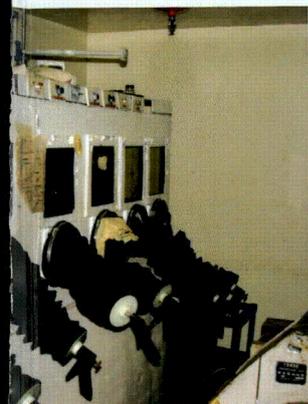


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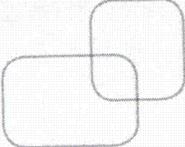


Disposal of Greater-Than-Class C
(GTCC) Low-Level Radioactive
Waste and GTCC-Like Waste
(DOE/EIS-0375)

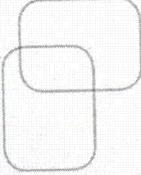
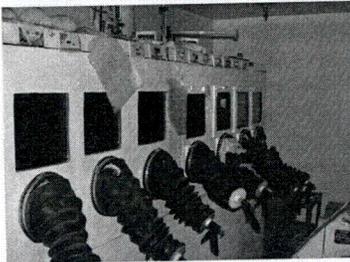
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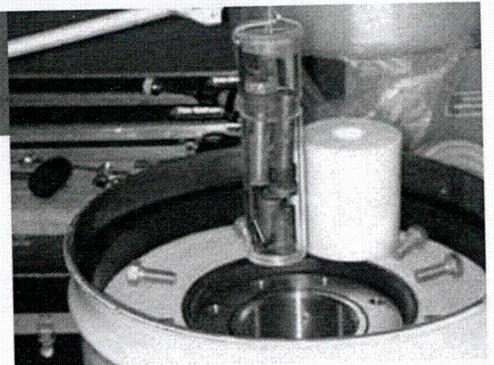
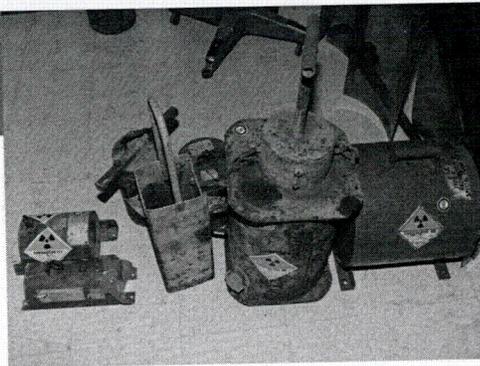
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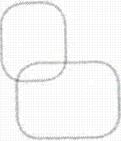


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Impact Statement for the



Disposal of Greater-Than-Class C
(GTCC) Low-Level Radioactive
Waste and GTCC-Like Waste
(DOE/EIS-0375)

Volume 3: Appendix J,
Comment Response Document
(Sections J.1 through J.3.1)



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1	DCF	dose conversion factor
2	DCG	derived concentration guide
3	DOE	U.S. Department of Energy
4	DOE-EM	DOE-Office of Environmental Management
5	DOE-ID	DOE-Idaho Operations Office
6	DOE-NV	DOE-Nevada Operations Office
7	DOE-RL	DOE-Richland Operations Office
8	DOI	U.S. Department of the Interior
9	DOT	U.S. Department of Transportation
10	DRZ	disturbed rock zone
11	DTRA	Defense Threat Reduction Agency
12	DWPF	Defense Waste Processing Facility
13		
14	EAC	Early Action Area
15	EDE	effective dose equivalent
16	EDNA	Environmental Designation for Noise Abatement
17	EIS	environmental impact statement
18	EPA	U.S. Environmental Protection Agency
19	ERDF	Environmental Restoration Dispersal Facility
20	ESA	Endangered Species Act of 1973
21	ESRP	Eastern Snake River Plain (INL)
22		
23	FFTF	Fast Flux Test Facility (Hanford)
24	FGR	Federal Guidance Report
25	FONSI	Finding of No Significant Impact
26	FR	<i>Federal Register</i>
27	FTE	full-time equivalent
28	FY	fiscal year
29		
30	GAO	U.S. Government Accountability (formerly General Accounting) Office
31	GMS/OSRP	Office of Global Material Security/Off-Site Source Recovery Project
32	GSA	General Separations Area (SRS)
33	GTCC	greater-than-Class C
34		
35	HAP	hazardous air pollutant
36	HC	Hazard Category
37	HEPA	high-efficiency particulate air
38	HEU	highly enriched uranium
39	HF	hydrogen fluoride
40	HFIR	High Flux Isotope Reactor (ORNL)
41	HMS	Hanford Meteorology Station
42	HOSS	hardened on-site storage
43	h-SAMC	half-shielded activated metal canister
44	HSW EIS	Final Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement
45		
46		
47		

1	ICRP	International Commission on Radiological Protection
2	IDA	intentional destructive act
3	IDAPA	Idaho Administrative Procedures Act
4	IDEQ	Idaho Department of Environmental Quality
5	IDF	Integrated Disposal Facility
6	INL	Idaho National Laboratory
7	INTEC	Idaho Nuclear Technology and Engineering Center (INL)
8	ISFSI	independent spent fuel storage installation
9		
10	LANL	Los Alamos National Laboratory
11	LCF	latent cancer fatality
12	L _{dn}	day-night sound level
13	L _{eq}	equivalent-continuous sound level
14	LEU	low-enriched uranium
15	LLRW	low-level radioactive waste
16	LLRWPA	Low-Level Radioactive Waste Policy Amendments Act of 1985
17	LMP	Land Management Plan (WIPP)
18	LWA	Land Withdrawal Act (WIPP)
19	LWB	Land Withdrawal Boundary (WIPP)
20		
21	MCL	maximum contaminant level
22	MCU	modular caustic side solvent extraction unit
23	MDA	material disposal area (LANL)
24	MOA	Memorandum of Agreement
25	MOU	Memorandum of Understanding
26	MOX	mixed oxides
27	MPSSZ	Middleton Place-Summerville Seismic Zone
28	MSL	mean sea level
29		
30	NAAQS	National Ambient Air Quality Standard(s)
31	NAGPRA	Native American Graves Protection and Repatriation Act of 1990
32	NASA	National Aeronautics and Space Administration
33	NCRP	National Council on Radiation Protection and Measurements
34	NDA	NRC-licensed disposal area (West Valley Site)
35	NEPA	National Environmental Policy Act of 1969
36	NERP	National Environmental Research Park
37	NESHAP	National Emission Standard for Hazardous Air Pollutants
38	NHPA	National Historic Preservation Act
39	NI PEIS	Nuclear Isotope PEIS
40	NLVF	North Las Vegas Facility
41	NMAC	<i>New Mexico Administrative Code</i>
42	NMED	New Mexico Environment Department
43	NMFS	National Marine Fisheries Services
44	NNHP	Nevada Natural Heritage Program
45	NNSA	National Nuclear Security Administration (DOE)
46	NNSA/NSO	NNSA/Nevada Site Office

1	NNSS	Nevada National Security Site (formerly Nevada Test Site or NTS)
2	NOAA	National Oceanic and Atmospheric Administration
3	NOI	Notice of Intent
4	NPDES	National Pollutant Discharge Elimination System
5	NPS	National Park Service
6	NRC	U.S. Nuclear Regulatory Commission
7	NRHP	<i>National Register of Historic Places</i>
8	NTS SA	Nevada Test Site Supplemental Analysis
9	NTTR	Nevada Test and Training Range
10		
11	ORNL	Oak Ridge National Laboratory
12	ORR	Oak Ridge Reservation
13		
14	PA	programmatic agreement
15	PCB	polychlorinated biphenyl
16	PCS	primary constituent standard
17	PEIS	programmatic environmental impact statement
18	P.L.	Public Law
19	PM	particulate matter
20	PM _{2.5}	particulate matter with an aerodynamic diameter of 2.5 μm or less
21	PM ₁₀	particulate matter with an aerodynamic diameter of 10 μm or less
22	PPV	Peak Particle Velocity
23	PSD	Prevention of Significant Deterioration
24	PSHA	Probabilistic Seismic Hazards Assessment
25	PWR	pressurized water reactor
26		
27	R&D	research and development
28	RCRA	Resource Conservation and Recovery Act
29	RDD	radiological dispersal device
30	RH	remote-handled
31	RH LLW EA	Remote-Handled Low-Level Waste Environmental Assessment (INL)
32	RLWTF-UP	Radioactive Liquid Waste Treatment Facility-Upgrade (LANL)
33	ROD	Record of Decision
34	ROI	region of influence
35	ROW	right-of-way
36	RPS	Radioisotopic Power Systems
37	RSL	Remote Sensing Laboratory
38	RWMC	Radioactive Waste Management Complex (INL)
39	RWMS	Radioactive Waste Management Site (NNSS)
40		
41	SA	Supplemental Analysis
42	SAAQS	State Ambient Air Quality Standards
43	SALDS	State-Approved Land Disposal Site
44	SCDHEC	South Carolina Department of Health and Environmental Control
45	SCE&G	South Carolina Electric Gas
46	SDA	state-licensed disposal area (West Valley Site)

1	SDWA	Safe Drinking Water Act
2	SHPO	State Historic Preservation Office(r)
3	SNF	spent nuclear fuel
4	SR	State Route
5	SRS	Savannah River Site
6	SWB	standard waste box
7	SWEIS	Site-Wide Environmental Impact Statement
8		
9	TA	Technical Area (LANL)
10	TC&WM EIS	Tank Closure and Waste Management EIS (Hanford)
11	TEDE	total effective dose equivalent
12	TEDF	Treated Effluent Disposal Facility
13	TEF	Tritium Extraction Facility
14	TLD	thermoluminescent dosimeter
15	TRU	transuranic
16	TRUPACT-II	Transuranic Package Transporter-II
17	TSCA	Toxic Substances Control Act
18	TSP	total suspended particulates
19	TTR	Tonapah Test Range
20	TVA	Tennessee Valley Authority
21		
22	US	United States
23	USACE	U.S. Army Corps of Engineers
24	USC	<i>United States Code</i>
25	USFS	U.S. Forest Service
26	USFWS	U.S. Fish and Wildlife Service
27	USGS	U.S. Geological Survey
28		
29	VOC	volatile organic compound
30		
31	WAC	waste acceptance criteria or <i>Washington Administrative Code</i>
32	WHB	Waste Handling Building (WIPP)
33	WIPP	Waste Isolation Pilot Plant
34	WSRC	Westinghouse Savannah River Company
35	WTP	Waste Treatment Plant (Hanford)
36	WVDP	West Valley Demonstration Project
37		
38		
39		

1 UNITS OF MEASURE

2			
	ac	acre(s)	m ³ cubic meter(s)
	ac-ft	acre-foot (feet)	MCi megacurie(s)
			mg milligram(s)
	°C	degree(s) Celsius	mi mile(s)
	cfs	cubic foot (feet) per second	mi ² square mile(s)
	Ci	curie(s)	min minute(s)
	cm	centimeter(s)	mL milliliter(s)
	cms	cubic meter(s) per second	mm millimeter(s)
			mph mile(s) per hour
	d	day(s)	mR milliroentgen(s)
	dB	decibel(s)	mrem millirem
	dBa	A-weighted decibel(s)	mSv millisievert(s)
			MW megawatt(s)
	°F	degree(s) Fahrenheit	MWh megawatt-hour(s)
	ft	foot (feet)	
	ft ²	square foot (feet)	nCi nanocurie(s)
	ft ³	cubic foot (feet)	
			oz ounce(s)
	g	gram(s) or acceleration of gravity (9.8 m/s/s)	
	gal	gallon(s)	pCi picocurie(s)
	gpd	gallon(s) per day	ppb part(s) per billion
	gpm	gallon(s) per minute	ppm part(s) per million
			R roentgen(s)
	h	hour(s)	rad radiation absorbed dose
	ha	hectare(s)	rem roentgen equivalent man
	hp	horsepower	
			s second(s)
	in.	inch(es)	t metric ton(s)
	kg	kilogram(s)	VdB vibration velocity decibel(s)
	km	kilometer(s)	
	km ²	square kilometer(s)	yd yard(s)
	kph	kilometer(s) per hour	yd ² square yard(s)
	kV	kilovolt(s)	yd ³ cubic yard(s)
			yr year(s)
	L	liter(s)	
	lb	pound(s)	
			μg microgram(s)
	m	meter(s)	μm micrometer(s)
	m ²	square meter(s)	

APPENDIX J:**COMMENT RESPONSE DOCUMENT**

This Comment Response Document (CRD) is organized into four main sections as follows. (1) Section J.1 describes the public comment process for the *Draft Greater-Than-Class C Low-Level Radioactive Waste Environmental Impact Statement* (Draft GTCC EIS), the procedure for managing and responding to the comments received for the Draft GTCC EIS, and a list of the dates and locations for the public hearings (see Table J-1). (2) Section J.2 summarizes the topics of general interest associated with the EIS as gleaned from the public comments received. (3) Section J.3 provides a compilation of all comment documents received and responses to the comments identified within each comment document. (4) Section J.4 lists the references for this appendix.

J.1 PUBLIC COMMENT PROCESS

A Notice of Intent (NOI) to prepare the Draft GTCC EIS was published in the *Federal Register* on July 23, 2007 (72 FR 40135), and it began a 60-day public scoping period that ended on September 21, 2007. All scoping comments received were considered in the preparation of the EIS and are summarized in Section 1.5.1. A Notice of Availability (NOA) for the Draft GTCC EIS was published in the *Federal Register* on February 25, 2011 (76 FR 10574), and it began a 120-day public comment period that ended on June 27, 2011. All comments received on the Draft EIS were considered in the preparation of this EIS and are presented in Section J.3.

An important part of the National Environmental Policy Act (NEPA) process involves giving the public the opportunity to provide input and comments on a Draft EIS for consideration in the preparation of a Final EIS. DOE issued the Draft GTCC EIS for review and comment by other federal agencies, states, American Indian tribal governments, local governments, and the public. DOE distributed copies to those organizations and government officials who were known to have an interest in the EIS and to those organizations and individuals who requested a copy. Copies were also made available on the project website (<http://www.gtcceis.anl.gov/>), the DOE NEPA website (<http://energy.gov/nepa/>), and in regional DOE public document reading rooms and public libraries near the sites evaluated in the Draft EIS. Postcard mailers were sent to stakeholders that were on the project distribution list, and announcements indicating the availability of the Draft EIS and the dates and times of the public hearings were published in local newspapers.

Each of the public hearings started with an open house that lasted about 1 hour, and posters explaining the NEPA process for the Draft GTCC EIS and presenting the alternatives evaluated and the results of the EIS evaluation were displayed. Copies of the Summary document and fact sheets were also made available to the public. Subject matter experts were on hand to answer any questions the public may have had as they viewed the poster display.

1 **TABLE J-1 Draft GTCC EIS Public Hearing Locations, Dates,**
 2 **and Estimated Attendance**

Location	Date	Attendance
North Augusta, South Carolina	April 19, 2011	38
Carlsbad, New Mexico	April 26, 2011	56
Albuquerque, New Mexico	April 27, 2011	79
Santa Fe, New Mexico	April 28, 2011	76
Las Vegas, Nevada	May 9, 2011	40
Idaho Falls, Idaho	May 11, 2011	35
Pasco, Washington	May 17, 2011	30
Portland, Oregon	May 19, 2011	200
Washington, D.C.	May 25, 2011	22

3
 4
 5 After the open house, DOE gave an overview of the Draft GTCC EIS, and attendees were
 6 given an opportunity to provide oral and written comments. Each oral comment presentation,
 7 recorded by a court reporter as part of the hearing transcript, was considered as a comment
 8 document. Written comments submitted by individuals during the hearings were likewise
 9 considered to be comment documents. The transcripts for the nine hearings are posted on the
 10 project website.

11
 12 DOE received a total of 1,204 comment documents, which accounted for approximately
 13 4,000 individual comments. Of the 1,204 comment records received, 137 were from
 14 organizations or federal or state agencies; 518 were from private citizens; and 549 were
 15 campaign letters, emails, or web comments received from six organizations (i.e., Snake River
 16 Alliance, Friends of the Gorge, Concerned Citizens for Nuclear Safety, Nuclear Watch, CREDO
 17 (CitizenLetter), and the Brookfield Senior Living Facility). Written comments were received via
 18 letter, email, or through submission of a comment form provided at the public hearings or on the
 19 project website. Verbal comments are included in transcripts documenting each of the public
 20 hearings held on the Draft GTCC EIS (as listed in Table J-1).

21
 22 Comment documents received were assigned a distinct identifier consisting of an
 23 alphabet prefix and a number. Comment documents that were received as letters were assigned a
 24 prefix of "L"; emails received an "E"; web comments got a "W"; and verbal comments at public
 25 meetings were given a "T." All comment documents received were reviewed, and individual
 26 comments identified from each comment document were given a distinct comment number. For
 27 example, if the comment letter that was assigned the number 1 had three comments identified,
 28 then the comments were given identifiers of L1-1, L1-2, and L1-3, respectively.

29
 30 Comments were reviewed and responses prepared by policy experts, technical subject
 31 matter experts, and NEPA experts. Comments were evaluated to determine whether additional or
 32 corrected information was needed and whether additional or revised text would clarify the
 33 information being conveyed. Sections that were revised to provide additional information or
 34 clarification are indicated in the responses when needed.

1 J.2 TOPICS OF INTEREST

2
3 DOE has identified 10 topics of interest based on the comments most frequently received
4 and/or comments that indicated a broad public concern. These topics are summarized in the list
5 and discussed in the text that follows.

- 6
7 • J.2.1 Disposal of GTCC LLRW and GTCC-like wastes at a new near-surface
8 land disposal facility at DOE sites evaluated (i.e., at the Hanford Site, the
9 Idaho National Laboratory [INL] Site, Los Alamos National Laboratory
10 [LANL], Savannah River Site [SRS], Nevada National Security Site [NNSS],
11 and Waste Isolation Pilot Plant [WIPP] Vicinity);
- 12
13 • J.2.2 Disposal of GTCC LLRW and GTCC-like wastes in the WIPP
14 repository;
- 15
16 • J.2.3 Consideration of other alternatives not evaluated in detail in the EIS,
17 including use of hardened on-site storage (HOSS), the proposed Yucca
18 Mountain Repository, a new geologic repository, other disposal methods
19 (e.g., mined cavities), and alternative sources of energy;
- 20
21 • J.2.4 NEPA process and procedures;
- 22
23 • J.2.5 Tribal and cultural resources;
- 24
25 • J.2.6 Transportation analysis and impacts;
- 26
27 • J.2.7 Model assumptions for post-closure impacts on human health;
- 28
29 • J.2.8 Waste inventory;
- 30
31 • J.2.9 Cumulative impacts; and
- 32
33 • J.2.10 Statutory/regulatory and policy issues.

34 35 36 **J.2.1 Disposal of GTCC LLRW and GTCC-Like Wastes at a New Near-Surface Land** 37 **Disposal Facility at DOE Sites Evaluated (i.e., at the Hanford Site, INL Site, LANL,** 38 **SRS, NNSS, and the WIPP Vicinity)**

39 40 41 **Topic Summary**

42
43 A number of comments were received on these six locations that were evaluated in the
44 EIS for the disposal of GTCC LLRW and GTCC-like wastes using the near-surface land disposal
45 methods. Five of the six sites evaluated have ongoing environmental remediation programs (the
46 exception is the WIPP Vicinity), and commenters – including American Indian tribes, other

1 members of the public, and nongovernmental organizations – noted that emphasis should be
2 placed on completing cleanup activities first rather than on increasing the amount of radioactive
3 wastes disposed of at these sites.

4
5 Commenters strongly recommended that specific sites should be removed from
6 consideration in developing a GTCC LLRW and GTCC-like waste near-surface land disposal
7 facility. In addition, some commenters felt that disposal of commercially generated radioactive
8 waste should not be conducted at government (DOE) facilities.

9
10 Commenters identified a number of site-specific environmental factors at DOE sites
11 evaluated in the EIS – including geology and soils (e.g., seismic and volcanic activity, strata,
12 contaminated soils and dust, erosion, soil properties) and hydrology (e.g., floodplains, surface
13 runoff, depth to groundwater, groundwater flow) – that could render these sites as unacceptable
14 locations for developing a land disposal facility for GTCC LLRW.

15
16 Commenters said that it is not clear what the basis is for the conceptual disposal facility
17 designs and whether boreholes and trenches can be developed and implemented to the necessary
18 depth at all sites as described in the EIS. Commenters suggested that the existing boreholes at
19 NNSS should be considered for disposal of GTCC LLRW and GTCC-like wastes in the EIS.
20 Also, the history of the use of these disposal methods at DOE sites should be addressed in greater
21 detail.

22 23 24 **Discussion**

25
26 DOE is actively performing environmental restoration activities at the Hanford Site, the
27 INL Site, LANL, NNSS, and SRS. The ongoing cleanup efforts at these sites will continue as
28 planned. DOE does not anticipate that GTCC LLRW or GTCC-like waste disposal would affect
29 ongoing cleanup activities at these sites.

30
31 The disposal methods and sites evaluated in the EIS encompass the range of reasonable
32 alternatives for the disposal of GTCC LLRW and GTCC-like wastes, consistent with NEPA
33 implementing regulations in the *Code of Federal Regulations* at 40 CFR, Parts 1500–1508. In
34 this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-
35 surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites
36 (i.e., Hanford Site, INL Site, LANL, NNSS, SRS, and the WIPP Vicinity, for which two
37 reference locations – one within and one outside the WIPP Land Withdrawal Boundary – were
38 considered). DOE has determined that it was reasonable to analyze these six sites because they
39 currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity,
40 which is near an operating geologic repository and has basic infrastructure to support the facility.

41
42 DOE also conducted a generic evaluation of commercial disposal facilities on nonfederal
43 lands in the EIS in order to provide, to the extent practicable, information regarding the potential
44 long-term performance of other (nonfederal) locations for siting a GTCC LLRW land disposal
45 facility. DOE conducted a generic evaluation because it would not be reasonable to analyze in

1 detail an essentially unlimited number of additional non-DOE or nonfederal sites where there is
2 little or no anticipated potential for facility development.

