

## Site (Data) : Kh SE

Stock of waste as at December 2008

Country: UKRAINE

Reporting Year: 2008

Site Name: Kh SE

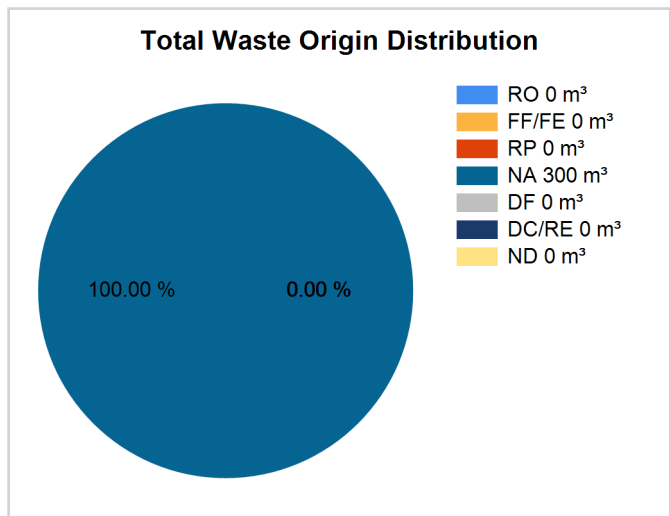
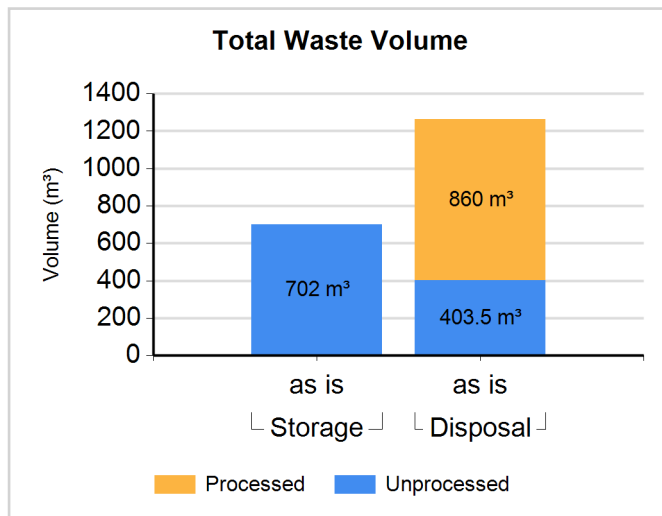
Full Name: Kharkov State Interregional Special Enterprise

Inventory Reporting Date: December 2008

Waste Matrix Used: Ukraine

## Waste Inventory

Est=distribution is an estimate, Proc.=Is the waste processed (Yes/No)? RO=Reactor Operations, FF/FE=Fuel Fabrication/Fuel Enrichment, RP=Reprocessing, NA=Nuclear Applications,DF=Defence, DC/RE=Decommissioning/Remediation, ND=Not Determined



Note: where volume "as dispo" is provided, volume "as is" is used in the graph instead.

## Waste Class: Mid-Active

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m³)	Volume "as dispo" (m³)	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
Mid-Active	Storage	N	N	702.000	702.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Mid-Active	Disposal	N	N	403.500	403.500	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Mid-Active	Disposal	Y	N	860.000	860.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00

Comment # 6808: The additional characteristics of the waste

Unprocessed: liquid (aqueous), solid (non-dispersible)

Processed: solid (non-dispersible)

## Processing - Conditioning method(s)

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Cementation	N	N	Same	N

## Spent Sources &lt;=30 years in Disposition

Number of Sources/Total Activity of Sources (GBq)		
Group I less than or equal 4GBq	Group II more than 4GBq but less than or equal 4E+4GBq	Group III more than 4E+4GBq

