS	Cont Exh Charcoal Filter B	hvac filter	R						LLW	2, possible 3	B
VFS	Cont Exh Downstream High Efficiency Filter A	hvac filter	R						LLW	2, possible 3	B
VFS	Cont Exh Downstream High Efficiency Filter B	hvac filter	R						LLW	2, possible 3	B
VFS	Containment Exhaust Electric Heater	heater (2)	R						LLW	9 & 15 or 13	B
VHS	Health Physics & Hot Machine Shop AHU A	hvac filter	R						LLW	2, possible 3	B
VHS	Health Physics & Hot Machine Shop AHU B	hvac filter	R						LLW	2, possible 3	B
FHS	Refueling Pool Under Water Filtration System	filter	R						LLW	2, possible 3	B
FHS	Underwater Cameras	camera (4)	R						LLW	3	B
FHS	FHS Underwater Camera Sys	camera	R						LLW	3	B
FHS	fixed underwater light	light	R						LLW	3	B
FHS	Portable Underwater Light	light	R						LLW	3	B
WSS	Resin Slurry Inlet Camera	camera	R						LLW	3	B
WSS	Resin Slurry Recirc Camera	camera	R						LLW	3	B
WSS	Resin Slurry Conditions Monitor	camera	R						LLW	3	B

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
4033	Hot Machine Shop Decon System Portable	skid	R						LLW	13	B
4033	Hot Machine Shop Decon Glove Box	skid	R						LLW	13	B
BDS	Electrodeionization Units A&B	ion migration	R						LLW	3	B
All Sys	Fans Blowers and Drives	fans (122)	R/N						LLW	N; 9, If R;13	N; C, If R;B
All Sys	Instrumentation Elements	instruments (3337)	R/N						LLW	N; 9, If R;13	N; C, If R;B
All Sys	Wire and Cable ac	ac circuits (2498)	R/N						LLW	N; 9, If R;13	N; C, If R;B
All Sys	Wire and Cable dc	dc circuits (328)	R/N						LLW	N; 9, If R;13	N; C, If R;B
varies	Power Transformers	transformers (50)	R/N						LLW	N; 9, If R;13	N; C, If R;B
CVS	Makeup Filter	filter	N	29	0.82	2,600	1.18		N/A	9	C
CCS	Component Cooling HX A	heat exchanger	N	1,008	28.53	50,960	23.16		N/A	9	C
CCS	Component Cooling HX B	heat exchanger	N	1,008	28.53	50,960	23.16		N/A	9	C
BDS	Steam Gen Blowdown HX A	heat exchanger	N	371	10.51	23,346	10.61		N/A	9	C
BDS	Steam Gen Blowdown HX B	heat exchanger	N	371	10.51	23,346	10.61		N/A	9	C
CDS	Low Pressure Feedwater Heater 1A	heat exchanger	N	1,751	49.59	88,000	40		N/A	9	C
CDS	Low Pressure Feedwater Heater 1B	heat exchanger	N	1,751	49.59	88,000	40		N/A	9	C
CDS	Low Pressure Feedwater Heater 1C	heat exchanger	N	1,751	49.59	88,000	40		N/A	9	C
CDS	Low Pressure Feedwater Heater 2A	heat exchanger	N	1,424	40.33	63,800	29		N/A	9	C
CDS	Low Pressure Feedwater Heater 2B	heat exchanger	N	1,424	40.33	63,800	29		N/A	9	C
CDS	Low Pressure Feedwater Heater 2C	heat exchanger	N	1,424	40.33	63,800	29		N/A	9	C
CDS	Low Pressure Feedwater Heater 3A	heat exchanger	N	1,424	40.33	92,600	42.09		N/A	9	C
CDS	Low Pressure Feedwater Heater 3B	heat exchanger	N	1,424	40.33	92,600	42.09		N/A	9	C
CDS	Low Pressure Feedwater Heater 4A	heat exchanger	N	1,810	51.25	68,300	31.05		N/A	9	C
CDS	Low Pressure Feedwater Heater 4B	heat exchanger	N	1,810	51.25	68,300	31.05		N/A	9	C
FWS	Hi Pressure Feedwater Heater 6A	heat exchanger	N	3,593	101.77	238,000	108.18		N/A	9	C
FWS	Hi Pressure Feedwater Heater 6B	heat exchanger	N	3,593	101.77	238,000	108.18		N/A	9	C
FWS	Hi Pressure Feedwater Heater 7A	heat exchanger	N	3,181	90.08				N/A	9	C
FWS	Hi Pressure Feedwater Heater 7B	heat exchanger	N	3,181	90.08				N/A	9	C
VYS	Hot Water Heating System A	heat exchanger	N	67	1.9	2,434	1.11		N/A	9	C
VYS	Hot Water Heating System B	heat exchanger	N	67	1.9	2,434	1.11		N/A	9	C
CDS	Spray Tower Deaerator	heat exchanger	N	32,998	934.51	728,000	330.91		N/A	9	C