3
4 DOE solicited technical capability statements from commercial vendors that might be
5 interested in constructing and operating a GTCC LLRW and GTCC-like waste disposal facility
6 in a request for information in the FedBizOpps on July 1, 2005. Although at the time, several
7 commercial vendors expressed an interest, no vendor provided specific information on disposal
8 locations and methods for analysis in the EIS. On June 20, 2014 Waste Control Specialists, LLC,
9 (WCS), filed (and resubmitted on July 21, 2014) a Petition for Rulemaking with the Texas
10 Commission on Environmental Quality (TCEQ) requesting the State of Texas to revise certain
11 provisions of the Texas Administrative Code to remove prohibitions on disposal of GTCC
12 LLRW, GTCC-like waste and TRU waste at its TCEQ licensed facilities. On January 30, 2015,
13 TCEQ sent a letter to the NRC requesting guidance on the State of Texas's authority to license
14 disposal of GTCC LLRW, GTCC-like waste and TRU waste. This matter is under review by
15 NRC.

16
17 Final siting of a land disposal facility for GTCC LLRW and GTCC-like wastes would
18 involve further NEPA review as appropriate and be in accordance with applicable laws and
19 regulations and would include local stakeholder involvement.

20
21 The site-specific environmental factors identified by commenters were evaluated in the
22 EIS as appropriate. The results of the evaluation were taken into consideration in identifying the
23 preferred alternative presented in the Final EIS.

24
25 The three land disposal facility conceptual designs (above-grade vault, enhanced near-
26 surface trench, and intermediate-depth borehole) were selected as being representative of a range
27 of land disposal configurations (varying degrees of waste consolidation and geometry) that could
28 be employed for the disposal of the GTCC LLRW and GTCC-like waste inventory. As discussed
29 in Section 1.4.2, each concept has been used to some degree in the United States or other
30 countries. The same vault, borehole, and trench characteristics were considered for the disposal
31 sites evaluated to provide a common basis to compare the performance of each site's natural
32 hydrological, geological, and meteorological properties relative to contaminant fate and transport
33 should any engineered barriers begin to fail.

34
35 The conceptual nature of these configurations takes into account the characteristics of all
36 of the disposal sites for which they were considered, but their designs (e.g., width, depth, cover
37 depth, reinforced containment) could be altered or enhanced, as necessary, to provide an optimal
38 solution at a specific location. As an example, the cover depth could be adjusted to ensure that
39 roots from vegetation would not compromise the top of the engineered barrier. In addition, the
40 dimensions of the generic land disposal units (e.g., trench - width and depth, borehole - diameter
41 and depth, vault - width, depth, and height) were selected based on similar existing facilities,
42 existing equipment, and methods for construction and were optimized (waste volume disposed of
43 was maximized for a given disposal unit volume; simple waste handling procedures were used to
44 minimize exposure) for the types of waste packages considered. All designs could also
45 accommodate different disposal packages (existing and proposed) with minor variations in their
46 dimensions, but the EIS analyses would remain relevant for each option considered. Past

1 operational experience with these types of disposal facilities at DOE sites has shown that when
2 properly implemented, they can provide isolation of radioactive waste from the environment for
3 extended time periods. Past experience with each option provided additional information to
4 improve the design and performance of future land disposal facilities. Issues related to
5 performance over time would be analyzed in a project-specific analysis to address technical and
6 long-term cultural concerns (e.g., tribal issues).

9 **J.2.2 Disposal of GTCC LLRW and GTCC-Like Wastes at WIPP**

12 **Topic Summary**

14 Numerous comments were received objecting to the possible use of WIPP for disposal
15 of GTCC LLRW and GTCC-like wastes based on legal and technical considerations. Many
16 commenters noted that WIPP is only authorized to receive defense-generated TRU wastes, so
17 WIPP cannot be considered as a reasonable alternative in the EIS at this time. Commenters
18 discussed that by bringing GTCC LLRW and GTCC-like wastes to WIPP, DOE would be
19 breaking its promise to the citizens of New Mexico to dispose of only defense-generated
20 transuranic (TRU) waste.

22 Commenters also noted that disposal of GTCC LLRW and GTCC-like wastes at WIPP
23 would exceed the legally specified TRU waste limitations. For example, the activity limit for
24 remote-handled TRU waste disposed of at WIPP is 5.1 MCi. The disposal of the entire GTCC
25 LLRW and GTCC-like waste inventory at WIPP would add more than 160 MCi, which is about
26 30 times more than the legal limit.

28 Other commenters stated that WIPP site characteristics are not suitable for disposal of
29 GTCC LLRW and GTCC-like waste (e.g., there are karst formations that may affect the integrity
30 of the site, and there is brine within the facility) and that WIPP is surrounded by natural
31 resources (oil, gas, potash). There is also a concern that transportation of GTCC LLRW and
32 GTCC-like wastes means that additional radioactive wastes would be shipped over New Mexico
33 highways for several decades.

35 Commenters noted that the GTCC LLRW and GTCC-like waste inventory contains
36 mixed radioactive and hazardous waste, including waste regulated under the Resource
37 Conservation and Recovery Act (RCRA). There is a concern that the GTCC EIS should discuss
38 the specific hazardous chemicals and their amounts and concentrations in GTCC LLRW and
39 GTCC-like wastes. Commenters suggested the measures that are needed to prohibit substantial
40 releases of hazardous chemicals at WIPP must be described and analyzed, and the monitoring of
41 VOCs in GTCC disposal facilities must be described.

43 There were also commenters who suggested that as the only operating geologic
44 repository for radioactive waste in the United States, WIPP is the best choice for disposal of
45 GTCC LLRW and GTCC-like wastes, as supported by its site characteristics and proven safety
46 record for waste disposal to date.

1 Discussion

2
3 DOE acknowledges that only defense-generated TRU waste is currently authorized for
4 disposal at the WIPP geologic repository under the WIPP Land Withdrawal Act (LWA) as
5 amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to
6 allow disposal of waste other than TRU waste generated by atomic energy defense activities at
7 WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary
8 to revise the *Agreement for Consultation and Cooperation between Department of Energy and*
9 *the State of New Mexico for the Waste Isolation Pilot Plant*, the WIPP compliance certification
10 with the U.S. Environmental Protection Agency (EPA), and the WIPP Hazardous Waste Facility
11 Permit. In addition, follow-on NEPA project-specific review, including further characterization
12 of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for
13 disposal would have to be conducted.

14
15 However, NEPA does not limit an EIS to proposing and evaluating alternatives that are
16 currently authorized. Furthermore, the *Agreement for Consultation and Cooperation between*
17 *Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant*
18 recognizes that the mission of WIPP may change and provides provisions to modify the
19 agreement. For example, the Agreement states: "The parties to this Agreement recognize that
20 future developments including changes to applicable laws (e.g., P.L. 96-164) may make it
21 desirable or necessary for one or both parties to seek to modify this Agreement. Either party to
22 this Agreement may request a review of the terms and conditions."

23
24 DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP
25 LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and in the *Agreement for*
26 *Consultation and Cooperation between Department of Energy and the State of New Mexico for*
27 *the Waste Isolation Pilot Plant*. Information on these limitations is provided in this EIS
28 (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the
29 GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in
30 minimal environmental impacts on all resource areas evaluated, including human health and
31 transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero
32 because there would be no releases to the accessible environment and therefore no radiation
33 doses and LCFs during the first 10,000 years following closure of the WIPP repository.

34
35 The WIPP has been certified by the EPA as an acceptable facility for the disposal of
36 defense-generated TRU waste. The physical and chemical characteristics of the GTCC LLRW
37 and GTCC-like wastes proposed for disposal in the WIPP repository are comparable to the TRU
38 wastes currently being disposed of in the repository.

39
40 Dissolution has occurred outside the WIPP Land Withdrawal Boundary, as shown by
41 karst features in the Nash Draw area. The EPA has noted that it is possible that dissolution
42 occurred at the WIPP site sometime in the distant past (i.e., millions of years ago for strata-
43 bound features) but was associated with a geologic setting other than that currently present at
44 WIPP. However, dissolution in the underlying geology is not an ongoing process at the WIPP
45 site. The EPA, as part of its compliance certification process, concurred with the modeling

1 performed by DOE (which assumed that there was no karst within the WIPP site boundary) and
2 indicated that this was consistent with existing borehole data and other geologic information.

3
4 WIPP is located in a salt formation, and moisture (brine) is naturally present. The brine
5 makes up about 1% of the rock volume. The brine comes in two forms: interstitial and included.
6 Interstitial brine is trapped between crystal facies (between fracture boundaries at the
7 microscopic scale). Included brine is inside small cavities called inclusions trapped within the
8 crystals themselves. Samples of brine collected from locations just inches apart from one another
9 show different chemical and isotopic compositions, indicating that the brine did not move more
10 than a few inches from where it was trapped when an ancient tidal flat dried up 250 million years
11 ago. This indicates the extremely slow movement of water in this salt formation. In addition, the
12 current design for operating WIPP involves sealing the shafts to ensure that no fresh water can
13 enter and affect the disposed-of wastes.

14
15 WIPP is surrounded by various natural resources – including potash, oil, and natural
16 gas – as identified in Section 4.2.2.2 of this EIS. Resource considerations were included in the
17 site selection process for WIPP and are documented in the *Final Environmental Impact*
18 *Statement, Waste Isolation Pilot Plant, Section 7.3.7*). Disposal of GTCC LLRW and GTCC-like
19 wastes at WIPP would not invalidate the WIPP site selection decision.

20
21 Based on the GTCC EIS evaluation and WIPP's past exemplary operating record, DOE
22 believes that the WIPP repository would be a safe location for the disposal of GTCC LLRW and
23 GTCC-like wastes, some of which include long-lived radionuclides. There have been no worker
24 fatalities due to radiation exposure from waste disposal activities at WIPP. There was one fatality
25 that occurred during WIPP construction in 1982. It was a single construction-related fatality in
26 which a miner fell during the first exploratory shaft construction.

27
28 It should be noted that waste disposal operations at WIPP were suspended on February 5,
29 2014, following a fire involving an underground vehicle. Nine days later, on February 14, 2014,
30 a radiological event occurred underground at WIPP, contaminating a portion of the mine
31 primarily along the ventilation path from the location of the incident and releasing a small
32 amount of contamination into the environment.

33
34 DOE will resume disposal operations at WIPP when it is safe to do so. The schedule for
35 restart of limited operations is currently under review. DOE is continuing to characterize and
36 certify TRU waste at the Idaho National Laboratory, Oak Ridge National Laboratory, Savannah
37 River Site, and Argonne National Laboratory for eventual shipment to WIPP. TRU waste
38 continues to be generated at the Hanford site and Lawrence Livermore National Laboratory.
39 DOE is carefully evaluating and analyzing the impacts on storage requirements and
40 commitments with state regulators at the generator sites. These efforts will inform decisions
41 related to the availability of storage for certified TRU waste until waste shipments to WIPP can
42 resume. Detailed information on the status of recovery activities at WIPP can be found at
43 <http://www.wipp.energy.gov/wipprecovery/recovery.html>.

44
45 The State of New Mexico has indicated a willingness to accept GTCC LLRW and
46 GTCC-like wastes for disposal at WIPP. Twenty-eight New Mexico State Senators signed a

1 proclamation made in the 50th Legislature, First Session, 2011, stating: “Be it resolved that we,
2 the undersigned, support the opportunity for other potential missions in southeast New Mexico to
3 adequately address the disposal of defense high-level waste, commercial high-level waste,
4 greater-than-Class C LLRW and surplus plutonium waste, as well as the interim storage of spent
5 nuclear fuel.” In response to the Draft GTCC EIS, David Martin, Secretary of the New Mexico
6 Environment Department, sent a letter to DOE on June 27, 2011, stating that “the Department
7 encourages DOE to support the WIPP or WIPP Vicinity proposed locations as the preferred
8 alternatives addressed in the Draft EIS. The geologic repository is the favored alternative being
9 more effective for the enduring time frames for this waste type.” In addition, the Governor of
10 New Mexico, in a letter to DOE Secretary Steven Chu on September 1, 2011, stated that the
11 State of New Mexico encourages DOE to support the proposed location of WIPP as the preferred
12 alternative for the disposal of GTCC LLRW and GTCC-like wastes.

13
14 The mixed radioactive and hazardous waste in the GTCC LLRW and GTCC-like waste
15 inventory is estimated to be about 170 m³ (6,000 ft³) of the GTCC LLRW and GTCC-like waste
16 inventory. Available information about the mixed waste in the GTCC LLRW and GTCC-like
17 waste inventory indicates that most of it is characteristic hazardous waste as regulated under
18 RCRA; therefore, it is assumed that the generators will treat the waste to render it nonhazardous
19 under federal and state laws and requirements. WIPP, however, can accept defense-generated
20 TRU mixed waste as provided in the WIPP LWA as amended (P.L. 102-579 as amended by
21 P.L. 104-201). Irrespective of generator treatment of the waste, WIPP has specific waste
22 acceptance criteria that must be met prior to disposal.

23
24 Organic waste streams received at WIPP that came from past plutonium production
25 operations in which process residues included organic solvents and were solidified primarily by
26 grouting did contain significant concentrations of volatile organic compounds (VOCs) that are
27 toxic above certain concentrations. Because radioactive waste containers must be vented to
28 preclude flammable hydrogen gas buildup, this venting also served as a release pathway for
29 VOCs. This issue is not expected to arise with regard to GTCC LLRW and GTCC-like wastes
30 since the generators would treat any mixed radioactive and hazardous waste to render it
31 nonhazardous before submitting waste for disposal at WIPP.

32
33
34 **J.2.3 Consideration of Other Alternatives Not Evaluated in Detail in the EIS Including Use**
35 **of HOSS, the Proposed Yucca Mountain Repository, a New Geologic Repository, and**
36 **Other Disposal Methods (e.g., Mined Cavities) and Alternatives (e.g., Treatment of**
37 **Waste and Alternative Sources of Energy)**

38
39
40 **Topic Summary**

41
42 Commenters suggested that the EIS should be revised and reissued to include HOSS as a
43 reasonable alternative for managing all or a portion (principally, activated metals from
44 decommissioning commercial nuclear power reactors) of the GTCC LLRW and GTCC-like
45 waste inventory. The comments suggested that storage in HOSS facilities is a safe way to store
46 waste until a permanent, scientifically sound, and publicly acceptable solution is found. HOSS

1 would allow long-term storage of GTCC LLRW and GTCC-like wastes so that they can be
2 monitored and retrieved when a better solution is found. Some commenters indicated the EIS
3 should consider the use of HOSS for the entire GTCC LLRW and GTCC-like waste inventory,
4 while others suggested that it be considered for the activated metals associated with
5 decommissioning commercial nuclear power reactors. Commenters stated that since on-site
6 storage is the current management practice for all GTCC LLRW and GTCC-like wastes, HOSS
7 would seem to be the best candidate as the preferred alternative. Note: These concerns were
8 initially raised in public comments on the NOI that was issued on July 23, 2007. In DOE's
9 response in the Draft GTCC EIS, HOSS was considered to be outside the scope of the EIS.
10 However, a number of comments indicated that this was not acceptable and that the EIS needed
11 to be revised to include HOSS as a reasonable alternative. In addition, several commenters
12 indicated that DOE should create regulatory definitions and frameworks for use of HOSS at
13 commercial nuclear facilities as part of this EIS. It was noted that while some GTCC LLRW and
14 GTCC-like wastes are currently being stored in HOSS facilities, other GTCC LLRW and
15 GTCC-like wastes are stored in ways that could create environmental and public health risks.
16 Commenters suggested that once a framework is established, there should be periodic reviews of
17 the HOSS facilities, and that defining and regulating HOSS would improve public safety and be
18 more protective of human health and the environment than any of the alternatives addressed in
19 the EIS.

20
21 A number of commenters indicated that the best approach for disposal of GTCC LLRW
22 and GTCC-like wastes would be to dispose of the entire inventory in a new geologic repository.
23 Commenters noted that many of these wastes have very long half-lives and that during disposal
24 in near-surface land disposal facilities, contaminants could leach to groundwater or surface
25 waters. Under Nuclear Regulatory Commission (NRC) regulations in 10 CFR Part 61, GTCC
26 LLRW must be disposed of in a geologic repository unless an alternative proposal for disposal is
27 approved by the NRC. It was then suggested that DOE should implement this method for the
28 GTCC LLRW and GTCC-like wastes included in this EIS. The only geologic repository
29 considered in the EIS is WIPP, and commenters proposed that the analyses should be redone
30 considering the Yucca Mountain repository or, if the Yucca Mountain repository is not a
31 workable option, should address disposal in a generic repository developed to dispose of spent
32 nuclear fuel and high-level radioactive waste.

33
34 Commenters also noted that disposal in a geologic repository is NRC's required disposal
35 method for these wastes, and geologic disposal will provide the additional level of safety,
36 security, and reliability to deter and eliminate any terrorist access to these materials. In addition,
37 commenters noted that the EIS clearly shows the geological repository has low environmental
38 and human health impacts, making it a better disposal method than the other alternatives.

39
40 Commenters said that the EIS should have evaluated an alternative in which the GTCC
41 LLRW and GTCC-like wastes would be placed in interim storage and await the development of
42 a geologic repository as required under the Nuclear Waste Policy Act of 1982 for disposal of
43 spent nuclear fuel and high-level radioactive waste. This second repository could be in a
44 different geologic medium, such as granite. The GTCC LLRW and GTCC-like wastes could then
45 be disposed of in this second repository along with these higher-activity radioactive wastes.

46

1 Commenters said that the federal government should stop further generation of
2 radioactive waste. Commenters suggested that safe disposal methods for managing these wastes
3 are not available, and programs that continue to generate this waste are adding to a problem that
4 has not yet been solved. Commenters also said that no additional nuclear power plants should be
5 constructed, and the existing plants should be shut down, since nuclear power has not been
6 shown to be safe, as indicated by the problems at Fukushima, Chernobyl, and Three Mile Island.
7 Commenters recommended that the federal government should further promote the use of
8 alternative energy sources and methods such as conservation, solar power, and wind energy
9 instead of promoting the continued use of nuclear power.

10
11 Commenters said that the EIS should have addressed disposal of GTCC LLRW and
12 GTCC-like wastes in the Yucca Mountain repository and at commercial LLRW disposal sites,
13 including those in existing LLRW Compacts (rather than at DOE sites). Commenters indicated
14 that since use of the Yucca Mountain repository was considered in the EIS scoping process, it
15 should have been carried to completion in the EIS.

16
17 Other potential alternatives for disposal, as well as various treatment options (such as
18 transmutation, vitrification, or creation of a Manhattan-type project to develop new treatment
19 options) and more innovative disposal techniques (such as a mined cavity, use of existing mine
20 holes/shafts, long-term storage, or retrievable "disposal"), were recommended to be considered
21 in the EIS, given the very long half-lives of some of the radionuclides.

22
23 A number of comments were made indicating that the generation of nuclear waste be
24 stopped. In addition, it was suggested that the EIS should have evaluated alternatives in which no
25 future GTCC LLRW and GTCC-like wastes are produced and alternatives resulting in a lower
26 amount of waste being produced. They would include alternatives that assume no additional
27 nuclear power plants are constructed and a termination in the production of nuclear weapons.
28 Commenters also noted that the federal government should promote the use of alternative
29 energies that do not result in the production of radioactive and other hazardous wastes.

30 31 32 **Discussion**

33
34 The use of HOSS and other approaches for long-term storage of GTCC LLRW and
35 GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and
36 need for agency action. Consistent with Congressional direction in Section 631 of the Energy
37 Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a Record of Decision
38 (ROD) for a permanent disposal facility for this waste, not for long-term storage options. The
39 action alternatives evaluated in the GTCC EIS also did not include interim storage of GTCC
40 LLRW and GTCC-like wastes until a geologic repository for spent nuclear fuel and high-level
41 radioactive waste becomes available because such interim storage is outside the scope of the
42 GTCC EIS. The purpose of the GTCC EIS is to evaluate the range of reasonable alternatives
43 for the safe and secure disposal of GTCC LLRW and GTCC-like wastes.

44
45 DOE does not have authority to regulate the storage of radioactive wastes at commercial
46 facilities, including nuclear power plants. Under the Atomic Energy Act of 1954 as amended

1 (AEA) (42 USC § 2011 in the *United States Code*), the NRC is responsible for regulating storage
2 of such wastes. Radioactive waste storage requirements can be found in 10 CFR Part 30 (Rule of
3 General Applicability to Domestic Licensing of Byproduct Material), 10 CFR Part 70 (Domestic
4 Licensing of Special Nuclear Material), and 10 CFR Part 72 (Licensing Requirements for the
5 Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related
6 Greater Than Class C Waste). In addition, the NRC has provided guidance for the storage of
7 LLRW in SECY-94-198, *Review of Existing Guidance Concerning the Extended Storage of*
8 *Low-Level Radioactive Waste*, which was issued on August 1, 1994.

9
10 DOE agrees that use of a geologic repository would be a protective and safe method for
11 the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS
12 evaluation for the WIPP geologic repository alternative supports this statement, as does DOE's
13 *Supplemental EIS for the Geologic Disposal of Spent Nuclear Fuel and High Level Waste at*
14 *Yucca Mountain, Nye County, Nevada* (DOE-EIS-0750-51). However, the degree of waste
15 isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and
16 GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain
17 wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be
18 safely disposed of in properly designed land disposal facilities at sites with suitable
19 characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient
20 depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in
21 arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period
22 of time to allow for significant radioactive decay to occur before wastes could migrate into the
23 human environment.

24
25 While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal
26 (disposal in a geologic repository), this regulation also indicates that other disposal methods
27 could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-
28 surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation
29 indicates that land disposal methods employed at sites with suitable characteristics would be
30 viable and safe alternatives for the disposal of GTCC LLRW.

31
32 The Secretary of Energy determined that a permanent repository for high-level waste and
33 spent nuclear fuel at Yucca Mountain, Nevada, is not a workable option and will not be
34 developed. Therefore, DOE concluded that co-disposal at a Yucca Mountain repository is not a
35 reasonable alternative and has eliminated it from evaluation in this EIS, as described in
36 Section 2.6 of the EIS.

