

**GREATER-THAN-CLASS C (GTCC) LOW LEVEL WASTE ENVIRONMENTAL  
IMPACT STATEMENT: PRE-CLOSURE ASSESSMENT DATA PACKAGE  
Waste Isolation Pilot Plant  
Supplemental Calculations to Support GTCC EIS  
March 2010**

## 1.0 INTRODUCTION

The Department of Energy (DOE) requested that Sandia National Laboratories (SNL) update its calculations (SNL, 2008B, 2008C) for the number of WIPP personnel required to handle the new waste volume documented in ANL (2010).

## 2.0 ASSUMPTIONS

Consistent with previous assumptions (SNL, 2008A, 2008B, 2008C), the following assumptions were used to complete the calculations:

- # full time equivalents (FTEs) = #shipments\*0.0318
- 1 h-SAMC per shipment (# h-SAMC = # shipments)
- 2 SWBs per TRUPACT and 3 TRUPACT per shipment (6 SWB/shipment)
- 4 Pb shielded 3-packs (12 shielded containers) per TRUPACT; 3 TRUPACT per shipment (36 Pb containers/shipment)
- Two 55-gal drums 7-packs (14 drums) per TRUPACT; 3 TRUPACT per shipment (42 drums/shipment)
- Shipment info for Cs irradiators taken directly from SNL (2008A)

## 3.0 CALCULATIONS

Calculations were performed using Excel and are contained in Attachment A.

## 4.0 REFERENCES

Argonne National Laboratory (ANL), 2010, *Supplement to GTCC LLRW and GTCC-Like waste Inventory Reports*, Argonne National Laboratory, Environmental Science Division. Argonne, IL, January.

Sandia National Laboratories (SNL), 2008A, *Task 3.2 Report, Basis Inventory for Greater-Than-Class C Low-Level Radioactive Waste Environmental Impact Statement Evaluations, Rev. 1*, prepared by Sandia, Albuquerque, N.M., for U.S. Department of Energy, Office of Environmental Management, May.

SNL, 2008B, *GTCC LLW Environmental Impact Statement: Pre-Closure Assessment Data Package, Waste Isolation Pilot Plant*, prepared for U.S. Department of Energy, Washington, D.C., October.

SNL, 2008C, *GTCC LLW Environmental Impact Statement: Pre-Closure Assessment Data Package, Waste Isolation Pilot Plant, Addendum A, Group 2 Wastes*, prepared for U.S. Department of Energy, Washington, D.C., October.

**ATTACHMENT A**

**GROUP 1 WASTE**

Waste Type	Description	Volume (m3)	Package Type	Total Packages	#Shipments	#WIPP FTEs
GTCC LLRW	Activated metal BWR	210	h-SAMC	3,045	3,045	97
GTCC LLRW	Activated metal PWR	670	h-SAMC	9,715	9,715	309
GTCC LLRW	Sealed sources - small	1,800	55-gallon drum	8,654	206	7
GTCC LLRW	Sealed sources - Cs irradiators	1,000	Irradiator	1,435	240	8
GTCC LLRW	Other waste - CH	42	55-gallon drum	202	5	0
GTCC LLRW	Other waste - RH	34	h-SAMC	173	173	5
	<b>Total GTCC LLRW</b>	<b>3,756</b>				
GTCC-like waste	Activated metal	13	h-SAMC	65	65	2
GTCC-like waste	Sealed sources - small	0.83	55-gallon drum	4	0	0
GTCC-like waste	Other waste - CH (West Valley decommissioning)	710	SWB	378	63	2
GTCC-like waste	Other waste - RH (West Valley decommissioning)	540	h-SAMC	2,741	2,741	87
GTCC-like waste	Other waste - CH (Other Sites)	34	55-gallon drum	164	4	0
GTCC-like waste	Other waste - RH (Other Sites)	170	h-SAMC	863	863	27
	<b>Total GTCC-Like</b>	<b>1468</b>				
	<b>Total Group 1 Total</b>	<b>5224</b>		<b>27,438</b>	<b>17,119</b>	<b>544</b>

**GROUP 2 WASTE**

ID	Description	Volume (m3)	Package Type	Total Packages	#Shipments	#WIPP FTEs
GTCC LLRW	Activated metal BWR	73	h-SAMC	956	956	30
GTCC LLRW	Activated metal PWR	300	h-SAMC	4,789	4,789	152
GTCC LLRW	West Valley NDA - Activated Metal	210	h-SAMC	1,068	1,068	34
GTCC LLRW	West Valley SDA - Activated Metal	530	h-SAMC	2,668	2,668	85
GTCC LLRW	Sealed sources - West Valley SDA	23	h-SAMC	117	117	4
GTCC LLRW	Other waste - CH (West Valley SDA)	1,600	SWB	851	142	5
GTCC LLRW	Other waste - RH (West Valley NDA)	1,900	Lead shielded container	16,814	467	15
GTCC LLRW	Other waste - RH (West Valley SDA)	7.3	h-SAMC	37	37	1
GTCC LLRW	Other waste - RH (Mo-99 production)	390	Lead shielded container	3,451	96	3
	<b>Total GTCC LLRW</b>	<b>5,033</b>				
GTCC-like waste	Other waste - CH (West Valley decommissioning)	220	SWB	117	20	1
GTCC-like waste	Other waste - RH (West Valley decommissioning)	760	h-SAMC	3,858	3,858	123
GTCC-like waste	Other waste - CH (Pu-238 production)	260	SWB	138	23	1
GTCC-like waste	Other waste - RH (Pu-238 production)	120	h-SAMC	609	609	19
	<b>Total GTCC-Like</b>	<b>1,360</b>				
	<b>Total Group 2 Total</b>	<b>6,393</b>		<b>35,474</b>	<b>14,849</b>	<b>473</b>
	<b>Grand Total</b>	<b>11,617</b>		<b>62,912</b>	<b>31,968</b>	<b>1,017</b>