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
varies	HXs (other non-radioactive)	heat exchanger	N						N/A	9	C
CVS	Boric Acid Batching Tank	tank	N						N/A	9	C
CVS	Boric Acid Tank	tank	N	10,695	302.89	28,330	12.88		N/A	9	C
CVS	Chemical Mixing Tank	tank	N						N/A	9	C
WLS	Zinc Addition Tank	tank	N						N/A	9	C
CCS	Component Cooling Wtr Surge Tk	tank	N						N/A	9	C
CCS	Chemical Addition Tank	tank	N						N/A	9	C
LOS	Lube Oil Reservoir	tank	N						N/A	9	C
varies	Tanks (other non-radioactive)	tank (160)	N						N/A	9	C
All Sys	Valves (non-radioactive)	valve (3694)	N						N/A	9	C
WLS	Zinc Injection Pump	pump	N	2.60	0.07	158.00	0.07		N/A	9	C
FWS	Main Feedwater Pump A	pump	N			4640.00	2.10		N/A	9	C
FWS	Main Feedwater Pump B	pump	N			4640.00	2.10		N/A	9	C
FWS	Main Feedwater Pump A	pump	N			4640.00	2.10		N/A	9	C
FWS	Main Feedwater Pump B	pump	N			4640.00	2.10		N/A	9	C
varies	Other Non-Rad Pumps	pump (34)	N						N/A	9	C
varies	compressors and vacuum pumps	pump (18)	N						N/A	9	C
varies	Shop and Maintenance Equipment	tools	N						N/A	9	C
EDS1	NNS1 125V 60 Cell 8 Hour Battery 1	battery	N	110	3.12	39,000	17.73		N/A	9	C
EDS2	NNS2 125V 60 Cell 8 Hour Battery 1	battery	N	110	3.12	39,000	17.73		N/A	9	C
EDS3	NNS1 125V 60 Cell 8 Hour Battery 2	battery	N	110	3.12	39,000	17.73		N/A	9	C
EDS4	NNS2 125V 60 Cell 8 Hour Battery 2	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSA	Div A 125V 24 HR Battery 1A	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSA	Div A 125V 24 HR Battery 1B	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSB	Div B 125V 24 HR Battery 1A	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSB	Div B 125V 24 HR Battery 1B	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSB	Div B 125V 72 HR Battery 2A	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSB	Div B 125V 72 HR Battery 2B	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSC	Div C 125V 24 HR Battery 1A	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSC	Div C 125V 24 HR Battery 1B	battery	N	110	3.12	39,000	17.73		N/A	9	C