37
38 DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC
39 LLRW and GTCC-like wastes because DOE determined that such an alternative is not
40 reasonable due to the time and cost associated with siting a deep geologic repository and the
41 relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS.
42 DOE believes that the results presented in this EIS for the WIPP geologic repository alternative
43 are indicative of the high degree of waste isolation that would be provided by disposal in a
44 geologic repository.

45

1 The Blue Ribbon Commission (BRC) on America's Nuclear Future, in its final report to
2 DOE on January 26, 2012, provided recommendations, which included the development of one
3 or more permanent deep geologic facilities for the safe disposal of spent nuclear fuel and high-
4 level radioactive waste and the development of one or more consolidated interim storage
5 facilities as part of an integrated, comprehensive plan for managing the back end of the nuclear
6 fuel cycle. In its *Strategy for the Management and Disposal of Spent Nuclear Fuel and High*
7 *Level Radioactive Waste* (DOE 2013), developed in response to the BRC Report, the
8 Administration agreed "that the development of geologic disposal capacity is currently the most
9 cost-effective way of permanently disposing of used nuclear fuel and high-level radioactive
10 waste while minimizing the burden on future generations" and proposed to "engage in a consent-
11 based siting process and begin to conduct preliminary site investigations for a geologic
12 repository." The Administration's goal is to have a repository constructed and its operations
13 started by 2048. The Administration will work with Congress using the strategy as an actionable
14 framework for building a national program for the management and disposal of the nation's used
15 nuclear fuel and high-level radioactive waste (DOE 2013).

16
17 As stated previously, DOE recognizes that disposal of GTCC LLRW and GTCC-like
18 wastes in the WIPP geologic repository would require modification to existing law. In addition,
19 it may be necessary to revise the *Agreement for Consultation and Cooperation between*
20 *Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant*, the
21 WIPP compliance certification with the EPA, and the WIPP Hazardous Waste Facility Permit.

22
23 Eliminating the further generation of radioactive waste, ensuring the safety of nuclear
24 power plants, and promoting alternative energy sources are outside the scope of the GTCC EIS,
25 the scope of which is to evaluate disposal alternatives to enable the selection of a safe alternative
26 or alternatives for the disposal of GTCC LLRW and GTCC-like wastes.

27
28 Treatment of the wastes prior to disposal was considered to be outside the scope of the
29 EIS. Such treatment would be done prior to receipt of the GTCC LLRW and GTCC-like wastes
30 at the disposal facility.

31
32

33 **J.2.4 NEPA Process and Procedures**

34
35

36 **Topic Summary**

37
38

39 The Draft EIS did not identify a preferred alternative, and several commenters indicated
40 that this was not appropriate given the significance of the action addressed in the Draft EIS.
41 Because of this, members of the public did not have the opportunity to comment on the preferred
42 alternative and have their input reflected in the development of the Final EIS.

43
44

45 Commenters suggested that the current EIS process is premature and does not comply
46 with NEPA and that it would have been more appropriate to prepare a programmatic EIS (PEIS)
at this time. Commenters stated that there is time to wait and see what the BRC has to say.
Several commenters also said that the purpose and need for this EIS are not clearly stated, that

1 the analyses presented in this EIS could be better accommodated in a PEIS, and that such a PEIS
2 should address a range of programmatic concerns, including the disposal of commercially
3 generated GTCC LLRW at DOE sites, options for consolidating and storing GTCC LLRW and
4 GTCC-like wastes for an extended time period at generating sites, treatment options for these
5 wastes, and disposal of GTCC LLRW in a high-level radioactive waste repository (refer to
6 Topic J.2.3). Some commenters suggested that the preparation of a PEIS should be incorporated
7 into a larger DOE-wide analysis of radioactive waste (a cohesive waste management strategy),
8 such as the Waste Management PEIS (WM PEIS).

9
10 Many commenters suggested that DOE do a better job of getting the word out about the
11 EIS and the public hearings. Some said that newspaper publications alone are not sufficient and
12 that spreading the word through high school or local radio stations and conducting public
13 outreach at the community level would improve the dissemination of information. Other
14 commenters expressed appreciation for being provided the opportunity to participate at the
15 hearings.

16
17

18 Discussion

19

20 A preferred alternative is not necessarily required to be included in a Draft EIS. The
21 Council on Environmental Quality regulations in 40 CFR 1502.14(e) specify that the section on
22 alternatives in an EIS shall identify the agency's preferred alternative or alternatives, if one or
23 more exists, in the Draft EIS and identify such alternative(s) in the Final EIS unless another law
24 prohibits the expression of such a preference. If no preferred alternative has been identified at the
25 Draft EIS stage, a preferred alternative need not be included. By the time the Final EIS is filed,
26 40 CFR 1502.14(e) presumes the existence of a preferred alternative and requires its
27 identification in the Final EIS.

28

29 DOE did not have a preferred alternative at the time of the issuance of the Draft EIS
30 because of the complex nature of the proposed action and the potential implications for disposal
31 of GTCC LLRW and GTCC-like wastes. However, the Draft EIS presented factors to be
32 considered in development of a preferred alternative (Section S.6 and Section 2.9) and solicited
33 comments on these factors and other factors, if any (aside from those discussed in the Draft EIS),
34 that DOE should consider. As required by 40 CFR 1502.14(e), the Final EIS contains a preferred
35 alternative for the disposal of GTCC LLRW and GTCC-like wastes (see Section 2.10). In
36 developing the preferred alternative, DOE took into consideration public comments on the Draft
37 EIS, public EIS scoping comments, and other factors identified in Sections S.6 and 2.9 of the
38 EIS.

39

40 The publication by the EPA of a NOA of the Final EIS in the *Federal Register* initiates a
41 30-day public review or "waiting" period. While the review period is not a formal public
42 comment period, the public can comment on the Final EIS, including the preferred alternative,
43 prior to final agency action. Comments received will be addressed by DOE in the ROD. As
44 required by the Energy Policy Act of 2005 (P.L. 109-58), DOE must submit a Report to
45 Congress that includes the alternatives considered in the EIS and await Congressional action
46 before making a final decision regarding which alternative(s) to implement. The Report to

1 Congress will be made available to the public on the GTCC EIS website
2 (<http://www.gtcceis.anl.gov/>).

3
4 This EIS was prepared to inform decision-making for the disposal of GTCC LLRW and
5 GTCC-like waste. Sufficient information is provided or referenced to support the current
6 decision-making process to identify (an) appropriate site(s) and method(s) to dispose of the
7 amount of GTCC LLRW and GTCC-like waste identified in the EIS.

8
9 DOE believes that this EIS process is not premature and is in compliance with NEPA. On
10 the basis of an assumed starting date of 2019 for disposal operations, more than half (about
11 6,700 m³ [240,000 ft³] of the total GTCC LLRW and GTCC-like waste inventory of 12,000 m³
12 [420,000 ft³]) is projected to be available for disposal between 2019 and 2030. An additional
13 2,000 m³ (71,000 ft³) would become available for disposal between 2031 and 2035. This
14 information is presented in Figure 3.4.2-1. DOE believes this EIS is timely, especially given the
15 length of time necessary to develop a GTCC LLRW disposal facility.

16
17 DOE developed this EIS to support a decision on selecting a disposal facility or facilities
18 for GTCC LLRW and GTCC-like waste, to address legislative requirements, to address national
19 security concerns (especially for sealed sources), and to protect public health and safety. The
20 purpose and need for action, as discussed above, is stated in the EIS (Section 1.1). The scope of
21 the EIS is focused on addressing the need for developing a disposal capability for the identified
22 inventory of GTCC LLRW and GTCC-like wastes. DOE plans a tiered decision-making process,
23 in which DOE would conduct further project-specific NEPA reviews before implementing an
24 alternative ultimately selected on the basis of this EIS.

25
26 DOE explained in its *Final Waste Management Programmatic Environmental Impact*
27 *Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste*
28 (WM PEIS; DOE/EIS-0200-F; DOE 1997) that additional analyses would be prepared to
29 implement DOE's programmatic decisions. The GTCC EIS analyzes the potential environmental
30 impacts associated with the disposal of GTCC LLRW and GTCC-like (DOE) wastes. Since the
31 WM PEIS relates only to DOE waste, the inclusion of commercial waste in the WM PEIS is
32 premature until the GTCC EIS is finalized and a ROD is issued. Depending on the outcome of
33 this ROD, DOE will evaluate whether additional programmatic or site-specific NEPA reviews or
34 updates to previous decisions are needed, as appropriate. Any additional NEPA reviews or
35 considerations will be conducted with full opportunity for public input, consistent with Council
36 on Environmental Quality and DOE NEPA requirements.

37
38 DOE's goal with regard to its public participation process is to be able to disseminate the
39 information to the public so that input from the interested public can be obtained to inform the
40 Final EIS. To this end, nine public hearings at venues accessible to the interested public for the
41 various sites evaluated in the EIS were conducted. Notices were placed in various local
42 newspapers, on the EIS website and the DOE website; mailers were sent out to more than
43 2,000 individuals; and emails were sent to site mailing lists to announce the public hearings
44 before and during the scheduled hearings.

45

1 J.2.5 Tribal and Cultural Resources Concerns

4 Topic Summary

6 Commenters said that the EIS should consider American Indian tribal concerns.
7 Commenters said that American Indian tribes should have been consulted earlier in the NEPA
8 process for this project. In addition, DOE should have considered government-to-government
9 consultations to obtain input from potentially affected American Indian tribes. Commenters
10 indicated that the EIS includes text developed by a number of American Indian tribes, but this
11 text is not reflected in the subsequent analyses.

13 Commenters, especially those from the Santa Clara Pueblo, the Pueblo de San Ildefonso,
14 and the Confederated Tribes and Bands of the Yakama Nation, raised several concerns that DOE
15 proposals rely on institutional controls. Commenters indicated that these controls are much too
16 short for the time period of relevance to the tribes and that plant roots will eventually penetrate
17 the GTCC LLRW and GTCC-like waste disposal facility. Commenters also said that no
18 information is provided in the EIS on the existence of minerals that may have cultural
19 significance and use.

22 Discussion

24 DOE appreciates the input provided by the Santa Clara Pueblo, the Pueblo de San
25 Ildefonso, and the Confederated Tribes and Bands of the Yakama Nation on the EIS, both in the
26 tribal narratives and in comments on the Draft EIS. This input was considered by DOE in
27 identifying a preferred alternative.

29 DOE is required to consult with American Indian tribes on a government-to-government
30 basis, as described in DOE Order 144.1. A number of the comments addressed the timing and
31 extent of the consultations that have occurred to date. In addition, many tribes did not feel that
32 their concerns were adequately addressed in the EIS and that the analyses did not fully integrate
33 the information provided by various tribes as reflected in the tribal narratives.

35 DOE initiated government-to-government consultations with potentially affected
36 American Indian tribes in a timely manner consistent with DOE Order 144.1 and DOE's NEPA
37 implementing guidelines. These consultations were done at a time that DOE had compiled and
38 developed adequate information for the Draft EIS (including identification of the GTCC LLRW
39 and GTCC-like waste inventory) to allow for an informed consultation with potentially affected
40 American Indian tribes. This engagement began in 2007 at the October State and Tribal
41 Government Working Group meeting in Snowbird, Utah, with the 14 participating American
42 Indian tribes that have cultural or historical ties to the DOE sites analyzed in the EIS. As a
43 follow-up to that meeting, DOE, in 2008, sent out letters to tribal government officials
44 communicating DOE's interest in consulting with tribal nations on the GTCC EIS. These
45 interactions are summarized in Section 1.8 of the EIS, and they included several meetings,

1 workshops, and the development of tribal narratives that were included in the EIS. These
2 consultations resulted in some of the tribes providing narrative text for inclusion in the EIS.

3
4 Tribal narratives identified several tribal issues related to NNSS, the Hanford Site, the
5 INL Site, and LANL. However, DOE site offices at SRS and in Carlsbad, New Mexico,
6 confirmed that there are no affiliated tribes identified for the purpose of developing tribal
7 narratives associated with SRS and WIPP/WIPP Vicinity.

8
9 Text prepared by potentially affected American Indian tribes is included in this EIS. DOE
10 considered this text for the Hanford Site, the INL Site, LANL, and NNSS; however, DOE also
11 needed to ensure consistency in the EIS analyses among the various sites, so that an even
12 comparison could be made between alternatives as required by NEPA. Because of this, it was not
13 possible to fully utilize all of the information provided by the tribal governments in order to
14 perform specific analyses associated with exposure events unique to a given American Indian
15 tribe (such as greater intakes of fish, game, and plants; the use of sweat lodges; and the use of
16 natural pigment paints for traditional ceremonies). Once a decision is made on a specific site
17 location and method, appropriate project-specific NEPA review would be conducted, including
18 analysis of exposure events unique to the impacted local American Indian tribes. However, the
19 information provided in these narratives was considered in the identification of the preferred
20 alternative presented in this EIS. The information provided in the narratives for the Hanford Site,
21 the INL Site, LANL, and NNSS was very useful, and DOE appreciates the time and effort
22 expended by the various tribes in supporting this EIS process.

23
24 In the EIS, it was assumed that institutional controls of the land disposal units would be
25 maintained for 100 years and that corrective measures could be implemented during this time
26 period to ensure that the engineered barriers lasted for at least 500 years. This assumption is
27 consistent with the institutional control time frame given in both NRC and DOE requirements
28 and was determined to be a reasonable approach for assessing the long-term performance of the
29 disposal units in the EIS.

30
31 In evaluating the performance of the proposed land disposal facilities, a number of
32 engineering measures were assumed in the conceptual facility designs to minimize infiltration of
33 water into the wastes and thereby minimize contaminant migration from the disposal units. These
34 measures would also limit exposure pathways, such as the ingestion of plants having very long
35 roots. It was assumed in this EIS that these measures would remain intact for 500 years after the
36 disposal facility closed. Any defects identified in the disposal facilities were assumed to be
37 corrected during the 100-year institutional control period, so that the 500-year time period would
38 be met.

39
40 While this time period of 500 years may not be long enough to be of relevance to various
41 American Indian tribes, it was determined to be a reasonable basis to use for comparing the
42 merits of various land-disposal concepts and sites in the EIS and to allow for the selection of a
43 preferred alternative.

44
45

1 J.2.6 Transportation Analysis and Impacts

4 Topic Summary

6 Commenters suggested that radioactive waste that has been generated off-site should not
7 be transported to the sites evaluated for disposal. Use of these sites would require transportation
8 of these highly radioactive wastes over public highways, which would involve transportation
9 risks and potential accidents that could expose the general public to highly radioactive materials.

11 Commenters indicated that the EIS does not identify specific routes or the proportion of
12 wastes that would likely travel those routes. Commenters also said that the public is not able to
13 meaningfully weigh the relative transportation risks among the disposal locations evaluated in
14 the EIS.

15 Commenters said that the transportation analysis should consider larger-volume
16 packages, such as TRUPACT-III packages for contact-handled TRU waste that are now
17 available for transportation of the GTCC LLRW and GTCC-like wastes and also the spent
18 nuclear fuel (SNF) casks certified for GTCC activated metals that are currently being used for
19 storage of activated metals at some nuclear power plant sites. Commenters suggested that the use
20 of these two larger packages would reduce impacts from packaging wastes, by allowing larger
21 waste forms and thereby minimizing the amount of effort needed to reduce their size, and also
22 reduce impacts from transportation, by reducing the number of shipments.

24 Commenters indicated that the supporting information for the facility and transportation
25 accident analyses was not available and expressed a general concern about exposure to radiation
26 from transportation shipments and from potential accidents as well as about the basis used for the
27 impact calculations. Commenters noted that the radiological human health impacts presented in
28 the EIS are based on the concept of the "reference man" and thereby do not consider impacts on
29 sensitive populations, such as children and pregnant women. On the other hand, commenters also
30 said that the same impacts are also based on the concept of the no-threshold dose response,
31 which could overestimate the impacts.

34 Discussion

36 DOE is responsible under the Low-Level Radioactive Waste Policy Amendments Act or
37 LLRWPA (P.L. 99-240) for the disposal of GTCC LLRW. The purpose of the EIS is to
38 evaluate alternatives for the safe and secure disposal of GTCC LLRW and GTCC-like wastes.
39 Continued storage of GTCC LLRW at the generating facilities was evaluated as part of the
40 No Action alternative. Transportation of GTCC LLRW and GTCC-like wastes from generating
41 facilities to a GTCC LLRW disposal facility is a required component of the disposal process that
42 would be identified for the GTCC LLRW and GTCC-like wastes because the disposal site(s) or
43 location(s) would not be the same as the generator sites as stated in the EIS. DOE believes that
44 the transportation of GTCC LLRW and GTCC-like wastes to a centralized disposal facility or
45 facilities would result in lower overall human health risks compared to managing the wastes at

1 multiple locations, such as in the No Action Alternative, and can be conducted in a safe manner
2 based on compliance with federal and state comprehensive regulatory requirements.
3

4 The primary radiological transportation risk to the public for any alternative is from the
5 low level of radiation emanating from the transport vehicle. The EIS shows that such risks are
6 small. As discussed in Section 5.3.9.1, the collective population risk is a measure of the total risk
7 posed to society as a whole. A comparison of the collective population risk allows for a
8 meaningful evaluation of the relative risks between disposal locations, as provided in
9 Tables 2.7-5 and 2.7-6. The magnitude of the collective population risk is primarily determined
10 by the number of routes, the length of each route, the number of shipments along each route, the
11 external dose rate of each shipment, and the population density along a given route. The primary
12 differences among alternatives from the standpoint of transportation are the lengths of the routes
13 as determined by the location of the disposal sites (destination of the shipments). Thus, higher
14 collective population risks are associated with alternatives that require transportation over longer
15 distances. All alternatives involve routes that have similar characteristics, with no significant
16 differences for comparison among alternatives; all require transportation through a range of rural
17 and urban areas. In addition, the routes used in the analysis are considered representative routes
18 (as discussed in Appendix C, Section C.9.4.1.1, because the actual routes used would be
19 determined in the future). For each disposal site, the routes most affected would be the interstate
20 highways that are closest to the site.
21

22 The transportation analysis as presented in the EIS is conservative in that consideration of
23 the TRUPACT III and the SNF casks could result in potentially reduced impacts. However,
24 while these packages are viable options for transport of the GTCC LLRW and GTCC-like
25 wastes, consideration of their use as an option in the EIS did not influence the identification of
26 the preferred alternative. Use of the spent fuel cask designs would require rail transport, and any
27 of the conceptual land disposal designs could be modified to accommodate the larger packages.
28 Rail transport at WIPP would require further review since it is not available currently.
29

30 As stated in Section C.9.4.1.1 of the EIS on route selection, many of the GTCC LLRW
31 and GTCC-like wastes considered in the EIS would meet the definition of an HRCQ
32 (49 CFR 173.403). However, as noted in the discussion, states and Native American tribes have
33 the opportunity to designate "preferred routes" to replace or supplement the interstate highway
34 system. For those wastes not specifically designated as HRCQ, the selection of a route is left to
35 the carrier, but in the case of GTCC LLRW and GTCC-like wastes, additional consultation with
36 transportation stakeholders would occur.
37

38 Disposition of the GTCC LLRW and GTCC-like wastes will be handled in a manner that
39 is protective of human health and the environment and in compliance with applicable
40 requirements and regulations. Doses to workers and the public will be minimized to the extent
41 practical. The methodology used to estimate the radiological human health impacts in the EIS is
42 based on standard practices that are subject to revision as our understanding of the effects of
43 radiation on humans evolves. The same methodology is used in the evaluation of all alternatives;
44 thus, any modification of this methodology would not affect the comparisons among alternatives
45 and the identification of the preferred alternative and is unlikely to alter the finding that the
46 absolute risks would be small.

1 Details of the facility accident analysis can be found in Sections 5.3.4.2.1 and C.4.2. All
2 information necessary to duplicate the transportation accident consequence assessment was
3 available in Section 5.3.9.3 of the Draft EIS, with the exception of the source terms used for the
4 contact-handled and remote-handled Other Waste. These latter source terms have been added to
5 Section 5.3.9.3 of the Final EIS. The accident risk analysis (see Section C.9.3.1) is separate from
6 the accident consequence analysis (see Section C.9.3.3). All relevant data for the accident risk
7 analysis, with the exception of the shipment source terms and route information, are provided in
8 Section C.9.3. Approximately 1,200 routes were considered in this analysis, so it was not
9 considered practical to include this information in the EIS. Such information is readily available
10 by using the TRAGIS routing model, as referenced in Appendix C. Shipment-specific source
11 terms were determined by dividing the origin source inventory by the number of shipments from
12 that site. Site inventories were published in Sandia (2007, 2008), as referenced in Appendix B,
13 which also contains the per-shipment packaging assumptions for each waste type. The shipment-
14 specific source terms were omitted from the EIS for brevity and because of the low estimated
15 impacts.

18 J.2.7 Model Assumptions for Post-Closure Human Health Impacts

21 Topic Summary

23 Commenters indicated a number of issues associated with the long-term modeling in the
24 EIS as follows. The conceptual designs provided in the EIS for the three land disposal methods
25 (above-grade vault, enhanced near-surface trench, and intermediate-depth borehole) are too
26 generic to allow for the level of detailed analysis necessary to determine the adequacy of the
27 disposal concepts. Many unsupported assumptions are made in these analyses, which lead to
28 very uncertain results and do not necessarily reflect reality. Uniform environmental conditions
29 (e.g., average meteorological conditions from the past several years) at the various DOE and
30 generic regional sites are assumed for more than 10,000 years. The EIS assumed that the
31 engineered disposal facilities would remain intact for 500 years after the disposal facility was
32 closed and that the grouted wastes would not degrade during this time period. It was assumed
33 that after 500 years, the infiltration rate would be reduced by 80% for the next 9,500 years. Such
34 assumptions are not conservative and were used for all sites evaluated in the EIS.