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Nuclide	num/activity	num/activity	num/activity	c	u	c	Total Activity for	Decay Date
Cd-109	22			N	Y	Y	3.800E-002	
	3.800E-002							
Ce-139	1			N	Y	Y	1.000E-004	
	1.000E-004							
Cf-252	16	1		N	Y	Y	1.701E+001	
	5.300E-003	1.700E+001						
Cf-252	1			N	Y	Y	8.200E-006	
	8.200E-006							
Co-56	25			N	Y	Y	1.000E-007	
	1.000E-007							
Co-56	17			N	Y	Y	2.000E-004	
	2.000E-004							
Co-56	1			N	Y	Y	1.000E-004	
	1.000E-004							
Co-57	2			N	Y	Y	1.000E-004	
	1.000E-004							
Co-57	1			N	Y	Y	1.200E-005	
	1.200E-005							
Co-57	26			N	Y	Y	1.900E-004	
	1.900E-004							
Co-58	31			N	Y	Y	1.000E-007	
	1.000E-007							
Co-60	424	3		N	Y	Y	1.164E+002	
	6.400E+000	1.100E+002						
Co-60	1091	64		N	Y	Y	2.830E+002	
	2.300E+001	2.600E+002						
Co-60	31	50		N	Y	Y	3.070E+002	
	1.700E+001	2.900E+002						

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Co-60	1			N	Y	Y	2.600E-003	
	2.600E-003							
Co-60	3			N	Y	Y	5.700E+000	
	5.700E+000							
Co-60	75			N	Y	Y	1.800E-002	
	1.800E-002							
Co-60	1			N	Y	Y	1.700E-002	
	1.700E-002							
Co-60	2			N	Y	Y	4.200E+000	
	4.200E+000							
Co-60		2		N	Y	Y	4.700E+001	
		4.700E+001						
Co-60		29		N	Y	Y	3.100E+002	
		3.100E+002						
Cs-137	703			N	Y	Y	8.700E+001	
	8.700E+001							
Cs-137	75			N	Y	Y	1.000E+002	
	1.000E+002							
Cs-137		318		N	Y	Y	1.000E+004	
		1.000E+004						
Cs-137	78			N	Y	Y	2.000E+001	
	2.000E+001							
Cs-137		111		N	Y	Y	5.900E+003	
		5.900E+003						
Cs-137	92	179		N	Y	Y	1.101E+004	
	1.400E+001	1.100E+004						
Cs-137	2			N	Y	Y	6.700E-005	
	6.700E-005							
Cs-137	568	1493		N	Y	Y	7.827E+004	
	2.700E+002	7.800E+004						

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Cs-137	261	376		N	Y	Y	2.413E+004	
	1.300E+002	2.400E+004						
Eu-152		1		N	Y	Y	2.300E+001	
		2.300E+001						
Fe-55	15			N	Y	Y	2.000E+000	
	2.000E+000							
Fe-55	2			N	Y	Y	3.400E-003	
	3.400E-003							
Fe-55	2			N	Y	Y	2.300E-002	
	2.300E-002							
Fe-59	8			N	Y	Y	1.000E-007	
	1.000E-007							
H-3	43			N	Y	Y	9.800E-002	
	9.800E-002							
H-3	376			N	Y	Y	1.800E+002	
	1.800E+002							
H-3		38		N	Y	Y	3.100E+004	
		3.100E+004						
Hg-203	5			N	Y	Y	1.000E+000	
	1.000E+000							
I-125	2			N	Y	Y	2.600E-006	
	2.600E-006							
I-131	1			N	Y	Y	1.000E+000	
	1.000E+000							
Ir-192	12			N	Y	Y	8.800E-002	
	8.800E-002							
Ir-192	221			N	Y	Y	4.400E-001	
	4.400E-001							
Ir-192	3			N	Y	Y	8.800E+000	
	8.800E+000							

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Ir-192	1			N	Y	Y	2.300E+000	
	2.300E+000							
Kr-85	1			N	Y	Y	2.300E+000	
	2.300E+000							
Mn-54	13			N	Y	Y	2.700E-007	
	2.700E-007							
Mn-54	5			N	Y	Y	2.900E-008	
	2.900E-008							
Na-22	3			N	Y	Y	5.400E-006	
	5.400E-006							
Na-22	14			N	Y	Y	5.300E-005	
	5.300E-005							
Na-22	1			N	Y	Y	1.000E-004	
	1.000E-004							
Pm-147	21			N	Y	Y	1.000E-004	
	1.000E-004							
Pm-147	42	10		N	Y	Y	3.602E+002	
	1.800E-001	3.600E+002						
Pm-147	10			N	Y	Y	1.300E-006	
	1.300E-006							
Po-210	130			N	Y	Y	3.800E-002	
	3.800E-002							
Ru-106	1			N	Y	Y	8.000E-005	
	8.000E-005							
Sn-113	24			N	Y	Y	2.800E-008	
	2.800E-008							
Sn-119m	3			N	Y	Y	8.100E-005	
	8.100E-005							
Sn-119m	1			N	Y	Y	1.500E-006	
	1.500E-006							