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
IDSC	Div C 125V 72 HR Battery 2A	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSC	Div C 125V 72 HR Battery 2B	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSD	Div D 125V 24 HR Battery 1A	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSD	Div D 125V 24 HR Battery 1B	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSS	Spare 125V 60 Cell Battery A	battery	N	110	3.12	39,000	17.73		N/A	9	C
IDSS	Spare 125V 60 Cell Battery B	battery	N	110	3.12	39,000	17.73		N/A	9	C
VAS	Auxiliary/Annex Building Supply AHU A	hvac filter	N						N/A	9	C
VAS	Auxiliary/Annex Building Supply AHU B	hvac filter	N						N/A	9	C
VAS	Fuel Handling Area Supply AHU A	hvac filter	N						N/A	9	C
VAS	Fuel Handling Area Supply AHU B	hvac filter	N						N/A	9	C
VAS	CVS Pump Room Unit Cooler A	hvac filter	N						N/A	9	C
VAS	CVS Pump Room Unit Cooler B	hvac filter	N						N/A	9	C
VAS	RNS Pump Room Unit Cooler A	hvac filter	N						N/A	9	C
VAS	RNS Pump Room Unit Cooler B	hvac filter	N						N/A	9	C
VBS	Supplemental Air Filtration Unit A high efficiency filters	hvac filter	N						N/A	9	C
VBS	Supplemental Air Filtration Unit B high efficiency filters	hvac filter	N						N/A	9	C
VBS	Supplemental Air Filtration Unit A HEPA filters	hvac filter	N						N/A	9	C
VBS	Supplemental Air Filtration Unit B HEPA filters	hvac filter	N						N/A	9	C
VBS	Supplemental Air Filtration Unit A charcoal filter	hvac filter	N						N/A	9	C
VBS	Supplemental Air Filtration Unit B charcoal filters	hvac filter	N						N/A	9	C
VBS	MCR/TSC Supply AHU A	hvac filter	N						N/A	9	C
VBS	MCR/TSC Supply AHU B	hvac filter	N						N/A	9	C
VBS	A/C 1E Elect Room Supply AHU A	hvac filter	N						N/A	9	C
VBS	B/D 1E Elect Room Supply AHU B	hvac filter	N						N/A	9	C
VBS	A/C 1E Elect Room Supply AHU C	hvac filter	N						N/A	9	C
VBS	B/D 1E Elect Room Supply AHU D	hvac filter	N						N/A	9	C
VFS	Containment Supply AHU Low Efficiency Filter A	hvac filter	N						N/A	9	C
VFS	Containment Supply AHU Low Efficiency Filter B	hvac filter	N						N/A	9	C
VFS	Containment Supply High Efficiency Filter A	hvac filter	N						N/A	9	C
VFS	Containment Supply High Efficiency Filter B	hvac filter	N						N/A	9	C

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
VRS	Radwaste Bldg Supply AHU A	hvac filter	N						N/A	9	C
VRS	Radwaste Bldg Supply AHU B	hvac filter	N						N/A	9	C
VTS	Turbine Bldg Personnel Area AHU A	hvac filter	N						N/A	9	C
VTS	Turbine Bldg Personnel Area AHU B	hvac filter	N						N/A	9	C
VTS	Turbine Bldg Electrical Eqp Room AHU A	hvac filter	N						N/A	9	C
VTS	Turbine Bldg Electrical Eqp Room AHU B	hvac filter	N						N/A	9	C
VXS	Annex Bldg General Area AHU A	hvac filter	N						N/A	9	C
VXS	Annex Bldg General Area AHU B	hvac filter	N						N/A	9	C
VXS	Annex Bldg Equipment Room AHU A	hvac filter	N						N/A	9	C
VXS	Annex Bldg Equipment Room AHU B	hvac filter	N						N/A	9	C
VXS	MSIV Compartment A AHU-A	hvac filter	N						N/A	9	C
VXS	MSIV Compartment B AHU-B	hvac filter	N						N/A	9	C
VXS	MSIV Compartment B AHU-C	hvac filter	N						N/A	9	C
VXS	MSIV Compartment A AHU-D	hvac filter	N						N/A	9	C
VXS	Switchgear Room AHU A	hvac filter	N						N/A	9	C
VXS	Switchgear Room AHU B	hvac filter	N						N/A	9	C
VXS	Mechanical Equipment Area AHU A	hvac filter	N						N/A	9	C
VXS	Mechanical Equipment Area AHU B	hvac filter	N						N/A	9	C
VXS	Valve/Piping Penetration Room AHU A	hvac filter	N						N/A	9	C
VXS	Valve/Piping Penetration Room AHU B	hvac filter	N						N/A	9	C
VZS	Service Module AHU A	hvac filter	N						N/A	9	C
VZS	Service Module AHU B	hvac filter	N						N/A	9	C
VZS	Engine Room AHU A	hvac filter	N						N/A	9	C
VZS	Engine Room AHU B	hvac filter	N						N/A	9	C
varies	Doors	doors (266)	N						N/A	9	C
varies	Fire Doors	doors (157)	N						N/A	9	C
varies	Hatches	hatches (33)	N						N/A	9	C
CVS	Boric Acid Tank Immersion Heater	heater (2)	N						N/A	9	C
CVS	Boric Acid Batching Tank Immersion Heater	heater	N						N/A	9	C
BDS	Electrodeionization Filters A&B	filter (4)	N						N/A	9	C