37 Discussion

39 The EIS analyses are based on conceptual engineering information and necessitated the
40 use of a number of simplifying assumptions. This approach is consistent with NEPA, which
41 requires such analyses to be made early in the decision-making process. The various land
42 disposal conceptual designs were assumed to be constructed and operated in a comparable
43 manner at each of the various sites. Information on the conceptual engineering designs for the
44 three proposed land disposal methods is provided in Section D.3 of Appendix D in the EIS. By
45 using the same conceptual designs at all of the sites evaluated in the GTCC EIS, except for cases
46 where a design did not apply (e.g., an intermediate-depth borehole at a site with shallow

1 groundwater), the potential impacts (e.g., radionuclides reaching the groundwater) at the
2 different environmental settings could be readily compared.

3
4 In performing these evaluations, a number of engineering measures were included in the
5 conceptual facility designs to minimize the likelihood of contaminant migration from the
6 disposal units. No facility design can guarantee that radionuclide migration from the facility
7 would not occur over and beyond a 10,000-year time period. It was assumed that these measures
8 would perform similarly for all conceptual designs, remaining intact for 500 years after the
9 disposal facility closed. After 500 years, the barriers would gradually fail. To account for these
10 engineered features in the modeling calculations, it was assumed that the water infiltration to the
11 top of the waste disposal area would be zero for the first 500 years and then 20% of the natural
12 rate for the area for the remainder of the time period (through 10,000 years). A water infiltration
13 rate of 20% of the natural rate for the area was only used for the disposal area; the natural
14 background infiltration rate was used at the perimeter of the waste disposal units. Again, this
15 approach enables a comparative evaluation of the influence that site-specific environmental
16 factors would have on the potential migration of radionuclides from the disposal facilities and the
17 potential impacts on human health. It should be emphasized that project- and site-specific
18 engineering factors would be incorporated into the actual facility designs of the site or sites
19 selected in a ROD to dispose of GTCC LLRW and GTCC-like wastes.

20
21 DOE recognizes that modeling potential releases of radionuclides from the conceptual
22 disposal sites far into the future approximates what might actually occur and is therefore subject
23 to technical uncertainty. This is discussed in Appendix E. Sufficient detail was included in these
24 designs for use in the EIS analyses, consistent with the current stage of this process. Some of the
25 input values may change in the future and could result in higher impacts (such as from increased
26 precipitation at some sites due to climate change), while others could result in lower impacts
27 (due to decreased precipitation).

28
29 Estimated radiation doses and LCFs were calculated for each site and disposal concept
30 for 10,000 years, and if the peak impact did not occur during this time frame, the analysis was
31 extended to 100,000 years. DOE believes that the assumptions made to support the long-term
32 modeling calculations for the groundwater pathway are reasonable and enable a comparative
33 evaluation of the impacts between alternatives. The results of the evaluation presented in the EIS
34 are sufficient to inform the selection of sites and methods for disposal. Follow-on project-
35 specific and site-specific NEPA reviews would be conducted as needed.

36 37 38 **J.2.8 Waste Inventory**

39 40 41 **Topic Summary**

42
43 Commenters said that the GTCC LLRW and GTCC-like waste inventory addressed in the
44 EIS is much too limited. Commenters suggested that all GTCC LLRW and GTCC-like wastes
45 that could be generated in the future should be addressed to more correctly comply with NEPA,

1 including those wastes from future nuclear power plants and all relevant wastes at the West
2 Valley Site.

3
4

5 Discussion

6

7 The GTCC LLRW and GTCC-like waste inventory evaluated in the Draft EIS included
8 all GTCC LLRW and GTCC-like wastes in storage as of 2008, plus GTCC LLRW and GTCC-
9 like wastes including buried wastes at the West Valley site, as well as wastes that could
10 reasonably be expected to be generated in the near future. For the purposes of this analysis, waste
11 disposal is assumed to occur from 2019 through 2083. The Final EIS has carried those analyses
12 forward, and the GTCC LLRW and GTCC-like waste inventory is summarized in Appendix B of
13 the Final EIS and described in more detail in the *Supplement to Greater-Than-Class C (GTCC)*
14 *Low-Level Radioactive Waste and GTCC-Like Waste Inventory Report* (ANL/EVS/R-10/1;
15 Argonne National Laboratory 2010). This report is referred to herein as the Supplement. It is
16 available to the public on the GTCC EIS website at <http://www.gtccis.anl.gov/>.

17

18 The GTCC LLRW and GTCC-like waste inventory includes stored and projected wastes
19 from the 104 nuclear power plants currently in operation as well as from the 18 commercial
20 reactors that have already been shut down. It also includes projected GTCC LLRW from another
21 planned 33 new reactors that have not yet been constructed. It is not reasonable to extend data
22 beyond existing information on the commercial nuclear power industry to develop estimates of
23 GTCC LLRW that could result from future decommissioning of these reactors, some of which
24 may never be built. In addition, it is possible that new reactor technology could change the
25 projected volumes of GTCC LLRW.

26

27 All potential GTCC LLRW and GTCC-like wastes at the West Valley Site were analyzed
28 in the Draft EIS and are retained in the waste inventory analyzed in the Final EIS. These include
29 wastes from complete dismantlement of facilities at the site and from exhumation of the two
30 radioactive waste disposal areas. This information is described in the Supplement.
31 Characterization information for the GTCC LLRW and GTCC-like wastes currently in storage at
32 the West Valley Site is sufficient for the analysis conducted for the GTCC EIS. The actual
33 inventory of GTCC LLRW for the West Valley Site that may be generated in the future could
34 increase or decrease from the amount assumed in the GTCC EIS, based on the decisions made
35 regarding the disposition of portions of the site, updated characterization information, and
36 compliance with applicable regulatory requirements.

37

38 In addition, all potential GTCC LLRW and GTCC-like wastes at the Babcock and
39 Wilcox facility in Lynchburg, Virginia, are included in the waste inventory. The GTCC LLRW
40 includes stored and projected waste from existing commercial operations at the facility,
41 including debris from cleaning out hot cells. The GTCC LLRW inventory also includes potential
42 waste from the proposed production of Mo-99. These commercial wastes are included in the
43 GTCC LLRW Other Waste category, as summarized in Appendix B of the EIS. The GTCC-like
44 waste includes non-defense TRU waste (e.g., hot cell debris) attributed to DOE-sponsored
45 activities at the Babcock and Wilcox facility. This DOE-owned waste is included in the
46 GTCC-like Other Waste category, as indicated in Appendix B of the EIS.

1 DOE considers the GTCC LLRW and GTCC-like waste inventory estimates used in the
2 EIS to be conservative but realistic. Although additional wastes may be generated after the time
3 period used to develop these estimates, treatment approaches may be developed to reduce waste
4 volumes. This inventory is appropriate for use in the EIS and for the development of a preferred
5 alternative for disposal of GTCC LLRW and GTCC-like wastes.

6 7 8 **J.2.9 Cumulative Impacts**

9 10 11 **Topic**

12
13 Several commenters noted that the EIS does not appropriately address cumulative
14 impacts at the Hanford Site, in that it does not include the environmental impacts from proposals
15 to use this site for disposal of other radioactive wastes and also the impacts from proposals to
16 leave tank residues and radioactive contamination in soil at the site. Commenters noted that
17 many of the GTCC LLRW and GTCC-like wastes contain long-lived and generally mobile
18 contaminants, including Tc-99 and I-129, which are already present in groundwater at the
19 Hanford Site and will eventually reach the Columbia River. Commenters suggested that the
20 environmental impacts of all potential sources of radioactive contamination at the site, in
21 addition to the impacts associated with transportation of the GTCC LLRW and GTCC-like
22 wastes to the Hanford Site, need to be addressed in the cumulative impacts analyses presented in
23 this EIS.

24 25 26 **Discussion**

27
28 DOE has analyzed cumulative impacts at the Hanford Site in this GTCC EIS. The
29 analysis, based on the cumulative impact analysis in DOE's December 2012 Final Tank Closure
30 and Waste Management (TC&WM) EIS (DOE 2012), which addresses the disposal of all future
31 waste at Hanford, indicates that the disposal of GTCC LLRW and GTCC-like wastes containing
32 Tc-99 and I-129 at the Hanford Site could result in unacceptable environmental impacts and
33 indicates that this site is not the optimal location to dispose of GTCC LLRW and GTCC-like
34 wastes. The analysis in the GTCC EIS indicates that the radiation dose to a nearby hypothetical
35 future resident farmer could be as high as 49 mrem/yr within the first 10,000 years, and most of
36 this dose would be due to Tc-99 and I-129 in groundwater (see Table 6.2.4-2 and Figure 6.2.4-1
37 in this EIS).

38 39 40 **J.2.10 Statutory/Regulatory and Policy Issues**

41 42 43 **Topic Summary**

44
45 Commenters indicated that any facility used for the disposal of GTCC LLRW and
46 GTCC-like wastes will have to be licensed by the NRC as provided in Section 3(b)(1)(D) of the

1 LLRWPA (P.L. 99-240), and, as such, disposal criteria would need to be established.
2 Commenters suggested that the NRC should have been a more active participant in this process
3 to ensure that the proposed alternatives could actually be implemented.
4

5 Commenters questioned how it is possible to address both GTCC LLRW and GTCC-like
6 wastes in a single EIS when they are subject to different regulatory processes and standards.
7 Commenters also questioned if a new rulemaking would be necessary to develop disposal
8 standards for GTCC-like wastes.
9

10 Commenters suggested that since GTCC LLRW is commercially generated radioactive
11 waste, it should be disposed of at a commercial site and not at one or more DOE sites.
12 Commenters also questioned how the requirement for NRC licensing of a GTCC LLRW disposal
13 facility would be done if this facility was located at a DOE site, especially if such a facility was
14 used for commercial GTCC LLRW and GTCC-like wastes.
15

16 Commenters questioned the legality of transporting radioactive waste and how regulation
17 of GTCC LLRW and GTCC-like waste shipments will be conducted.
18

19 20 **Discussion**

21
22 DOE determined that the most efficient approach was to address both GTCC LLRW and
23 GTCC-like waste, which have many similar physical and radioactive characteristics, in a single
24 NEPA process. DOE's intent is to facilitate the overall process for addressing the disposal needs
25 of both waste types.
26

27 The LLRWPA specifies that GTCC LLRW designated a federal responsibility under
28 section 3(b)(1)(D) that results from activities licensed by the NRC is to be disposed of in an
29 NRC-licensed facility that has been determined to be adequate to protect public health and
30 safety. However, unless specifically provided by law, the NRC does not have authority to license
31 and regulate facilities operated by or on behalf of DOE. Further, the LLRWPA does not limit
32 DOE to using only non-DOE facilities or sites for GTCC LLRW disposal. Accordingly, if DOE
33 selects a facility operated by or on behalf of DOE for disposal of GTCC LLRW for which it is
34 responsible under section 3(b)(1)(D), clarification from Congress would be needed to determine
35 NRC's role in licensing such a facility and related issues. In addition clarification from Congress
36 may be needed on NRC's role if DOE selects a commercial GTCC LLRW disposal facility
37 licensed by an Agreement State rather than by NRC.
38

39 The NRC served as a commenting agency on the GTCC EIS and therefore did not
40 actively participate in the preparation of the GTCC EIS. Issues associated with potential
41 regulatory changes or NRC licensing would be addressed as necessary to enable implementation.
42

43 The U.S. Department of Transportation (DOT) and the NRC have primary responsibility
44 for federal regulations governing commercial radioactive materials transportation. Non-DOE
45 shipments of GTCC LLRW from commercial sites would be transported by commercial carriers
46 and would be regulated by DOT and the NRC. In addition, DOE shipments by commercial

1 carriers of GTCC LLRW from commercial sites or of GTCC-like waste from DOE sites would
2 be regulated by DOT and NRC.

3
4 DOE has broad authority under the AEA to regulate all aspects of activities involving
5 radioactive materials that are undertaken by DOE or undertaken on its behalf, including the
6 transportation of radioactive wastes. However, in most cases that do not involve national
7 security, DOE does not exercise its authority to regulate DOE shipments and instead utilizes
8 commercial carriers that undertake shipments of DOE materials under the same terms and
9 conditions as those used for commercial shipments. These shipments are subject to regulation by
10 DOT and the NRC. As a matter of policy, however, even in the limited circumstances where
11 DOE exercises its AEA authority for shipments, DOE requirements mandate that all DOE
12 shipments be undertaken in accordance with the requirements and standards that apply to
13 comparable commercial shipments, unless there is a determination that national security or
14 another critical interest requires different action.

17 **J.3 COMMENTS AND RESPONSES**

18
19 All comment documents received by DOE on the Draft EIS are provided in this section.
20 Each comment document received was assigned a comment document identifier. Verbal
21 comments given at the public hearings were documented via transcripts prepared for each
22 hearing. Excerpts from the transcripts containing the verbal comments provided by each
23 commenter at the hearings are also presented in this section. The transcripts can be found in their
24 entirety on the project website at <http://www.gtcceis.anl.gov/>.

25
26 Comment documents received were organized into eight categories as listed in Table J-3.
27 Sections J.3.1 through J.3.8 contain all the comment documents for each of the eight categories.
28 At the beginning of each section in Sections J.3.1 through J.3.8, a corresponding table listing all
29 of the organizations or individuals from whom comment documents were received is included
30 for reference. In these sections, a side-by-side format is used, in which the comments identified
31 from each comment document are shown on the left side of the pages and the corresponding
32 DOE responses are shown on the right side of the pages.

1
2**TABLE J-3 Categories and Numbers of Comment Documents and Where They Appear**

Section	Comment Category	No. of Comment Documents	No. of Pages
J.3.1	Organizations	137	810
J.3.2	Individual members of the general public	518	911
J.3.3	CREDO Campaign ^a	61	61
J.3.4	Concerned Citizens for Nuclear Safety Campaign	51	57
J.3.5	Snake River Alliance Campaign	122	62
J.3.6	Nuclear Watch Campaign	54	117
J.3.7	Friends of the Gorge Campaign	198	384
J.3.8	Brookdale Senior Living Petition	1/63 ^b	5

^a CREDO Action Campaign supplies a platform (website) for posting petitions and getting them signed.

^b The Brookdale Petition was one letter with signatures from 63 people.

3

1 **J.3.1 Organizations That Submitted Comments in Writing via Letter, Email, or Web**
 2 **Portal or Verbally at One of the Public Meetings**

3
 4 Table J.3-1 tabulates all organizations that submitted comments, along with the comment
 5 document identifiers assigned to each. Comments identified within each comment document are
 6 shown in brackets on the left side of the page(s), with the corresponding response shown on the
 7 right side of the same page(s). The comment documents and responses are presented here in
 8 Section J.3.1 on pages J-31 through J-840, as indicated in the table. Organizations are in
 9 alphabetical order. It may be helpful for readers to review Section J.2 for an overview of the
 10 10 Topics of Interest of this CRD.

11
 12
 13 **TABLE J.3-1 Organizations That Submitted Comments in Writing via Letter, Email, or Web**
 14 **Portal or Verbally at One of the Public Meetings for GTCC**

Organization	Comment Document ID No.	Starting Pg. No.
Alliance for Democracy	T131	J-31
Alliance for Nuclear Accountability	T82	J-35
Alliance for Nuclear Accountability	W428	J-41
Alliance for Nuclear Accountability	W544	J-45
Babcock & Wilcox Technical Services Group	L309	J-49
Big Pine Paiute Tribe of the Owens Valley	W548	J-52
Blue Ridge Environmental Defense League	T2	J-58
CARC, Inc.	T37	J-61
Carlsbad Chamber of Commerce	T36	J-66
Carlsbad City Council	T29	J-68
Carlsbad Department of Development	T129	J-72
Cherry Country	W565	J-76
Citizen Action New Mexico	T73	J-77
Citizens for Alternatives to Radioactive Dumping	T69	J-81
Citizens for Alternatives to Radioactive Dumping	T33	J-85
Citizens for Alternatives to Radioactive Dumping	L59	J-88
City of Mosier, City Councilor	W346	J-90
City of Portland, Oregon	L283	J-91
Clark County	T39	J-94
Clark County Nuclear Waste Division	W541	J-101
Coalition 21	L274	J-107
Code Pink Portland	T135	J-108
Colorado State Patrol	W339	J-111
Columbia Ecovillage	W487	J-112
Columbia Riverkeeper	T15	J-113
Columbia Riverkeeper	W539	J-116
Columbia Riverkeeper	T119	J-128
Concerned Citizens for Nuclear Safety	T98	J-131
Concerned Citizens of Wagon Mound and Mora County	E96	J-138
Conejos County Clean Water, Inc.	E1	J-140
Conference of Radiation Control Program Directors, Inc.	L303	J-149
Conservation Voters of South Carolina	T8	J-152

TABLE J.3-1 (Cont.)

Organization	Comment Document ID No.	Starting Pg. No.
Council of State Governments	W540	J-156
Decommissioning Plant Coalition	W524	J-161
Department of the Air Force	L307	J-165
Eddy County Commissioner	T22	J-166
EnergySolutions	L78	J-169
Evergreen State College	W217	J-173
Haddad Drugan LLC	W392	J-174
Hanford Advisory Board	L280	J-175
HEAL Utah	E61	J-179
Heart of America Northwest	T132	J-183
Heart of America Northwest	W554	J-188
Heart of America Northwest	T14	J-189
Heart of America Northwest	W552	J-198
Higher Ground Farm	W354	J-265
HOME	T45	J-267
Honor our Pueblo Existence (HOPE)	T87	J-272
INL Site Environmental Management	L3	J-275
International Source Suppliers and Producers Association (ISSPA)	L100	J-277
ISSUE	T115	J-278
League of Women Voters, South Carolina	T1	J-280
Legions of Living Light	L294	J-284
Loretto Community	E76	J-286
Loretto Community	T100	J-290
Mayor's Office, City of Carlsbad, New Mexico	T28	J-293
Mayor's Office, City of Carlsbad, New Mexico	T35	J-295
Native Community Action Council	T47	J-299
Natural Resources Defense Council (NRDC)	W556	J-306
Nevada Desert Experience	T40	J-367
Nevada Nuclear Waste Task Force	T41	J-373
Nevada Site Specific Advisory Board	L96	J-376
New Mexico Environment Department	L295	J-387
New Mexico State University, Carlsbad	T31	J-389
New York State Energy Research and Development Authority	L301	J-391
Nez Perce Tribal Executive Committee	L1	J-395
Northern New Mexico Citizens' Advisory Board	L284	J-401
Nuclear Watch New Mexico	E102	J-404
Nuclear Watch New Mexico	T85	J-412
Nuclear Watch South	T7	J-417
Nye County Nuclear Waste Repository Project Office (NWRPO)	E32	J-421
Nye County Nuclear Waste Repository Project Office (NWRPO)	E33	J-432
Nye County Nuclear Waste Repository Project Office (NWRPO)	T46	J-437
Oak Ridge Reservation Local Oversight Committee	L289	J-441
Oregon Conservancy Foundation	T120	J-443
Oregon Department of Energy	E70	J-446
Oregon Department of Energy	E72	J-449
Oregon Hanford Cleanup Board	E71	J-455

TABLE J.3-1 (Cont.)

Organization	Comment Document ID No.	Starting Pg. No.
Oregon Legislative Assembly	L299	J-458
Oregon Physicians for Social Responsibility	E46	J-460
Oregon Progressive Party	T133	J-461
Oregon State Legislature	W69	J-464
Oregon Wild	W7	J-468
Physicians for Social Responsibility - KC	W563	J-469
Plazm Media	W17	J-471
Portland City Council	T127	J-472
Progressive Leadership Alliance of Nevada	T50	J-475
Public Safety Resources Agency	W3	J-478
Pueblo de San Ildefonso DECP	L279	J-498
Pueblo of Acoma	W15	J-501
R Graham Graphics	W108	J-505
Rosemere Neighborhood Association	T134	J-507
Santa Clara Pueblo	L95	J-510
Santa Clara Pueblo	T86	J-522
Santa Clara Pueblo	T93	J-526
SHINE Medical Technologies	W532	J-530
Snake River Alliance	E4	J-533
Snake River Alliance	T20	J-537
South Carolina Department of Health and Environmental Control	W2	J-542
Southwest Research and Information Center	L6	J-544
Southwest Research and Information Center	T51	J-574
Southwestern Low-Level Radioactive Waste Commission	L281	J-580
Spark of Divinity Mission	W47	J-582
SRS Community ReUse Organization	T9	J-583
State of Idaho, Department of Environmental Quality	L2	J-586
State of Idaho, Governor's Office	T18	J-596
State of Idaho, Governor's Office	L298	J-601
State of Nevada Agency for Nuclear Projects	E45	J-603
State of Nevada Agency for Nuclear Projects	T38	J-627
State of New Mexico, Governor's Office	L304	J-632
State of South Carolina, Governor's Nuclear Advisory Council	W298	J-636
State of Washington, Department of Ecology	W429	J-638
State of Washington, Department of Ecology	W545	J-639
State of Washington, Department of Ecology, and Oregon Department of Energy	L285	J-644
State of Washington, Department of Ecology, and Oregon Department of Energy	T13	J-646
Sun Rays Mechanical Contractors, Inc.	L306	J-650
Sun Rays Mechanical Contractors, Inc.	T17	J-651
Tewa Women United	T105	J-654
Toiyabe Chapter, Sierra Club	T42	J-659
Tri-Valley CAREs	L91	J-662
Tri-Valley CAREs	W555	J-666
U.S. Environmental Protection Agency	L94	J-670

TABLE J.3-1 (Cont.)

Organization	Comment Document ID No.	Starting Pg. No.
U.S. Nuclear Regulatory Commission	L8	J-680
U.S. Senator Jeff Merkley's Office	T122	J-693
U.S. Senator Ron Wyden's Office	L300	J-695
UU Ministry for Earth	W493	J-696
Valley Interfaith Project	W267	J-698
Valley Interfaith Project	W418	J-699
Washington State, Department of Health	T12	J-700
Waste Control Specialists, LLC	E41	J-701
West Valley Citizen Task Force	L275	J-707
Western Governors' Association	L99 (W327)	J-709
Whiteaker Community Council	T173	J-714
Women for a Better World	W21	J-715
Women's International League for Peace and Freedom	T116	J-717
Woodstock Neighborhood Association	W266	J-719
Yakama Nation Environmental Restoration Waste Management Program	L293	J-721

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MR. BROWN: Okay. Ethan is at the podium. John Felton will follow you.