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Sr-90	6456	3		N	Y	Y	2.090E+002	
	1.300E+002	7.900E+001						
Sr-90	1837			N	Y	Y	3.000E+002	
	3.000E+002							
Sr-90		20		N	Y	Y	1.600E+002	
		1.600E+002						
Sr-90	100			N	Y	Y	2.500E+001	
	2.500E+001							
Sr-90	18			N	Y	Y	3.500E-004	
	3.500E-004							
Sr-90	165			N	Y	Y	5.300E+001	
	5.300E+001							
Sr-90		1		N	Y	Y	3.200E+001	
		3.200E+001						
TI-204	9			N	Y	Y	3.100E+000	
	3.100E+000							
TI-204	4			N	Y	Y	2.100E+000	
	2.100E+000							
TI-204	1			N	Y	Y	4.600E-009	
	4.600E-009							
Tm-170	2			N	Y	Y	1.000E-007	
	1.000E-007							
Tm-170	21			N	Y	Y	4.000E-002	
	4.000E-002							
Tm-170	1			N	Y	Y	6.100E-006	
	6.100E-006							
Tm-170	1			N	Y	Y	1.000E-004	
	1.000E-004							
Zn-65	79			N	Y	Y	1.400E-003	
	1.400E-003							

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**Spent Sources > 30 years in Disposition**

Nuclide	Number of Sources/Total Activity of Sources (GBq)		c o n d	u n c o n d	c a t	Total Activity for all Groups (GBq)	Decay Date
	Group I less than or equal 2 GBq	Group II more than 2GBq					
	num/activity	num/activity					
Am-241	160		N	Y	Y	9.800E+001	
	9.800E+001						
Am-241		75	N	Y	Y	1.100E+003	
		1.100E+003					
Am-241	5	1	N	Y	Y	7.280E+001	
	4.800E+000	6.800E+001					
Am-241	82		N	Y	Y	2.700E+000	
	2.700E+000						
Am-243		1	N	Y	Y	1.500E+003	
		1.500E+003					
C-14	5		N	Y	Y	3.700E-001	
	3.700E-001						
C-14	6		N	Y	Y	7.800E-002	
	7.800E-002						
Ni-63	10		N	Y	Y	8.100E+000	
	8.100E+000						
Ni-63	14		N	Y	Y	8.800E+000	
	8.800E+000						
Pu-238	1553		N	Y	Y	9.100E+002	
	9.100E+002						
Pu-238		78	N	Y	Y	8.000E+003	
		8.000E+003					
Pu-238	2715		N	Y	Y	3.100E+000	
	3.100E+000						

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Pu-238	4		N	Y	Y	7.300E+000	
	7.300E+000						
Pu-239	10098		N	Y	Y	3.200E+002	
	3.200E+002						
Pu-239	1		N	Y	Y	9.900E-006	
	9.900E-006						
Pu-239		8	N	Y	Y	1.000E+002	
		1.000E+002					
Pu-239	9453		N	Y	Y	1.300E+001	
	1.300E+001						
Pu-239		1	N	Y	Y	1.600E+002	
		1.600E+002					
Pu-239	18923		N	Y	Y	3.600E+002	
	3.600E+002						
Ra-226	5		N	Y	Y	3.600E-006	
	3.600E-006						
Ra-226	978		N	Y	Y	1.900E-001	
	1.900E-001						
Th-232	2		N	Y	Y	1.900E-002	
	1.900E-002						
Th-232	1		N	Y	Y	2.000E-005	
	2.000E-005						
U-238	2		N	Y	Y	1.200E-006	
	1.200E-006						
U-238	26		N	Y	Y	1.300E-003	
	1.300E-003						



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**Multiple Nuclides SRS in Disposition**

Nuclide	Activity of Sources (GBq)	cond	uncond	cat	Decay Date
Sr-90	1.300E+002	N	Y	Y	
Y-90	0.000E+000	N	Y	N	