System	Component	Type	Rad / Nonrad	Volume ^{2,3}		Mass		Radiation/ Radioactivity	Waste Class ⁴	Pre-conditioning stage (see Key)	Disposal Method (see Key)
				cubic feet	m3	pounds	tonne				
BDS	Electrodeionization Units A&B	ion migration	N						N/A	9	C
DTS	Electrodeionization Filters A&B	filter (2)	N						N/A	9	C
DTS	Electrodeionization Unit	ion-migration	N						N/A	9	C
DTS	Reverse Osmosis Filters A&B	filter (2)	N						N/A	9	C
DTS	Reverse Osmosis Units 1&2	ion-migration	N						N/A	9	C

Notes

- 1 Before decommissioning begins fuel will be removed from the reactor vessel. Components that were near the core will have the highest total activity. Determination of detailed activities for each of the components is a complex analysis which considers neutron fluence, relative position of the component, impurity levels within the component, weight and geometry of the components. In addition to reactor components, local insulation and concrete will be affected. Other sources of activity include corrosion products and fission products from tramp uranium. One study estimated between 400 and 1300 casks of 10 cubic meters in volume would be needed for offsite storage of irradiated core internals if removed from site within one Casks would be constructed of a carbon steel outer shell, a stainless steel inner shell with rolled lead plate, lead shot, or poured lead shielding between. If shipment can be delayed for 50 years the number of casks may be reduced to between 30 and 50. By contrast the Davis Besse reactor vessel head was shipped off site unshielded under 49CFR 173.441 where the dose rate from the surface of the package cannot exceed 200 mr/hour
- 2 Volume basis may include protruding appendages such as nozzels and brackets allowing the component to fit into an overpack for transport without modification.
- 3 Where volume is based on weight a density of 500 lb/cubic foot (8025 kg/m3) is used throughout.
- 4 Waste Classification is best available. Wide variations may occur depending upon operational history.
- 5 For all LLW streams there is a national and commercial strategy from the LLW repository for Sorting segregation and Release (NDA Strategy and UK, Nuclear LLW Strategy:Strategic Environmental Assessment, Response to Consultation on the Scoping Report, November 2008)
- 6 The preconditioning and disposal methods have as much as possible been taken from DEFRA Report DEFRA/RAS/05.005, Nirex Report N/093, October 2005. If not, the current best known practice has been used.
- 7 Several other potential routes exist for a number of waste streams which the Utility operator may adopt in the future

Key for Preconditioning and Disposal Methods

Pre-Conditioning Method

1. Immobilisation in a cementitious grout within a 3m³ RWMD approved drum
2. Immobilisation in a cementitious grout within a 3m³ RWMD approved box
3. Compacted (Possible super compaction) into a 200L RWMD approved drum and placed into Half height ISO
4. Placed in 'baskets' in the RWMD approved box (possibly grouted) e.g. 4m box
5. Collection and passed to monitoring and sampling tanks with filtration/IX
6. Passed to WGS delay beds, HEPA Filter
7. Collection and storage in oil tank(s)
8. Sorted dependent on size/type
9. Monitoring and swabbing (over period of time) with potential cleaning or size reduction
10. Potential neutralisation, filtration and Ion exchange
11. Neutralisation, quenching, filtration and chemical treatment as necessary
12. Retained for quality purposes, returned to process when appropriate
13. Size reduction and placed in HHISO
14. Placed in HOLTEC flask
15. Placed in 'baskets' in the 3m³ RWMD approved box
16. Local encapsulation i.e. in 2.5L drum and put drum in HHISO
17. Collect and store
18. Local encapsulation i.e. in 220L drum and put drum in HHISO

Disposal Method

- A. Site ILW Store until UK repository becomes available.
- B. Sent to LLW repository for storage.
- C. Recycle or free release
- D. Discharge to site drain
- E. Discharge to atmosphere
- F. Incineration
- G. Discharge via Site effluent treatment.
- H. Underground HLW storage facility
- I. Landfill