MR. SCARL: Very good. My name is Ethan Scarl. I'm with Alliance for Democracy. I'm a physicist, retired. You gentle people did not create this nuclear waste, but you are charged with disposing of it in some rational fashion. It's an immense and impossibly impossible charge. There's been a lot of talk about space and volume, numbers of truckloads.

There has not been much talk about time, how long does this have to endure? And a reasonable estimate, given the half lives of some of the isotopes, is a hundred thousand years, which has been mentioned before. That's 25 times the length of

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T131-1 DOE agrees that use of a geologic repository such as that pursued in Finland would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

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1 written recorded history of the human race. What can
2 happen? How can we protect it? Has anybody actually
3 tried to deal with this incredible problem? And the
4 answer is, oddly, yes.

5 There is a model that's -- someone referred to
6 it earlier. Let me just ask for a show of hands.
7 Anyone here heard of Olkiluoto? Anyone? One or two
8 hands. It's amazing. That may be one of the most
9 important sites in the world. It's in Northern
10 Finland, and it's the repository under construction
11 for the disposal of all the waste from Finland only.
12 It's scheduled -- it's under construction. It's
13 scheduled to be finished in 2020. It's going to be
14 closed with the entrance bombed shut in the year
15 2100. It's intended to enclose the waste from one
16 small country for -- that is generated over 100
17 years, and it has to protect all life on the planet
18 from that waste for a hundred thousand years. And
19 they're talking about it seriously.

20 Now, the reason I know about this is because, by
21 coincidence, there is a movie showing in Portland
22 right now at the Living Room Theater at Southwest
23 10th and Stark called Into Eternity. It documents
24 that. It's a beautifully made movie. It's not
25 contentious in its atmosphere. It shows high-level

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T131-1
(Cont.)

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1 officials from Scandinavian countries trying to think
2 about what does it mean, a hundred thousand years?
3 How do you prevent human intrusion for cultures you
4 cannot possibly guess what they're going to be like?
5 what will they know? Will they have high technology?
6 Will they be digging with bows and arrows? Will
7 somebody with high technology dig a hole into this
8 thing, and then people who have no clue about what
9 radiation is will come after them?

10 There were debates of do we try to forget this?
11 Do we wipe this from our memory, do we make it
12 secret, or do we try to let people know? And the
13 legal decision by the legislature in Helsinki was
14 yes, we'll try to make our children know about it,
15 and their children and their children and their
16 children to know that this is a place you do not go,
17 and teach their children to remember to forget and to
18 never go there.

19 MR. BROWN: About 30 seconds left, please.

20 MR. SCARL: So I encourage you to go see that
21 thing. It's an amazing thing, and it's very well
22 done, pleasant. And my message to you is to say that
23 if you're really going to be serious about dealing
24 with this thing, it's an immense proposition. Look
25 what they're going through -- enormous construction,

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T131-1
(Cont.)

Alliance for Democracy, Commenter ID No. T131 (cont'd)

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1 half a kilometer down and many kilometers of
2 tunnel -- and try to extrapolate that from Finland to
3 the United States and see what that implies. If
4 we're going to be serious about it, there is a bit of
5 a model, and I encourage you to look at it.

T131-1
(Cont.)

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MR. BROWN: Thank you.

17

Susan Gordon, and Stuart Barger will be next.

18

Susan.

19

MS. GORDON: My name is Susan Gordon, and I'm

20

the Director of the Alliance for Nuclear

21

Accountability.

22

ANA is made up of 36 member organizations most

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1 of whom live directly downwind and downstream from the
2 Department of Energy's nuclear weapons production and
3 waste clean-up sites. We've been working
4 collaboratively since 1987 before there was a clean-up
5 program at DOE.

6 Visible on this map are the major aquifers and
7 rivers across the United States. You can see the
8 largest production facilities in the nuclear weapons
9 complex, all located near water supplies. The gray
10 dots and outlines indicate Native American tribes and
11 reservations.

12 At one point there were over 5,100 industrial
13 facilities involved in nuclear weapons production.
14 Approximately 3,900 of these facilities handled
15 radioactive materials and were contaminated.

16 The production of nuclear weapons has result
17 in creating the largest and most expensive
18 environmental clean-up program in history. DOE now
19 estimates clean-up costs between 274 billion and \$329
20 billion, and the clean-up time lines have stretched out
21 to 2062.

22 I brought along a couple of old pictures of
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1 past disposal practices at the Idaho National
2 Laboratory. So there's one just dumping, dumping the
3 barrels off the back of the truck, and here's the other
4 one that shows, oh, it rains in Idaho and the barrels
5 float.

6 What's missing is the third photo of the men
7 in the back of the pickups with their shotguns blasting
8 holes in the barrels so that they would sink down out
9 of sight.

10 Approximately 3,750 square miles of land were
11 confiscated for the nuclear weapons production complex
12 site, leaving behind 75 million cubic meters of
13 contaminated soil and 1.8 billion cubic meters of
14 contaminate groundwater.

15 Please keep in mind that it is the ANA
16 communities that are most impacted by the environmental
17 and health legacy of nuclear weapons production. We
18 are living with these wastes today. Because of this
19 legacy, we believe that the 170 million Curies of
20 greater-than-Class-C waste should be managed at
21 commercial sites, not DOE sites.

22 It is especially problematic that the draft
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T82-1

The EIS considered the range of reasonable alternatives for disposal of the inventory of GTCC LLRW and GTCC-like wastes identified for inclusion in these analyses. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

The Low-Level Radioactive Waste Policy Amendments Act (LLRWPA, P.L. 99-240) assigns DOE responsibility for the disposal of GTCC LLRW generated by NRC and Agreement State licensees. The LLRWPA (P.L. 99-240) does not limit DOE to using only non-DOE facilities or sites for GTCC LLRW disposal. Under NEPA, DOE must evaluate the range of reasonable alternatives for a GTCC LLRW disposal facility. DOE sites represent reasonable alternatives for a GTCC LLRW disposal facility.

The LLRWPA (P.L. 99-240) specifies that GTCC LLRW, designated a federal responsibility under section 3(b)(1)(D) that results from activities licensed by the NRC, is to be disposed of in an NRC-licensed facility that has been determined to be adequate to protect public health and safety. However, unless specifically provided by law, the NRC does not have authority to license and regulate facilities operated by or on behalf of DOE. Further, the LLRWPA does not limit DOE to using only non-DOE facilities or sites for GTCC LLRW disposal. Accordingly, if DOE selects a facility operated by or on behalf of DOE for disposal of GTCC LLRW for which it is responsible under section 3(b)(1)(D), clarification from Congress would be needed to determine NRC's role in licensing such a facility and related issues. In addition clarification from Congress may be needed on NRC's role if DOE selects a commercial GTCC LLRW disposal facility licensed by an Agreement State rather than by NRC.

T82-1

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1 environmental impact statement does not include any
2 specific commercial sites as alternatives. The generic
3 sites included aren't sufficient. Disposing of more
4 waste at DOE sites will simply add to the burden these
5 communities already bear.

6 ANA believes that waste should be managed as
7 safely as possible, as close to the generation site as
8 possible.

9 How am I doing? Okay?

10 MR. BROWN: Just fine.

11 MS. GORDON: This should also be the DOE
12 position. DOE needs to go back and start over with a
13 new draft EIS that looks at real alternatives, like
14 hardened on-site storage, and doesn't simply target DOE
15 sites.

16 It is a bad idea to expand the mission of WIPP
17 to include commercial waste. New Mexico and the DOE
18 communities have been told for more than three decades
19 that WIPP is only for transuranic waste. People in the
20 shadows of DOE nuclear weapons sites don't want more
21 broken promises at any DOE site. Expanding the mission
22 at WIPP would make it harder for future repositories

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T82-1
(Cont.)

T82-2

T82-3

T82-4

T82-2 DOE is responsible under the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240) for the disposal of GTCC LLRW. The purpose of the EIS is to evaluate alternatives for the safe and secure disposal of GTCC LLRW and GTCC-like wastes. Continued storage of GTCC LLRW at the generating facilities was evaluated as part of the No Action alternative. Transportation of GTCC LLRW and GTCC-like wastes from generating facilities to a GTCC LLRW disposal facility is a required component of the disposal process that would be identified for the GTCC LLRW and GTCC-like wastes because the disposal site(s) or location(s) would not be the same as the generator sites for reasons provided in the EIS. DOE believes that the transportation of GTCC LLRW and GTCC-like wastes to a more centralized disposal facility would result in lower overall human health risks compared to managing the wastes at multiple locations and can be conducted in a safe manner based on compliance with comprehensive regulatory requirements and past experiences.

The EIS evaluates the transportation impacts from the shipments that would be required to dispose of all of the GTCC LLRW and GTCC-like wastes at each of the reference locations evaluated. The EIS addresses the collective population risks during routine conditions and accidents, the radiological risks to the highest exposed individuals during routine conditions, and the consequences to individuals and populations as a result of transportation accidents, including those that could release radioactive or hazardous chemical contaminants. The EIS also evaluated the impact of intentional destructive acts that could occur during waste handling, transportation, and disposal (see Section 2.7.4.3 of the EIS). The potential risk of such destructive acts is estimated to be low. DOE sites considered in the EIS are secure, and the packaging for the GTCC LLRW and GTCC-like wastes would be robust. Because GTCC LLRW and GTCC-like wastes are not readily dispersible, the potential physical impacts from an intentional destructive act (e.g., an explosive blast) would be no greater than those from the release of any radioactivity from a severe accident during waste handling, transportation, and disposal.

DOE's requirements for transportation of radioactive waste are developed and continually revised to ensure maximum protection of public health and the environment, thereby minimizing the risk of a traffic accident. DOE has established a comprehensive emergency management program that provides detailed, hazard specific planning and preparedness measures to minimize the health impacts of accidents involving loss of control over radioactive material or toxic chemicals. DOE's transportation emergency preparedness program was established to ensure that DOE and its contractors, state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving DOE shipments of radioactive materials. Should an accident occur that involves a release of radioactive material to the environment, it would be promptly remediated in accordance with these procedures. These measures would help DOE to minimize and mitigate any impacts on the environment.

T82-3 The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

T82-4 Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that additional legislation would be required for siting a new facility within the land withdrawal area. However, NEPA does not limit an EIS to proposing and evaluating

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1 because people would rightly distrust legal protections
2 and promises.

3 I want to leave you with the basic principles
4 that ANA groups have developed. So we've developed
5 these over 24 years of working collaboratively together
6 on DOE nuclear weapons environmental clean-up.

7 First, nuclear waste should be stored as
8 safely as possible, as close to site of generation as
9 possible, in a manner that maximizes worker, public and
10 environmental protection.

11 Two, clean-up to the most protective standards
12 that prevent harm to the environment and the health and
13 safety of current and thousands of future generations
14 to the maximum extent possible.

15 Three, compliance with legally enforceable
16 agreements with regulators independent of DOE to insure
17 progress and accountability along with the necessary
18 regular and consistent enforcement.

19 Four, meaningful public participation
20 processes that require early, continuous and effective
21 public involvement for tribes, states and the public.

22 Number five, access to all historical and
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T82-4
(Cont.)

T82-5

T82-5

alternatives that are currently authorized. Also, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by PL. 104-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in minimal environmental impacts for all resource areas evaluated, including human health and transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero because there would be no releases to the accessible environment and therefore no radiation doses and LCFs during the first 10,000 years following closure of the WIPP repository. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

See response to T82-2.

T82-6

DOE cleanup activities at any site must meet the most stringent standards applicable (federal, state, or local) to protect human health and the environment.

T82-6

T82-7

DOE will comply will all existing agreements and applicable Federal, Tribal, State, and local requirements and regulations. Depending on the final decision on the disposal of GTCC waste, DOE will work with the appropriate authorities to address existing agreements and potential impacts to these agreements on disposal of GTCC waste at the selected site(s).

T82-7

T82-8

DOE's goal with regard to its public participation process is to be able to disseminate the information to the public as early as possible so that input from the interested public can be obtained to inform the Final EIS. To this end, nine public hearings at venues accessible to the interested public for the various sites evaluated in the EIS were conducted. Notices were placed in various local newspapers to announce the public hearings before and during the scheduled hearings. Additional information is provided on page J-1 in Section J.1.

T82-8

T82-9

DOE initiated government-to-government consultations with potentially affected American Indian tribes in a timely manner consistent with DOE Order 144.1 and DOE's NEPA implementing guidelines. These consultations were done at a time that DOE had compiled and developed sufficient information for the Draft EIS (including identification of the GTCC LLRW and GTCC-like waste inventory) to allow for an informed consultation with potentially affected American Indian tribes. These consultations resulted in some of the tribes providing narrative text for inclusion in the EIS. Additional information is provided on page J-1 in Section J.1.

DOE will consult with any potentially affected public agencies and tribal governments prior to making any final decision on the selection of (an) alternative(s) for the disposal of GTCC LLRW and GTCC-like wastes.

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Appendix J: Comment Response Document

Alliance for Nuclear Accountability, Commenter ID No. T82 (cont'd)

Capital Reporting Company

21

1 current data relating to possible health and
2 environment effects at nuclear weapons sites, health
3 services for those exposed to radioactive and toxic
4 contamination.

5 Thank you.

6 MR. BROWN: Thanks very much.

7 Susan, I wanted to ask you: do you have a
8 smaller version of that map that can be submitted for
9 the record? You can do that through the 27th. You've
10 got some time for that.

11 MS. GORDON: Right. I will.

T82-9
(Cont.)

T82-9 Even though it is beyond the scope of the GTCC EIS, the comment is noted. DOE has established a Worker Health and Activities Program. The program promotes the health of the Department's workers and communities surrounding DOE sites by supporting:

- Occupational health studies of DOE's historical workforce;
- Historical dose reconstruction studies, which evaluate the risk to the public of past releases of radiation and chemicals around DOE's nuclear weapons facilities, and;
- Studies of communities located near DOE Superfund sites to determine if current contaminants in the environment could result in adverse human health effects. Information on the program can be found at <http://www.hss.energy.gov/HealthSafety/ihs/hstudies/hhs.html>.

Alliance for Nuclear Accountability, Commenter ID No. W428

Abplanalp, Jennifer Marie

From: gtcceiswebmaster@anl.gov
Sent: Friday, June 24, 2011 10:52 AM
To: mail_gtcceisarchives; gtcceiswebmaster@anl.gov; gtcceis@anl.gov
Subject: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10428
Attachments: DOE_comment_GTCC10428.doc

Thank you for your comment, Rebecca Anderson.

The comment tracking number that has been assigned to your comment is GTCC10428. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 24, 2011 10:51:29AM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10428

First Name: Rebecca
Middle Initial: J
Last Name: Anderson
Organization: Alliance for Nuclear Accountability
Address: 322 4th St NE
City: Washington DC
State: DC
Zip: 20002
Country: USA
Email: ra8100a@student.american.edu
Privacy Preference: Don't withhold name or address from public record
Attachment: DOE comment.doc

Questions about submitting comments over the Web? Contact us at: gtcceiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

June 14, 2011

Arnold Edelman
Document Manager
Department of Energy Headquarters
1000 Independence Ave SW
Washington, D.C. 20585-0119

Dear Mr. Edelman,

I am writing to urge the Department of Energy to reconsider its Greater-Than-Class C (GTCC) waste removal plans. As a young adult, I care deeply about our nation's future energy and environmental situation; these policies will have an increasingly large impact on the lives of those in my generation. The Department of Energy's current waste removal plans listed in its Environmental Impact Statement could have detrimental effects on the environment and national security. The Department of Energy can ameliorate its GTCC waste policy by developing a second geologic repository and/or improving regulation of Hardened On-Site Storage.

The Department of Energy's current consideration of near-surface trenches, bore holes and vaults at DOE facilities to dispose of GTCC waste could lead to many problems. These sites already have an abundance of nuclear waste that will take billions of dollars and decades to clean. The WIPP facility can legally not be used for disposing of commercial GTCC waste by the DOE because the state of New Mexico does not permit commercial nuclear waste to be deposited in its repository. Instead, the DOE should consider constructing a second geologic repository for the GTCC waste. The DOE has not complied with the Waste Policy Act of 1982, 42 U.S.C. §10101 et seq., which requires at least one geologic repository in which to dispose commercial nuclear waste. The only location considered since 1987 has been the Yucca Mountain site in Nevada. Although the Obama administration has shut down this plan, the DOE is still obligated to find another location for a geologic repository. In addition to meeting this responsibility, the DOE should consider this new option as a means for GTCC waste disposal.

The Department of Energy has deemed Hardened On-Site Storage (HOSS) an ill-fit option for the EIS due to its lack of permanence. HOSS, one of the current methods of holding GTCC waste, may be a temporary solution, but it is also the most environmentally sound and safe method of keeping this waste in check. Storing the waste in HOSS would prevent terrorists from stealing the radioactive material en route to disposal site to make "dirty bombs." If hardened in its current location, this waste will also not be susceptible to any accidents from vehicles or aircraft. If and when a scientifically sound, permanent solution to nuclear waste is developed, GTCC waste remaining in HOSS can be dealt with accordingly. This will be much less costly and more feasible than dealing with nuclear waste already buried in vaults or trenches. As always, the best solution is to minimize future waste production. Most of the GTCC

W428-1 The EIS considered the range of reasonable alternatives for the disposal of the GTCC waste inventory, including disposal in a deep geologic repository. DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository

Past operational experience with near-surface disposal facilities at DOE sites has shown that when properly implemented, they can provide isolation of radioactive waste from the environment for extended time periods. Past problems that have arisen with each option provide additional information to improve the design and performance of future land disposal facilities. Issues related to performance over time would be analyzed in a project-specific analysis to address technical and long-term concerns.

The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

W428-1
W428-2
W428-3
W428-4
W428-2 Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 10-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in minimal environmental impacts for all resource areas evaluated, including human health and transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero

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waste projected in the EIS does not yet exist, and keeping current GTCC waste in HOSS will allow for more time to create a publicly-acceptable solution.

Ultimately, the Department of Energy should consider creating a new Draft Environmental Impact Statement before writing the Final Environmental Impact Statement. This new DEIS should consider the two options explained above that go unaddressed in the current DEIS. A second geological repository and the use of Hardened On-Site Storage could be important and influential tools in the future of nuclear waste. Together they create an environmentally-sound and secure interim solution to the ongoing issue of GTCC waste.

Best wishes,

Rebecca J. Anderson
Intern, Alliance for Nuclear Accountability
Student, American University

W428-4
(Cont.)

W428-5

because there would be no releases to the accessible environment and therefore no radiation doses and LCFs during the first 10,000 years following closure of the WIPP repository. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

The EIS considered the range of reasonable alternatives for the disposal of the GTCC waste inventory, including disposal in a deep geologic repository. DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

W428-3 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

The NWPA applies to the disposal of spent nuclear fuel and high level waste which are not within the scope of this EIS. In addition DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in an existing geologic repository.

W428-4 Refer to the discussion in the last paragraph of the W428-1 response regarding HOSS.

Alliance for Nuclear Accountability, Commenter ID No. W428 (cont'd)

W428-5 DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

Refer to the discussion in the last paragraph of the W428-1 response regarding HOSS.

Alliance for Nuclear Accountability, Commenter ID No. W544

Abplanalp, Jennifer Marie

From: gtceiswebmaster@anl.gov
Sent: Monday, June 27, 2011 4:22 PM
To: mail_gtceisarchives; gtceiswebmaster@anl.gov; gtceis@anl.gov
Subject: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10544
Attachments: GTCC_DIES_comment_GTCC10544.doc

Thank you for your comment, Katherine Fuchs.

The comment tracking number that has been assigned to your comment is GTCC10544. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 27, 2011 04:21:30PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10544

First Name: Katherine
Middle Initial: M
Last Name: Fuchs
Organization: Alliance for Nuclear Accountability
Address: 322 4th St NE
City: Washington
State: DC
Zip: 20002
Country: USA
Email: kfuchs@anuclear.org
Privacy Preference: Don't withhold name or address from public record
Attachment: C:\fakepath\GTCC DIES comment.doc

Comment Submitted:
see attached Word doc.

Questions about submitting comments over the Web? Contact us at: gtceiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

Alliance for Nuclear Accountability, Commenter ID No. W544 (cont'd)

Alliance for Nuclear Accountability
322 4th St., NE
Washington, DC 20002

June 27, 2011

Arnold Edelman
Document Manager
Office of Technical and Regulatory Support (EM-43)
U.S. Department of Energy
1000 Independence Avenue, SW.

Mr. Edelman:

I am writing to comment on the Department of Energy's Greater Than Class C Low Level Radioactive Waste (GTCC) Draft Environmental Impact Statement (DEIS). There are three critical elements missing from the GTCC DEIS. These elements are:

1. Defining and regulating Hardened on Site Storage (HOSS).
2. Developing an alternative Deep Geologic Repository for radioactive waste.
3. Legal and physical restrictions at existing DOE sites.

First, The Department of Energy must consider HOSS as an option for GTCC disposal. The DOE's rejection of HOSS as outside the scope of this DEIS is unacceptable, as HOSS is the current status of much of our nation's GTCC waste.

HOSS is a safe way to store waste until a permanent, scientifically sound, and publicly acceptable solution is found. Part of that future solution, of course, should be drastically minimizing our generation of GTCC waste. Decisions about final disposal sites and technologies are currently premature. Much of our nation's Greater Than Class C waste will be produced after 2030, and we should know more about that waste before deciding how to dispose of it.

DOE must create regulatory definitions and frameworks for HOSS. While some of our current GTCC waste is currently in HOSS, other GTCC waste is stored in ways that create environmental and public health risks. Defining and regulating HOSS would improve public safety until we find an acceptable permanent disposal site.

Next, I want to draw attention to the fact that there are legal, scientific, and ethical restrictions which obligate the DOE to develop a deep geologic repository for radioactive waste. This fact is completely ignored in the DOE's GTCC DEIS.

This DEIS's suggested alternatives to a deep geologic repository, including near-surface trenches, bore holes, and vaults, will all require billions of dollars and decades to remediate at some future point and should not be considered permanent disposal methods.

W544-1 The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

W544-2 The development of a regulatory framework for the use of HOSS at commercial nuclear power plants is outside the scope of the GTCC EIS. DOE does not have authority to regulate the storage of radioactive wastes at commercial facilities, including nuclear power plants. Under the Atomic Energy Act of 1954 as amended (AEA) (see United States Code: 42 USC § 2011), the NRC is responsible for regulating storage of such wastes. Radioactive waste storage requirements can be found in 10 CFR Part 30 (Rule of General Applicability to Domestic Licensing of Byproduct Material), 10 CFR Part 70 (Domestic Licensing of Special Nuclear Material), and 10 CFR Part 72 (Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste). In addition, the NRC has provided guidance for the storage of LLRW in SECY-94-198, Review of Existing Guidance Concerning the Extended Storage of Low-Level Radioactive Waste, which was issued on August 1, 1994.

W544-3 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

W544-1

W544-2

W544-3

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

The NWA applies to the disposal of spent nuclear fuel and high level waste which are not within the scope of this EIS. In addition DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in an existing geologic repository.

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The Nuclear Waste Policy Act of 1982 requires the DOE to develop a deep geologic repository for permanent disposal of radioactive waste. The DOE's previous site, Yucca Mountain, was technically unsound and faced insurmountable public opposition. The DOE should not delay in developing an alternative deep geologic repository that will be both scientifically and politically acceptable. The GTCC EIS needs to take this mission into account.

Finally, GTCC should not be consolidated at existing DOE sites.

Many existing DOE sites are undergoing cleanup projects that have cost hundreds of billions of dollars over decades. It would be ridiculous to send new waste to remediated areas.

Some DOE sites being considered for GTCC consolidation, such as the Waste Isolation Processing Plant, have legal agreements in place that limit how much and what type of waste they can accept. Breaking these agreements would do irreparable harm to the DOE's relationships with host states and would likely result in costly litigation. Other DOE sites being considered for GTCC consolidation, such as Los Alamos National Laboratory, have seismic or other natural features that make them a dangerous place for waste disposal.

The DOE needs to take a long view and begin the technical and political work necessary to develop a new location for long-term disposal of GTCC waste.

The civil and scientific communities represented by the Alliance for Nuclear Accountability agree that moving ahead with HOSS as quickly as possible and developing a new permanent deep geologic repository for radioactive waste is the best possible way forward and we implore you to reconsider these options in a final GTCC EIS. Thank you for your consideration. I wish you the best of luck as you move forward with the challenging process of disposing of our nation's GTCC.

In Peace,

Katherine M. Fuchs
Program Director

W544-3
(Cont.)

W544-4

W544-5

W544-6

W544-7

W544-4 DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

The Blue Ribbon Commission (BRC) on America's Nuclear Future, in its final report to DOE on January 26, 2012, provided recommendations, which included the development of one or more permanent deep geologic facilities for the safe disposal of spent nuclear fuel and high-level radioactive waste and the development of one or more consolidated interim storage facilities as part of an integrated, comprehensive plan for managing the back end of the nuclear fuel cycle. In its Strategy for the Management and Disposal of Spent Nuclear Fuel and High Level Radioactive Waste (DOE 2013), developed in response to the BRC Report, the Administration agreed "that the development of geologic disposal capacity is currently the most cost-effective way of permanently disposing of used nuclear fuel and high-level radioactive waste while minimizing the burden on future generations" and proposed to "engage in a consent-based siting process and begin to conduct preliminary site investigations for a geologic repository." The Administration's goal is to have a repository constructed and its operations started by 2048. The Administration will work with Congress using the strategy as an actionable framework for building a national program for the management and disposal of the nation's used nuclear fuel and high-level radioactive waste (DOE 2013).

W544-5 DOE is performing environmental restoration activities at the Hanford Site, INL, LANL, NNS, and SRS. The ongoing cleanup efforts at these sites will continue. If GTCC LLRW or GTCC-like waste were to be disposed at these sites, DOE does not anticipate negative impacts to ongoing cleanup activities at these sites.

W544-6 Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 10-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative.

DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

Site-specific environmental factors, such as seismic or other natural features, as identified by commenters for all of the DOE sites, were taken into account and evaluated in the EIS as appropriate. The results of the evaluation were taken into consideration in identifying the preferred alternative presented in the Final EIS.

W544-7 The GTCC EIS was developed in response to the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240) and does provide the necessary step to begin the technical and political work necessary to develop a facility for the disposal of GTCC LLRW and GTCC like waste.

The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500–1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500–1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INL, LANL, NNSS, SRS, and the WIPP Vicinity, for which two reference locations – one within and one outside the WIPP Land Withdrawal Boundary – were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.

DOE also conducted a generic evaluation of commercial disposal facilities on nonfederal lands in the EIS to order to provide, to the extent possible, information regarding the potential long-term performance of other (nonfederal) locations for siting a GTCC waste land disposal facility.

Final siting of a disposal facility for GTCC LLRW and GTCC-like wastes would involve further site-specific NEPA review as needed and be in accordance with applicable laws and regulations and would involve local stakeholder involvement and consent.



received
JUN 16 2011

June 13, 2011

Mr. Arnold M. Edelman, EIS Document Manager
Office of Environmental Management
US Department of Energy
Cloverleaf Building, EM-43
1000 Independence Avenue, SW
Washington DC 20585

Dear Mr. Edelman:

This letter is in response to B&W's review of DOE's Draft *Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCFC-Like Waste* (Draft GTCC EIS) (DOE/EIS-0375-D).

At the B&W facilities in Lynchburg, VA, we have GTCC-like TRU waste (>100 nCi/g) that is stored in drums. Some of these drums are owned by DOE, and some are privately owned by B&W. This material is basically hot cell equipment and materials that became contaminated with TRU as a result of postirradiation examinations of research and commercial spent fuel. There is currently no path forward for the disposal of this material because it is nondefense related. The DOE owned material fits the definition of GTCC-like material, but it appears that the privately owned material would be excluded under the strict definition that the GTCC-like material must be DOE owned. As summarized in the attachment, B&W requests that the definition of GTCC-like material be expanded to include privately owned GTCC-like waste.

Feel free to contact me by phone (434-522-5715) or email (kyhour@babcock.com) to answer any questions you may have about the enclosed.

Sincerely,

Kevin Hour, Ph.D.

Manager Nuclear Materials and Inspection Services

Babcock & Wilcox Technical Services Group, Inc., a Babcock & Wilcox company

J-49

January 2016

Attachment 1

Review and Comments on the US Department of Energy Draft Environmental Impact Statement for the Disposal of Greater-than-class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D).

Abstract: The U.S. Department of Energy (DOE) has prepared the Draft *Environmental Impact Statement for the Disposal of Greater-than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D)* to evaluate the potential environmental impacts associated with the proposed development, operation, and long-term management of a disposal facility or facilities for GTCC low-level radioactive waste (LLRW) and DOE GTCC-like waste. GTCC LLRW has radionuclide concentrations exceeding the limits for Class C LLRW established by the U.S. Nuclear Regulatory Commission (NRC). These wastes are generated by activities licensed by the NRC or Agreement States and cannot be disposed of in currently licensed commercial LLRW disposal facilities. DOE has prepared and is issuing this Draft EIS in accordance with Section 631 of the Energy Policy Act of 2005.

The NRC LLRW classification system does not apply to radioactive waste generated or owned by DOE and disposed of in DOE facilities. However, DOE owns or generates LLRW and non-defense-generated transuranic (TRU) radioactive waste, which have characteristics similar to those of GTCC LLRW and for which there may be no path for disposal. DOE has included these wastes for evaluation in this EIS because similar approaches may be used to dispose of both types of radioactive waste. For the purposes of this EIS, DOE is referring to this waste as GTCC-like waste. Much of the GTCC-like waste is TRU waste.

What this means: There are currently no commercial disposal facilities in the U.S. for GTCC LLRW. The only disposal facility in the U.S. that is currently licensed to handle TRU waste (generally defined as waste containing >100 nCi of alpha-emitting TRU isotopes per gram of waste, with half-lives greater than 20 years) is the Waste Isolation Pilot Plant (WIPP) in New Mexico. However, this facility is limited to defense related waste only. The Draft EIS is intended to address the disposal of GTCC and GTCC-like LLRW generated from nondefense activities, such as commercial power plants licensed by the NRC. It is also meant to address the disposal of GTCC and GTCC-like waste that DOE owns, such as the DOE owned TRU waste drums stored at the B&W Lynchburg Technology Center (LTC). These waste drums contain TRU contaminated hot cell equipment and materials that are owned by the DOE, because DOE sponsored the postirradiation examinations of the commercial spent nuclear fuel rods that resulted in the contamination.

Concern to be Addressed: Only about one-third of the TRU drums stored at the LTC are owned by DOE (currently 87 out of approximately 250). From a radiological standpoint, there is no difference between the "DOE owned" and "nonDOE owned" drums. The only difference is that B&W owns the "nonDOE" drums because B&W sponsored the postirradiation examinations of the spent nuclear fuels that resulted in the contamination of the hot cell equipment and materials stored in these drums.

L309-1 For purposes of analysis in this EIS, GTCC-like waste includes radioactive waste that is owned or generated by DOE and has characteristics sufficiently similar to those of GTCC LLRW such that a common disposal approach may be appropriate. The waste described by B&W as "nonDOE owned" TRU drums are included in the GTCC LLRW inventory estimates.

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Babcock & Wilcox Technical Services Group, Commenter ID No. L309 (cont'd)

The EIS specifically states that GTCC-like waste refers to radioactive waste that is owned or generated by DOE (see box on page 1-1). Based on this definition, the DOE owned drums stored at the LTC could potentially be disposed of in the new facility, but the disposal of the B&W privately owned drums would be precluded. There would be no path forward for the disposal of the nonDOE owned drums. To address this issue, we believe that the definition of GTCC-like waste should not be limited to only DOE owned materials, but should be expanded to include privately owned GTCC-like waste.

This clarification is much like the distinction that DOE is attempting to make between the GTCC and GTCC-like waste. It is meant to address the disposal of waste materials that are similar from a radiological standpoint, but that may be precluded from disposal from a strict interpretation of definitions.

L309-1
(Cont.)

Big Pine Paiute Tribe of the Owens Valley, Commenter ID No. W548

AbplanaIp, Jennifer Marie

From: gtceiswebmaster@anl.gov
Sent: Monday, June 27, 2011 6:12 PM
To: mail_gtceisarchives; gtceiswebmaster@anl.gov; gtceis@anl.gov
Subject: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10548
Attachments: CommentsstoDOE--GTCCdraftEIS--signed--6-27-11_GTCC10548.pdf

Thank you for your comment, Bill Helmer.

The comment tracking number that has been assigned to your comment is GTCC10548. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 27, 2011 06:11:35PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10548

First Name: Bill
Last Name: Helmer
Organization: Big Pine Paiute Tribe of the Owens Valley
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Privacy Preference: Don't withhold name or address from public record
Attachment: C:\fakepath\CommentsstoDOE--GTCCdraftEIS--signed--6-27-11.pdf

Questions about submitting comments over the Web? Contact us at: gtceiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.



BIG PINE PAIUTE TRIBE OF THE OWENS VALLEY

Big Pine Paiute Indian Reservation

June 27, 2011

Greater-Than-Class C Low-Level Radioactive Waste EIS
Office of Technical and Regulatory Support (EM-43)
U.S. Department of Energy
1000 Independence Avenue, SW.
Washington, DC 20585-0119

RE: Comments on the Greater-Than-Class C Low-Level Radioactive Waste EIS

The following comments address the draft Greater-Than-Class C Low-Level Radioactive Waste EIS.

- Consultation

Government-to-government consultation has been improved since the Big Pine Paiute Tribe (Tribe) sent its scoping comments for the draft EIS on September 21, 2007. The DOE incorporated the comments of the American Indian Writers Committee (AIWC) of the Consolidated Group of Tribes and Organizations (CGTO) in the draft EIS. The Big Pine Paiute Tribe is a member of the CGTO, and Danelle Gutierrez is on the Big Pine Paiute Tribal Council and Cultural Committee, and is also on the American Indian Writers Committee.

Please implement all of the recommendations of the AIWC regarding the Greater-Than-Class C Low-Level Radioactive Waste EIS:

Recommendations of the Consolidated Group of Tribes and Organizations Annual Meeting

Nevada Test Site, August 31- September 2, 2009

1. The CGTO recommends approval of the AIWS text with recommended revisions relating to the Greater-Than-Class C Low-Level Radioactive Waste Environmental Impact Statement (GTTC EIS). Upon completion and incorporation of the revisions, text will be submitted to the Department of Energy/Environmental Management for inclusion into the Draft GTTC EIS.

2. The CGTO recommends the following individuals be appointed to serve on the American Indian Writers Subgroup (AIWS) with corresponding alternates:

P.O. Box 700 • 825 South Main Street • Big Pine, CA 93513 • Office: 760-938-2003 • Fax: 760-938-2042

W548-1 The DOE appreciates the input of the Consolidated Group of the Tribes and Organizations in the development of the Tribal Narrative Text for the GTCC EIS. Even though it is beyond the scope of this GTCC EIS, the comment is noted. The operation and coordination of the CGTO is being managed at NNSS.

W548-2 See response to W548-1.

W548-1
W548-2

Big Pine Paiute Tribe of the Owens Valley, Commenter ID No. W548 (cont'd)

Primary Members of AIWS

- | | |
|---------------------------|---------------------|
| • Betty Cornelius | Chemehuevi |
| • Lalovi Miller | Southern Paiute |
| • Maurice Frank-Churchill | Western Shoshone |
| • Jerry Charles | Western Shoshone |
| • Danelle Gutierrez | Owens Valley Paiute |
| • Gerald Kane | Owens Valley Paiute |

AIWS Alternates:

- | | |
|------------------|------------------|
| • Brenda Drye | Southern Paiute |
| • Joe Kennedy | Western Shoshone |
| • Richard Wilder | Owens Valley |

3. The CGTO recommends the DOE/NNSA provide funding and writing opportunities for the American Indian Writers Subgroup (AIWS) and their designated alternates to develop text for the 2009-2010 Nevada Test Site (NTS) Site-wide Environmental Impact Statement (SWEIS).
4. The CGTO recommends the DOE/NNSA make provisions to insure the AIWS and their designated alternates are involved throughout all developmental phases of the draft NTS SWEIS text.
5. The CGTO recommends the DOE/NNSA make arrangements to have available all sections of the NTS SWEIS draft text, in advance for the AIWS and their designated alternates to use in the development of culturally appropriate text for inclusion into the draft SWEIS.
6. The CGTO recommends the DOE/NNSA provide funding and logistics to hold a meeting of the CGTO so that the AIWS can present their text for final approval prior to inclusion into the NTS SWEIS.
7. The CGTO recommends the DOE/NNSA hold regularly scheduled annual and other meetings as appropriate with the CGTO to receive project updates and interactions with the CGTO. In addition, appropriate funding and logistics are requested to be provided by the agency.

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W548-1
W548-2
(Cont.)

Big Pine Paiute Tribe of the Owens Valley, Commenter ID No. W548 (cont'd)

8. The CGTO recommends the DOE/NNSA support the nomination of a TCP previously identified as *Wunjikuda* with expanded studies to enhance previously collected ethnographic information and determination of an appropriate title using knowledgeable tribal elders identified by the CGTO.
9. The CGTO recommends the DOE/NNSA sponsor overnight camping activities at the proposed TCP location to elicit additional information from knowledgeable tribal representatives for the submittal of the nomination.
10. The CGTO recommends the DOE/NNSA provide funding and logistics for designated tribal representatives to conduct regularly scheduled site evaluations of the selected cultural resource sites as designated by the CGTO.
11. The CGTO recommends DOE/NNSA provide the necessary funding to support tribal representatives in their site evaluation activities as identified by the CGTO.
12. The CGTO recommends the deletion and discontinuance of the word "pilgrimage" in reports that refer to American Indian trail systems developed for or in cooperation with NTS Indian Program.
13. The CGTO recommends the DOE/NNSA provide information relating to National Environmental Policy Act (NEPA) criteria about criteria for being designated as a *Cooperating Agency*.
14. The CGTO recommends the DOE/NNSA provide funding and related logistics to host a Pinenut Harvest with participation from designated tribal representatives appointed by the CGTO. This event will be designed to record information and demonstrate traditional harvesting techniques and management strategies intended to stimulate growth and reduce fuel loads.
15. The CGTO recommends the DOE/NNSA provide historic baseline radiation data within locations containing pinyon and juniper stands on the NTS. In addition, it is recommended that pinyon samples be collected from selected sites in preparation of that event.
16. The CGTO recommends the DOE/NNSA provide funding and logistics for 3 tribal representatives (1 each from Western Shoshone, Southern Paiute and Owens Valley Paiute) designated by the CGTO to examine the pinenut crop 90 days in advance of the activity to determine the potential yield of the crop and the appropriateness of hosting a harvest.
17. The CGTO recommends the DOE/NNSA support publishing of the previously developed *Indian History Project* with editorial changes, as necessary.

W548-1
W548-2
(Cont.)

18. The CGTO recommends that the DOE/NNSA locate the Townley Collection as previously requested to determine if the collection exists and the development of steps for tribal review and potential NAGPRA application, if determined necessary.

• **Hardened On Site Storage (HOSS) not considered as an Alternative**

On p. S-65, it is stated: "Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005, DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options." However, there should be flexibility in choosing options for the disposal of radioactive waste, especially if a long-term storage option is environmentally preferable. HOSS storage has been convincingly advocated by the Institute for Energy and Environmental Research (IEER) and other safe energy organizations. HOSS would allow long-term storage of GTCC wastes so that they can be monitored and retrieved until a better solution is found. As it stands now, DOE is proposing only permanent, ir retrievable disposal in all of its alternatives. Alternatives for the proposed project should also include a plan for reducing or phasing out GTCC radioactive wastes, as well as all types of dangerous radioactive waste.

The Big Pine Paiute Tribe is strongly opposed to GTCC radioactive waste storage at the Nevada National Security Site (NNS) [formerly known as the Nevada Test Site], and all the other sites proposed in Alternatives 3, 4, and 5. Radioactive waste stored at the NNS would harm the environment as well as desecrate sacred lands. The NNS is still contaminated from nuclear weapons testing, and allowing more poisonous substances to be stored on this land is not a sane alternative. Alternative 2, GTCC radioactive waste storage at the Waste Isolation Pilot Project (WIPP) must also not be considered for GTCC waste disposal because the HOSS alternative should be chosen and the WIPP site was not intended for this type of radioactive waste.

Sincerely,

Bill Helmer

Bill Helmer
Tribal Historic Preservation Officer
Big Pine Paiute Tribe of the Owens Valley

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W548-1
W548-2
(Cont.)

W548-3

W548-4

W548-5

W548-6

W548-3 The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

DOE does not have authority to regulate the storage of radioactive wastes at commercial facilities, including nuclear power plants. Under the Atomic Energy Act of 1954 as amended (AEA) (see United States Code: 42 USC § 2011), the NRC is responsible for regulating storage of such wastes. Radioactive waste storage requirements can be found in 10 CFR Part 30 (Rule of General Applicability to Domestic Licensing of Byproduct Material), 10 CFR Part 70 (Domestic Licensing of Special Nuclear Material), and 10 CFR Part 72 (Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste). In addition, the NRC has provided guidance for the storage of LLRW in SECY-94-198, Review of Existing Guidance Concerning the Extended Storage of Low-Level Radioactive Waste, which was issued on August 1, 1994.

W548-4 The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500-1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500-1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INEL, LANL, NNS, SRS, and the WIPP Vicinity, for which two reference locations - one within and one outside the WIPP Land Withdrawal Boundary - were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.

DOE also conducted a generic evaluation of commercial disposal facilities on nonfederal lands in the EIS to order to provide, to the extent possible, information regarding the potential long-term performance of other (nonfederal) locations for siting a GTCC waste land disposal facility.

Final siting of a disposal facility for GTCC LLRW and GTCC-like wastes would involve further site-specific NEPA review as needed and be in accordance with applicable laws and regulations and would involve local stakeholder involvement and consent.

W548-5 DOE is performing environmental restoration activities at NNS. The ongoing cleanup efforts will continue.

The disposal of GTCC waste at NNS, based on the EIS analysis, would not present any anticipated radioactive dose to the public. Before a final decision is made on disposing of any waste at NNS or any other site, additional analysis would be conducted to further evaluate potential human health and environmental impacts.

J-56

January 2016

W548-6 Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 10-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in minimal environmental impacts for all resource areas evaluated, including human health and transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero because there would be no releases to the accessible environment and therefore no radiation doses and LCFs during the first 10,000 years following closure of the WIPP repository. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

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MR. BROWN: Thank you. Louis Zeller is next and Steve Geddes will follow Louis.

MR. LOUIS ZELLER: Thank you. I appreciate this opportunity. My name is Louis Zeller and I'm the science director with the Blue Ridge Environmental Defense League. The Blue Ridge Environmental Defense League opposes the Department of Energy's plan to dispose a greater-than-class C waste at Savannah River Site. Central Savannah River area must not become the dumping ground for hundreds of millions of curies of radioactive waste from the nation's nuclear power plants. Further, we oppose transporting this dangerous waste to any other Department of Energy site in New Mexico, Nevada, Idaho or Washington. We have had enough. Today I passed out some flyers here. I'd ask people to show them if you've got one and if you support this position. Now, the presentation earlier was quite correct about the types of waste which--included in greater-than-class C. The one which is the most worrisome is the activated metals which come from nuclear reactors. 98 percent of the

T2-1

The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500-1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500-1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INL, LANL, NNSS, SRS, and the WIPP Vicinity, for which two reference locations - one within and one outside the WIPP Land Withdrawal Boundary - were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.

DOE also conducted a generic evaluation of commercial disposal facilities on nonfederal lands in the EIS to order to provide, to the extent possible, information regarding the potential long-term performance of other (nonfederal) locations for siting a GTCC waste land disposal facility. It would not be reasonable to analyze in detail an essentially unlimited number of additional non-DOE or nonfederal sites

Final siting of a disposal facility for GTCC LLRW and GTCC-like wastes would involve further site-specific NEPA review as needed and be in accordance with applicable laws and regulations and would involve local stakeholder involvement and consent.

T2-2

DOE is responsible under the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240) for the disposal of GTCC LLRW. The purpose of the EIS is to evaluate alternatives for the safe and secure disposal of GTCC LLRW and GTCC-like wastes. Continued storage of GTCC LLRW at the generating facilities was evaluated as part of the No Action alternative. Transportation of GTCC LLRW and GTCC-like wastes from generating facilities to a GTCC LLRW disposal facility is a required component of the disposal process that would be identified for the GTCC LLRW and GTCC-like wastes because the disposal site(s) or location(s) would not be the same as the generator sites for reasons provided in the EIS. DOE believes that the transportation of GTCC LLRW and GTCC-like wastes to a more centralized disposal facility would result in lower overall human health risks compared to managing the wastes at multiple locations and can be conducted in a safe manner based on compliance with comprehensive regulatory requirements and past experiences.

The EIS evaluates the transportation impacts from the shipments that would be required to dispose of all of the GTCC LLRW and GTCC-like wastes at each of the reference locations evaluated. The EIS addresses the collective population risks during routine conditions and accidents, the radiological risks to the highest exposed individuals during routine conditions, and the consequences to individuals and populations as a result of transportation accidents, including those that could release radioactive or hazardous chemical contaminants. The EIS also evaluated the impact of intentional destructive acts that could occur during waste handling, transportation, and disposal (see Section 2.7.4.3 of the EIS). The potential risk of such destructive acts is estimated to be low. DOE sites considered in the EIS are secure, and the packaging for the GTCC LLRW and GTCC-like wastes would be robust. Because GTCC LLRW and GTCC-like wastes are not readily dispersible, the potential physical impacts from an intentional destructive act (e.g., an explosive blast) would be no greater than those from the release of any radioactivity from a severe accident during waste handling, transportation, and disposal.

DOE's requirements for transportation of radioactive waste are developed and continually revised to ensure maximum protection of public health and the environment, thereby minimizing the risk of a traffic accident. DOE has established a comprehensive emergency management program that provides detailed, hazard specific planning and preparedness measures to minimize the health impacts of accidents involving loss of control over radioactive material or toxic chemicals. DOE's transportation emergency preparedness program was established to ensure that DOE and its contractors, state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving

T2-1

T2-2

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1 radioactivity would come from these power plants. A
2 relatively minuscule part of that is so-called medical
3 waste. Medical waste is not the problem here, nuclear
4 power is the problem. In our news letter which I left
5 over back on the bench back at that--by the doorway
6 coming in I have reproduced a map from the Department
7 of Energy's files from our own files from 1985 which
8 show crystalline repository rock sites, seven in three
9 Southeastern states, and also the Savannah River Site
10 superimposed on this map. These seven sites for
11 high-level nuclear waste were never removed from the
12 Department of Energy's list of suitable sites in 1988
13 when the law changed. What we are looking at, we
14 believe, is the camel's nose under the tent. If we
15 take a little bit of waste this year or next year would
16 we be willing to take a little bit more. We have had
17 enough. We do have a recommendation that is that store
18 greater-than-class C radioactive waste in secure
19 facilities at or near the site of generation. This
20 approach offers many advantages over the methods
21 proposed by the Department of Energy. Also manage
22 greater-than-class C in environmental secure safe,
23 retrievable facilities, keep greater-than-class C
24 facilities, which require little or no energy are
25 resistant to terrorist attack and are not centralized,
26 and abandon plans to bury the waste at Savannah River

T2-3

DOE shipments of radioactive materials. Should an accident occur that involves a release of radioactive material to the environment, it would be promptly remediated in accordance with these procedures. These measures would help DOE to minimize and mitigate any impacts on the environment.

T2-3

The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

Blue Ridge Environmental Defense League, Commenter ID No. T2 (cont'd)

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- 1 site or any other Department of Energy site. Thank you
- 2 very much.

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16 MR. BROWN: We actually have another person
17 interested in making comments for the hearing, so we are
18 reconvened. And our speaker is Mark Schinnerer, and
19 welcome.

20 MR. SCHINNERER: Good job. Thank you. I do
21 apologize for coming late and holding you over for a
22 little bit, but thank you for staying and thank you for
23 being here.

24 My name is Mark Schinnerer, and I'm the CEO of an
25 organization called CARC, Incorporated, and we serve,

1 individuals with developmental disabilities. And one of
2 the, I guess, premier programs that we have in our
3 organization falls under the scope of what's called
4 "supported employment." And supported employment is a
5 program to find employment for our individuals who have
6 disabilities in the community and to have a competitive
7 job, to have a job that they can learn skills and find
8 value and meaning in their life and be a productive member
9 in the community like you and I are.

10 One of those jobs -- actually there's, I think,
11 12 individuals working as a sub -- I'll call it a
12 "sub-subcontractor" with the WIPP program. And they are
13 working in the records, scanning, verifying, retention
14 process. They take records that are produced by that
15 whole facility and help scan those documents, verify that
16 it's accurately scanned, and for that organization then to
17 file them so they can be retrieved later.

18 We have had this contract since 1991 in this
19 program, and it's been a very successful arrangement with
20 us and that contractor to provide jobs to our
21 individuals. And they're learning valuable skills, and
22 these are good quality jobs. And what we're here to talk
23 about is the continuation of a project and continuation of
24 a program that would allow them to continue to have their
25 jobs.

1 If we see this WIPP site and this project start
2 to decline because the very small original purpose that it
3 was set up for is completed, that's a good thing in itself
4 because we have chosen as a community to step up and say,
5 "We have a problem in this country. You have a problem in
6 your state and in your community, but we have the
7 solution, and we want to solve that for you," which we
8 have done successfully, very safely. And we know how to
9 do what we do well.

10 With the expansion of this project to the
11 Greater-Than-Class-C, it allows us to continue to do what
12 we do well knowing what we know works, and in my case
13 allows my individuals to continue to have jobs, you know,
14 for a longer term in the future.

15 My fear is that as projects under the current
16 structure, if it starts to, I guess, close because it's
17 become very successful, that they may not be able to
18 continue their jobs because so many records may not be
19 being produced down the road, and all of those support
20 services would just have to be scaled back.

21 So what happens to my individuals who have other
22 challenges in their life to get a job now, as a community
23 member? It seems to me, as I said, we know how to do this
24 storage and solving a problem issue so well that people
25 from all around the world come to see what we do. We have

1 a reputation of records to do it safely, to do it
2 effectively and efficiently, and I think as we look to
3 expanding the scope and allowing Greater-Than-Class-C and
4 potentially other levels of waste, nuclear waste, to come
5 to this facility or one similar to it in the salt beds
6 that we know so well, I think it's prudent to continue
7 that so that we can continue to clean up the problems
8 around the country.

9 We understand the problems. We understand the
10 nature of the materials. We're not afraid of it. We
11 accept it. Everybody else says, "Not in my backyard."

12 We say, "Please, in our backyard. We have a
13 great backyard, and it's a very safe backyard, and we have
14 the knowledge and expertise to do it safely."

15 I have another concern. Our nation is struggling
16 with debt and finances and funding of our national budget,
17 and we're all afraid of what that entails in the future.
18 And for us to go out and look at other sites across the
19 country that we might put this material in, that maybe
20 doesn't even exist in a form that can be readily usable,
21 you're now going to spend more money to build another
22 building, and more money to maybe dig a hole, and all of
23 to infrastructure that would need to be put in place to
24 have another facility, when we have one sitting right here
25 on our doorstep that's open and that's operating and can

T37-1

Based on the GTCC EIS evaluation and WIPP's operating record, DOE believes that the WIPP repository would be a safe location for the disposal of GTCC LLRW and GTCC-like wastes, some of which include long-lived radionuclides. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require modification to existing law. In addition, it would be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit.

The State of New Mexico has indicated a willingness to accept GTCC LLRW and GTCC-like wastes for disposal at WIPP. Twenty-eight New Mexico State Senators signed a proclamation made in the Fiftieth Legislature, First Session, 2011, stating: "Be it resolved that we, the undersigned, support the opportunity for other potential missions in southeast New Mexico to adequately address the disposal of defense high-level waste, commercial high-level waste, Greater Than Class C LLRW and surplus plutonium waste, as well as the interim storage of spent nuclear fuel." In response to the Draft GTCC EIS, Secretary David Martin, Secretary of the New Mexico Environment Department, sent a letter to DOE on June 27, 2011, stating that "the Department encourages DOE to support the WIPP or WIPP Vicinity proposed locations as the preferred alternatives addressed in the Draft EIS. The geologic repository is the favored alternative being more effective for the enduring time frames for this waste type." In addition, the Governor of New Mexico, in a letter to DOE Secretary Steven Chu on September 1, 2011, stated that the State of New Mexico encourages DOE to support the proposed location of WIPP as the preferred alternative for the disposal of GTCC LLRW and GTCC-like wastes.

T37-1

1 very effectively do what you or we need to have done with
2 this material.

3 And I think it would be prudent for us, as I look
4 at my business, how can I capitalize on the assets that I
5 have to continue to grow my business? We, as a nation,
6 should look at how can we capitalize on the assets that we
7 have surrounding an issue or a problem to solve that
8 problem or to grow that business or to increase
9 production, I guess you could say.

10 So I guess those are my concerns from individuals
11 who successfully have been employed for many, many years
12 in this wonderful project, to the pragmatic view as an
13 individual and citizen of this community and a taxpayer in
14 this country, to do it reasonably.

15 Why do we need to waste our time, waste our
16 money? And I think the information has been, you've
17 looked at sites that aren't even viable, and we're
18 wasting time and money. So I guess the old country boy in
19 me says, "Come on, guys. Let's get on with it. We know
20 how to do it here. We do it well, and the infrastructure
21 is in place. Why not use what we got?"

22 And I think that's all.

T37-1
(Cont.)

1 Okay. Our next speaker is Robert Defer, and he
2 will be followed by John Waters.

3 MR. DEFER: Good evening. I am Robert Defer, the
4 CEO of the Carlsbad Chamber of Commerce. I want to thank
5 you for the opportunity to share some information with you
6 tonight.

7 You know, during my visit to WIPP, I learned that
8 the area's big salt beds are ideal for the permanent
9 disposal because of the salt's tendency to creep, to
10 encapture it, to move in on it, to surround it as a
11 cocoon, and it's perfect for doing this type of waste.

12 And the other reason is it's relatively easy to
13 mind. But what impressed me the most was the
14 professionalism that's going on out at WIPP. Also within
15 that is the safety procedures and all the safety records
16 that they have had during their inception. It's just
17 fabulous what they're able to do and what has been done by
18 WIPP.

19 It is evident that the salt is doing exactly what
20 the scientists said it would do: Permanently isolating
21 the radioactive waste from the environment. As a
22 community, we have the opportunity to continue our
23 partnership with the DOE and its contractors to remedy the
24 nation's, not our problem, not just our problem, but the
25 nation's nuclear waste by extending WIPP's scope to

Carlsbad Chamber of Commerce, Commenter ID No. T36 (cont'd)

34

1 include Greater-Than-Class-C waste.

2 As the Carlsbad Chamber of Commerce director, I
3 realize the positive impact that the operations has had on
4 the economy of Carlsbad also, and that's wonderful.

5 I want you to know that not only I, but the
6 Carlsbad Chamber of Commerce completely endorses the WIPP
7 project and change its scope so that it can receive
8 Greater-Than-Class-C waste. Thank you very much.

T36-1

T36-1 Comment noted.

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MR. BROWN: Thank you. Janell Whitlock, and she will be followed by Dick Doss.

MS. WHITLOCK: Good evening, and thank you for giving me the opportunity to speak. My name is Janell Whitlock. I serve on the Carlsbad City Council, and I've been a member of this wonderful community for many years. I want to thank you for giving me this opportunity to express my opinion as to what I believe is the best alternative for the safe disposal of Greater-Than-Class-C waste.

1 My husband, the late Senator Louis Whitlock, and
2 many members of this community are strong proponents for
3 the WIPP project. I am certain in the early days they
4 were really interested in the number of jobs they would
5 bring to southeast New Mexico, but ultimately they were
6 concerned about the safety, the safety of the land, the
7 safety of the water, and the safety of the citizens of
8 this area.

9 The Department of Energy, its contractors and the
10 WIPP facility have performed beyond our expectations for
11 more than three decades. Today, WIPP is one of the safest
12 DOE facilities in the nation. Because of WIPP, 17 TRU
13 waste sites around the country have been cleaned up, and
14 that creates a safer, cleaner environment for millions of
15 Americans who live near those facilities.

16 In my opinion, there is no scientific need to
17 look any further for a disposal for the
18 Greater-Than-Class-C waste. The WIPP site is one of the
19 most studied repositories in the world, and the WIPP
20 workforce has demonstrated that radioactive waste can be
21 transported, can be managed and disposed of safely.

22 I ask you to consider WIPP as the alternative of
23 choice for the Greater-Than-Class-C waste. And again,
24 thank you for giving me the opportunity to speak.

25 MR. BROWN: The next speaker is Dick Doss, who

T29-1

Based on the GTCC EIS evaluation and WIPP's operating record, DOE believes that the WIPP repository would be a safe location for the disposal of GTCC LLRW and GTCC-like wastes, some of which include long-lived radionuclides. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require modification to existing law. In addition, it would be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit.

The State of New Mexico has indicated a willingness to accept GTCC LLRW and GTCC-like wastes for disposal at WIPP. Twenty-eight New Mexico State Senators signed a proclamation made in the Fiftieth Legislature, First Session, 2011, stating: "Be it resolved that we, the undersigned, support the opportunity for other potential missions in southeast New Mexico to adequately address the disposal of defense high-level waste, commercial high-level waste, Greater Than Class C LLRW and surplus plutonium waste, as well as the interim storage of spent nuclear fuel." In response to the Draft GTCC EIS, Secretary David Martin, Secretary of the New Mexico Environment Department, sent a letter to DOE on June 27, 2011, stating that "the Department encourages DOE to support the WIPP or WIPP Vicinity proposed locations as the preferred alternatives addressed in the Draft EIS. The geologic repository is the favored alternative being more effective for the enduring time frames for this waste type." In addition, the Governor of New Mexico, in a letter to DOE Secretary Steven Chu on September 1, 2011, stated that the State of New Mexico encourages DOE to support the proposed location of WIPP as the preferred alternative for the disposal of GTCC LLRW and GTCC-like wastes.

T29-1

1 will be followed by Russell Hardy.

2 MR. DOSS: Good evening. My name is Dick Doss.

3 I'm a lifetime resident of Carlsbad. I'm a retired

4 banker -- don't shoot me. I'm a member of the Carlsbad

5 City Council -- don't shoot me again -- and a concerned

6 citizen, who has enjoyed living in Carlsbad and raising a

7 family here.

8 I couldn't support this project unless it was

9 safe, and safety is the prime concern not only of the

10 repository here, but of where we put the waste,

11 Greater-Than-Class-C, that's out in the general area of

12 the United States.

13 The second problem with where you are going to

14 put it is the cost. And the study has been done here, the

15 place has been shown to be safe and viable, and the cost

16 has already mainly been absorbed by the TRU waste that has

17 been put into the ground and the Greater-Than-Class-C can

18 go in at a much better price.

19 This facility has provided many local jobs, which

20 are high-paying jobs, and has developed many, many young

21 people in this country, who have the knowledge now of

22 nuclear waste in scientific areas that are not available

23 to be learned in other areas.

24 And local support for this project has been

25 strong since it was first proposed by Senator Gant and Mud

Carlsbad City Council, Commenter ID No. T29 (cont'd)

20

- 1 Reynolds from over in Lovington. I would just like to add
- 2 my support to the use of the WIPP site for the storage of
- 3 the Greater-Than-Class-C waste.

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MR. BROWN: Thank you.
John Waters.

MR. WATERS: Hi, my name is John Waters. I am the executive director for the Carlsbad Department of Development. I also am a father of four, and was a very busy man today, taking around the governor's secretary of the economic development department, and I attended the City Council meeting, but this is important enough for me and my family to be here. I believe we will find that amongst everybody here. I think that there is wide support in Carlsbad for the WIPP project, not only for the project as it exists now, but for an expansion of the operations at the Waste Isolation Pilot Plant.

Greater-Than-Class-C waste is something that's been accumulating around the nation, not only at DOE sites but commercial sites across the country. It's out there. It's a problem. Carlsbad, we pride ourselves on solving

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Carlsbad Department of Development, Commenter ID No. T129 (cont'd)

1 problems. We are not a community that likes to sit by and
2 say, "This is somebody else's problem. Take it somewhere
3 else."

4 Carlsbad is a community of people that solve
5 problems, and we're proud of it. We're proud we're
6 solving the transuranic waste problem around the country.
7 That, to us, is a source of pride. We're proud that we've
8 proven skeptics and critics wrong by safely transporting
9 this waste from across the country, millions of miles
10 traveled to bring it here and handling it safely and
11 safely interring it into the salt beds that are 250
12 million years old. We're proud of that, and we're going
13 to continue to show people across the nation how proud we
14 are of that.

15 It's my understanding that this waste or some of
16 this waste comes from materials that they've been sealed
17 in small metal containers. They're activated metals that
18 were maybe components of nuclear reactors either from DOE
19 or commercial facilities. And that this low-level waste,
20 the low-level waste involved with this needs to be
21 isolated. They need to be isolated for somewhere around
22 500 years to possibly 1,000 years depending on what you're
23 looking at.

24 Well, the WIPP site, which is only 26 miles from
25 Carlsbad, it has an EPA certification for 10,000 years, to

1 store radioactive waste for at least 10,000 years. You
2 talk to scientists, many scientists, geologists around
3 here, they'll add zeros under that figure, and I mean
4 zeros with s's on it.

5 It's an impressive facility. We're fortunate to
6 have the geology that we have here. The salt is a very
7 stable formation. I believe, and I would like to offer
8 this, my opinion, as a solution for the disposal of
9 Greater-Than-Class-C waste, is the WIPP site. I agree, we
10 shouldn't be putting it in Los Alamos. That's just
11 ridiculous. We're trying to clean that place up. To put
12 more up to there is counter-productive, it's
13 counter-intuitive. You shouldn't be going out to mine a
14 completely different site outside of the WIPP facility.
15 We've got it there. We've got the hole in the ground.
16 We're taking waste that are quite similar to that.

17 We believe that that is the place for it.
18 Listen, our nation is going through tough financial times.
19 We hear about it every day. Congress fighting the
20 deficit. We see it even in our local and regional
21 economies and in other areas. I think it only makes sense
22 to go with this existing successful repository. It makes
23 fiscal sense. It's there. You don't have to go through
24 the process of resisting in an area. You don't have to
25 redrill a hole. You don't have to go through and do all

T129-1

T129-1 Based on the GTCC EIS evaluation and WIPP's operating record, DOE believes that the WIPP repository would be a safe location for the disposal of GTCC LLRW and GTCC-like wastes, some of which include long-lived radionuclides. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require modification to existing law. In addition, it would be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit.

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1 of the things we've been doing here at WIPP the last 12
2 years. It is there. It's ready to go.

3 And I believe that this is, you know, after 12
4 years of safe efficient operations, I'm confident as a
5 dad, as a community leader, as somebody who grew up here
6 in Carlsbad. I'm confident that the people that work at
7 the facility that are contractors, that are DOE, are on
8 the right track. I believe that this is the place to put
9 it. I believe that it will help solve the problem, and
10 that's what we're about here in Carlsbad, is solving
11 problems.

12 Thank you very much.

Cherry Country, Commenter ID No. W565

Abplanalp, Jennifer Marie

From: gtccseiswebmaster@anl.gov
Sent: Tuesday, June 28, 2011 12:03 AM
To: gtccseiswebmaster@anl.gov
Subject: Receipt: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10565

Thank you for your comment, Michael Shadbolt.

The comment tracking number that has been assigned to your comment is GTCC10565. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 28, 2011 12:03:02AM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10565

First Name: Michael
Middle Initial: J
Last Name: Shadbolt
Organization: Cherry Country
Address: 6200 Oak Grove road
City: Rickreall
State: OR
Zip: 97306
Country: USA
Email: mike@thecherrycountry.com
Privacy Preference: Don't withhold name or address from public record

Comment Submitted:

As president of a growing food company named Cherry Country, I am naturally conscious of the health of the overall environment in Oregon since it so directly informs the opinions of our customers regarding Oregon as a place to grow food. If these shipments are allowed, it will detrimentally contribute to the state's image. When I lived in Astoria in the 1970s, I worked as a marine economist and read about Hanford's pernicious impact on the Columbia River. As a people, we should dither no longer and cease and desist any additional inbound nuclear waste to Hanford. We should also speed up funding of more action to contain the wastes that we already have.

Questions about submitting comments over the Web? Contact us at: gtccseiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

W565-1 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup effort will continue.

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2 MR. BROWN: Thank you. Dave McCoy is next,
3 and Leona Morgan will follow Dave.

4 MR. MCCOY: Good evening. I'm Dave McCoy,
5 Executive Director for Citizen Action New Mexico.
6 We've been fighting nuclear waste disposal at the mixed
7 waste landfill, other sites. Nobody has really spoken
8 -- I'm not going to speak so much as the director as I
9 want to put on my cap as an attorney. I am a licensed
10 attorney in the state of California. And I want to
11 look at this draft EIS from a legal perspective, and I
12 won't have the kind of heartfelt comments that I'm so
13 grateful for so many of you making.

14 The selection of WIPP as the alternative
15 site provides numerous opportunities for lengthy
16 litigation. A brief legal history of the Waste
17 Isolation Pilot Plant is that an agreement was reached
18 in 1981 that limited WIPP to the disposal of only
19 defense-related transatlantic waste. A subsequent
20 lawsuit in 1991 by the state of New Mexico sought to
21 stop shipments to WIPP. Nevertheless, Congress made
22 the determination to proceed with WIPP via the Land

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T73-1

T73-1

Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in minimal environmental impacts for all resource areas evaluated, including human health and transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero because there would be no releases to the accessible environment and therefore no radiation doses and LCFs during the first 10,000 years following closure of the WIPP repository. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

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Appendix J: Comment Response Document

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1 Withdrawal Act of 1992. Unless GTCC low-level waste is.
2 contaminated with transatlantic isotopes of defense
3 origin; that is, non-commercial nuclear waste
4 operations, the Waste Isolation Plant cannot accept the
5 waste.

6 Using WIPP for a commercial radioactive
7 waste storage would require amendment of the Land
8 Withdrawal Act of 1992. DOE would also be in for a
9 battle as to whether the EPA standards put in place for
10 Yucca Mountain disposal, and those radiological
11 releases to the public should prevail over the
12 standards of another section of law. The EPA standards
13 for WIPP require that the annual cumulative dose rate
14 for many releases be less than .15 millisievert per
15 year for 10,000 years after closing. Yucca Mountain
16 standards have several added requirements regarding
17 those exposures. The DOE proposal to further
18 radioactively contaminate an impoverished minority
19 public will bring additional litigation for
20 environmental justice considerations. A modification
21 of the Resource Conservation and Recovery Act disposal
22 permit for WIPP from the New Mexico Environment

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T73-1
(Cont.)

T73-2

T73-2

DOE agrees that any waste disposed at WIPP would need to meet the EPA standards. As presented in Section 4.3.4 of the GTCC EIS, DOE conducted a complementary cumulative distribution functions (CCDF) analysis in the same manner as was done for TRU waste (GTCC LLW Environmental Impact Statement, Post Closure Performance Data Package, October 2012). Based on this analysis, addition of the identified GTCC LLRW and GTCC-like waste to WIPP would be in compliance with existing EPA requirements.

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1 Department would receive further litigation. The
 2 Council on Environmental Quality regulations and DOE
 3 implementing regulations provide clear direction for
 4 tiering broad program decisions. These regulations
 5 encourage DOE officials to tier from broader
 6 programmatic EIS documents to those with a narrower
 7 scope in order to focus on the issues ready for
 8 decisions. DOE has not met those SEQ requirements.
 9 No programmatic environmental impact
 10 statement exists for nuclear waste disposal in the U.S.
 11 That would include the DOE/GTCC-like waste or the
 12 commercial GTCC LLW. The treatment, storage and
 13 disposal of commercially generated GTCC waste, along
 14 with other DOE waste types that have similar hazard
 15 characteristics, must be made subject of a programmatic
 16 analysis under the National Environmental Policy Act.
 17 The plan to use WIPP as a disposal site is
 18 inconsistent, with a DOE final waste management PEIS,
 19 which Mr. Hancock mentioned, from 1997.

20 MR. BROWN: You got about a minute left.
 21 Thanks.

22 MR. MCCOY: The PEIS states, quote, "The only
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T73-3

T73-3

The scope of this EIS is adequate to inform decision-making for the disposal of GTCC LLRW and GTCC-like waste. Sufficient information is available to support the current decision-making process to identify (an) appropriate site(s) and method(s) to dispose of the limited amount of GTCC LLRW and GTCC-like waste identified in the EIS.

DOE believes this EIS is timely, especially given the length of time necessary to develop a GTCC LLRW disposal facility.

DOE developed this EIS to support a decision on selecting a disposal facility or facilities for GTCC LLRW and GTCC-like waste, to address legislative requirements, to address national security concerns (especially for sealed sources), and to protect public health and safety. The purpose and need for the proposed action, as discussed above, is stated in the EIS (Section 1.1). The scope of the EIS is focused on addressing the need for developing a disposal capability for the identified inventory of GTCC LLRW and GTCC-like wastes. DOE plans a tiered decision-making process, in which DOE would conduct further site-specific NEPA reviews before implementing an alternative ultimately selected on the basis of this EIS.

DOE explained in the WM PEIS (DOE, 1997, *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste*, DOE/EIS-0200-F, Office of Environmental Management, Washington, D.C.) that additional analyses would be prepared to implement DOE's programmatic decisions. The GTCC EIS analyzes the potential environmental impacts associated with the disposal of GTCC LLRW and GTCC-like (DOE) wastes. Since the WM PEIS relates only to DOE waste, the inclusion of commercial waste in the WM PEIS is premature until the GTCC EIS is finalized and a ROD is issued. Depending on the outcome of this ROD, DOE will evaluate whether additional programmatic or site-specific NEPA reviews or updates to previous decisions are needed, as appropriate. Any additional NEPA reviews or considerations will be conducted with full opportunity for public input, consistent with Council on Environmental Quality and DOE NEPA requirements.

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1 alternative being considered for the WIPP is a possible
2 treatment of all contact handled TRU waste under the
3 TRU Waste centralized alternative; thus, the impacts
4 for treatment of true waste at WIPP were not
5 appropriately considered for the inclusion of this
6 waste."

7 I could go on with a whole lot more violations
8 and failure to comply with the NEPA that are going to
9 confront the DOE. And the first people it will be
10 turned to in this battle against this GTCC waste coming
11 here, will be the attorneys. So you might as well look
12 at some of these legal problems that you're going to be
13 facing, and stop wasting your time as presenting the
14 WIPP as some kind of a location where this is going to
15 be stored. Legally speaking, it just ain't (sic) gonna
16 happen, and you're wasting our time and money even
17 coming out with this proposition. Thank you.

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MR. BROWN: And Mary Alice Trujillo will

4 follow Janet.

5

MS. GREENWALD: Hi, I'm Janet Greenwald, and

6

I'm a coordinator of Citizens for Alternatives to

7

Radioactive Dumping, a 33-year-old organization, state-

8

wide organization that is mostly volunteers. Our

9

mission is to protect the land and people of New Mexico

10

from radioactive contamination, which I'll state right

11

away, is impossible.

12

In my job, I see a lot of people who are ill

13

and some people who are dying, and I also work with the

14

children of families that have been devastated by

15

radioactive contamination. I'm talking about uranium

16

miners, I'm talking about production workers. I am

17

grateful that Carlsbad does have a culture of safety

18

and that no major issues of gross contamination have

19

happened there.

20

I want to illustrate to you how dangerous

21

these wastes are. Several years ago, a janitor who

22

worked at WIPP went up to the mezzanine where he should

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1 not have been, and with his friends, they smoked some
2 cigarettes. In order to cover up the smoke, that smell
3 of smoke, they opened a small trap door in a pipe where
4 radioactive gases that have built up in the
5 transportation of the WIPP karsts were being vacuumed
6 out to a HEPA filter. He was dead within six months
7 from bleeding lungs from a few minutes of exposure.
8 Radioactive wastes are mixed with chemicals, they
9 produce gases, they're very active, and they're
10 dangerous, they're very dangerous.

11 WIPP is in one of the largest karstlands
12 in the world, where water runs underground rather than
13 above ground. DOE claims that WIPP is on an island in
14 a sea of karst, but no independent scientist has ever
15 supported that position, and some of DOE's own
16 contractors and scientists have disagreed with it.
17 They disagree with sitting a nuclear facility in
18 southeastern New Mexico. NRC forbids nuclear
19 facilities to be sited in CARD. It's too unstable. If
20 you want to learn more about that, you can turn to
21 CARD's Website, cardnm.org, or you can turn to EPA
22 docket and see the current controversy over why the

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T69-1

T69-1

The WIPP has been certified by the EPA as an acceptable facility for the disposal of defense-generated TRU waste. The physical and chemical characteristics of the GTCC LLRW and GTCC-like wastes proposed for disposal in the WIPP repository are comparable to the TRU wastes currently being disposed of in the repository.

Dissolution has occurred outside of the WIPP Land Withdrawal Boundary, as shown by karst features in the Nash Draw area. The EPA has noted that it is possible that dissolution occurred at the WIPP site sometime in the distant past (i.e., millions of years ago for strata-bound features) but was associated with a geologic setting other than that currently present at WIPP. However, dissolution in the underlying geology is not an ongoing process at the WIPP site. The EPA, as part of its compliance certification process, concurred with the modeling performed by DOE (which assumed that there was no karst within the WIPP site boundary) and indicated that this was consistent with existing borehole data and other geologic information.

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1 wellheads at WIPP are inexplicably rising and falling.
2 Over the last couple of days, I've been
3 traveling over the southern north-south WIPP route and
4 talking about people along that route. I have been
5 listening to them and listening to their concerns and
6 their approvals also. They've mentioned several times
7 that they were grateful, or several people mentioned
8 that they were grateful that the Department of Energy
9 kept their promise to make the highway between I-40 and
10 the WIPP site a four-lane road. They're very
11 appreciative of that kept promise. They're very
12 unappreciative of the fact that the WIPP trucks park
13 everywhere. They park next to their stores, next to
14 their restaurants, and they know that there has been no
15 study on the effect of the radiation that these trucks
16 give off to pregnant women, women in general, the
17 fetus, the young child. Because all radiation
18 standards are based, as Chelsea told us, on reference
19 man. Everyone else, and especially the fetus, is much
20 more susceptible to radiation, contamination and
21 resulting illnesses than reference men.

22 MR. BROWN: One minute left.

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T69-1
(Cont.)

T69-2

T69-2

Disposition of the GTCC LLRW and GTCC-like wastes will be handled in a manner that is protective of human health and the environment and in compliance with applicable requirements and regulations. Doses to workers and the public will be minimized to the extent practical. The methodology used to estimate the radiological human health impacts in the EIS is based on standard practices that are subject to revision as our understanding of the effects of radiation on humans evolves. The same methodology is used in the evaluation of all alternatives; thus, any modification of this methodology would not affect the comparisons among alternatives and the identification of the preferred alternative.

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1 MS. GREENWALD: Okay.
2 MR. BROWN: Okay, thanks.
3 MS. GREENWALD: When I talked to these people
4 along the route, they said that they were going to
5 fight commercial waste going to WIPP, and they said,
6 there is many reasons for that, but the main reason is
7 that the Department of Energy came to them and told
8 them that if transatlantic military waste went through
9 their communities, if they went along with this, that
10 there would never be commercial waste disposal at WIPP.
11 And they said to me, where we come from, a man's words
12 still mean something, and that we feel deeply resentful
13 that the Department of Energy lied to us. Thank you
14 for your time.

T69-3

T69-3

Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 10-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in minimal environmental impacts for all resource areas evaluated, including human health and transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero post-closure because there would be no releases to the accessible environment and therefore no radiation doses and LCFs during the first 10,000 years following closure of the WIPP repository. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

J-84

January 2016

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MR. BROWN: Thank you.

Janet Greenwald, and Noel Marquez will be next.

MS. GREENWALD: Hi, I'm Janet Greenwald, and I'm co-coordinator of Citizens for Alternatives to Radioactive Dumping. It's a mostly volunteer group, a statewide group. It was founded by people in southeastern New Mexico who are concerned about the ramifications of nuclear projects for their lives. CARD concentrates on safe environments and healthy citizens.

I know that one of the reasons that WIPP is being considered for Greater-Than-Class-C waste is a good safety record here at WIPP and the good safety culture here in Carlsbad. Unfortunately, human intention cannot change the hydrology and geology of this area. Southeastern New Mexico is one of the largest karst lands in the world.

In the 30 years that the stability of the WIPP site has been debated, there has never been an independent scientist who has said that they think this is good place, southeastern New Mexico, for siting nuclear facilities.

The NRC forbids siting nuclear facilities in karst. The Department of Energy's claim is that the WIPP site is an island in a sea of karst, and as I say though,

T33-1

T33-1 The WIPP has been certified by the EPA as an acceptable facility for the disposal of defense-generated TRU waste. The physical and chemical characteristics of the GTCC LLRW and GTCC-like wastes proposed for disposal in the WIPP repository are comparable to the TRU wastes currently being disposed of in the repository.

Dissolution has occurred outside of the WIPP Land Withdrawal Boundary, as shown by karst features in the Nash Draw area. The EPA has noted that it is possible that dissolution occurred at the WIPP site sometime in the distant past (i.e., millions of years ago for strata-bound features) but was associated with a geologic setting other than that currently present at WIPP. However, dissolution in the underlying geology is not an ongoing process at the WIPP site. The EPA, as part of its compliance certification process, concurred with the modeling performed by DOE (which assumed that there was no karst within the WIPP site boundary) and indicated that this was consistent with existing borehole data and other geologic information.

WIPP is located in a salt formation, and moisture (brine) is naturally present. The brine makes up about 1% of the rock volume. The brine comes in two forms: interstitial and included. Interstitial brine is trapped between crystal facies (between fracture boundaries at the microscopic scale). Included brine is inside small cavities called inclusions trapped within the crystals themselves. Samples of brine collected from locations just inches apart from one another show different chemical and isotopic compositions, indicating that the brine did not move more than a few inches from where it was trapped when an ancient tidal flat dried up 250 million years ago. This indicates the extremely slow movement of water in this salt formation. In addition, the current design for operating WIPP involves sealing the shafts to ensure that no fresh water can enter and affect the disposed-of wastes.

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January 2016

Final GTCC EIS

Appendix J: Comment Response Document

1 independent scientists have not supported that idea, and
2 even some DOE scientists have not supported that idea.

3 You can look into this long historical debate by
4 going to CARD's website at card.nm.org. If you want to
5 see the more recent aspects of the debate, you could go
6 to epa.gov on the last recertification of WIPP.

7 So CARD's position is that there should be no
8 more nuclear facilities sited in this area. We know that
9 there are many benefits to the people here who have done
10 such a fine job at WIPP, but we are frightened about
11 the -- not the near future, but the far future, as far as
12 a situation with water goes.

13 Karst is where water runs underground. It runs,
14 we believe, above the WIPP site, according to our
15 consultants and some of DOE's consultants, and eventually
16 the Pecos River and other water sources would be
17 polluted. Maybe not in our lifetime, maybe not in our
18 children's lifetime, but we believe by our grandchildren's
19 lifetime that that will be so. And this pollution will go
20 on to Texas and the communities along the Mexican border
21 where the Rio Grande and the Pecos mix together, so that
22 one can't drink it, and one can't use it for agriculture.

23 We are hoping that the Department of Energy and
24 negotiations will be blessed with far-sightedness and
25 wisdom when siting this repository. We're sorry we can't

T33-1
(Cont.)

J-86

January 2016

Citizens for Alternatives to Radioactive Dumping, Commenter ID No. T33 (cont'd)

27

1 offer answers for the disposal of this waste. We hate to
2 say, "Anywhere but here."
3 I guess that's one of the things that we are
4 saying. I want to thank you once again for this
5 opportunity to speak, and good evening to everyone.

L-59

received
JUN 27 2011

JUN 27 2011

Mrs. Arnold M. Edelman
EIS Document Manager
U.S. Department of Energy
GTCC EIS
Cloverleaf Building, EM-43
11,000 Independence Ave SW
Washington, DC 20585

Dear Mr. Edelman,

New Mexico was promised,
when we accepted waste
from bomb making, that we
would not have to deal with
commercial waste. Shipping
GTCC waste to WIPP would
break that promise.

The people in Carlsbad
would profit from additional
waste coming to WIPP, but
we who live on the WIPP
routes would only experience
additional risks to our health
and environment.

L59-1

Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 10-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in minimal environmental impacts for all resource areas evaluated, including human health and transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero because there would be no releases to the accessible environment and therefore no radiation doses and LCFs during the first 10,000 years following closure of the WIPP repository. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

L59-1

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January 2016

Final GTCC EIS

Appendix J: Comment Response Document

revised

If GTCC needs deep permanent burial, why not build a special repository for it? New Mexico has already been chosen for uranium mining, atomic bomb production, bomb testing and disposal of transuranic waste. Is it fair to choose New Mexico for yet another dangerous nuclear project? We are a minority majority state. Have you considered that bringing GTCC waste here would be a case of environmental racism?

Please do not send GTCC down our highways, already overburdened with dangerous nuclear shipments.

Sincerely,
Janet Greenwald
Co-Coordinator, CARD
(Citizens for Alternatives to
Radioactive Dumping)
262 Harvard St, Albuquerque, NM 87106

L59-2

L59-3

L59-4

L59-2

DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

Also, DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in an existing geologic repository.

L59-3

All relevant potential exposure pathways were considered in the analyses presented in the EIS. These analyses addressed a range of reasonable scenarios and estimated the potential impacts on all environmental resources, including environmental justice, consistent with NEPA requirements. Environmental justice impacts to residents of New Mexico were addressed in Sections 4.2.7, 8.2.7, and 11.2.7 in the EIS.

L59-4

DOE's requirements for transportation of radioactive waste are developed and continually revised to ensure maximum protection of public health and the environment, thereby minimizing the risks of routine transportation and of a traffic accident. DOE has established a comprehensive emergency management program that provides detailed, hazard specific planning and preparedness measures to minimize the health impacts of accidents involving loss of control over radioactive material or toxic chemicals. DOE's transportation emergency preparedness program was established to ensure that DOE and its contractors, state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving DOE shipments of radioactive materials. Should an accident occur that involves a release of radioactive material to the environment, it would be promptly remediated in accordance with these procedures. These measures would help DOE to minimize and mitigate any impacts on the environment.

J-89

January 2016

City of Mosier, City Councilor, Commenter ID No. W346

Abplanalp, Jennifer Marie

From: gtccsiswebmaster@anl.gov
Sent: Thursday, June 23, 2011 12:23 AM
To: gtccsiswebmaster@anl.gov
Subject: Receipt: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10346

Thank you for your comment, Kathleen Fitzpatrick.

The comment tracking number that has been assigned to your comment is GTCC10346. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 23, 2011 12:23:11AM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10346

First Name: Kathleen
Last Name: Fitzpatrick
Organization: City of Mosier City Councilor
Address: 1500 Rock Creek Rd.
City: Mosier
State: OR
Zip: 97040
Country: USA
Email: kfitzz77@gmail.com
Privacy Preference: Don't withhold name or address from public record

Comment Submitted:

Currently, all of the US DOE's proposals for cleanup would leave the Columbia River heavily contaminated for thousands of years. If you can't clean up what's there, how can you propose to ship more in?

W346-1

No more waste until you clean up your mess!

Questions about submitting comments over the Web? Contact us at: gtccsiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

W346-1 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.



CITY OF
PORTLAND, OREGON

Sam Adams, Mayor
Amanda Fritz, Commissioner
Nick Fish, Commissioner
Dan Saltzman, Commissioner
Randy Leonard, Commissioner

May 19, 2011

Arnold Edelmann
Document Manager, Office of Technical and Regulatory Support (EM-43)
U.S. Department of Energy
1000 Independence Avenue, SW.
Washington, DC 20585-0119

RE: Greater-Than-Class C Low-Level Radioactive Waste EIS

Thank you for the opportunity to comment on the Draft Greater-Than-Class C Low-Level Radioactive Waste Environmental Impact Statement (GTCC EIS). We appreciate the complexity that the USDOE faces in proposing alternatives for the safe disposal of Greater-Than-Class-C radioactive waste.

The Portland City Council opposes the transportation of nuclear waste through our region to the Hanford site and supports the alternatives in the GTCC EIS which are most protective of the long-term health of the Columbia River and our citizens.

As you know, Portland sits at the confluence of the Columbia and Willamette Rivers, the health of which are vital to the success of this city. The Hanford Site, the most contaminated site in the Western Hemisphere, currently has documented leakage of strontium-90 in the Columbia River at concentrations of 1200 times the EPA standard. We understand that on December 18, 2009, the DOE adopted a preferred alternative in the Draft Tank Closure and Waste Management (TC&WM) EIS, which proposes not shipping additional GTCC LLRW to Hanford at least until the Waste Treatment Plant is operational. While we appreciate that decision, it has come to our attention that a number of the proposed alternatives in this draft EIS pose serious threats to regional human and environmental health.

In addition to the downstream impacts of the on-site mitigation and clean-up activity at Hanford, we are significantly dismayed by Alternatives 3-5 in the draft EIS, which propose the construction of facilities at Hanford for the receipt, treatment, and storage of nuclear waste from other US nuclear facilities. Despite the 2009 action by DOE limiting receipt of nuclear waste at that facility until the Waste Treatment Plan is operational, future receipt of off-site waste at Hanford is projected to have significant adverse long-term impacts on the groundwater, which ultimately impacts the Columbia River. Moreover, the transfer of nuclear waste through Oregon on its way to Hanford poses an unacceptable risk to the health of Portland citizens.

L283-1

L283-2

L283-3

L283-1 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

If DOE decides to implement its preferred alternative for the TC&WM EIS, GTCC LLRW and GTCC-like wastes would not be shipped through the Columbia River Gorge for disposal at the Hanford Site until the waste treatment plant is operational. However, regardless of where the GTCC waste disposal facility is ultimately located, a relatively small amount of GTCC LLRW and GTCC-like wastes may be transported through the Columbia River Gorge on their way to the disposal facility. The waste would be generated within the states of Oregon and Washington and would include actinide sealed sources and Cs-137 irradiators from local medical institutions, research facilities, universities, and other NRC and Agreement State licensees.

The transportation of radioactive waste will meet or exceed DOT and NRC regulatory requirements that promote the protection of human health and the environment. These regulations include requirements for radioactive materials packaging, marking, labeling, placarding, shipping papers, and highway routing. The waste shipments would be on preferred routes, which are interstate highways or alternative routes designated by a state routing agency in accordance with DOT regulations (49 CFR Part 397, Subpart D). The GTCC LLRW and GTCC-like wastes would be shipped in approved waste packages and transportation casks. The robust nature of these casks limits the potential release of radioactive and chemically hazardous material under the severest of accident conditions. It is unlikely that the transportation of GTCC LLRW and GTCC-like wastes to any of the alternative sites evaluated in the EIS would cause an additional fatality as a result of radiation from either incident-free transportation or postulated transportation accidents.

The EIS evaluated the transportation impacts from the shipments that would be required to dispose of all of the GTCC LLRW and GTCC-like wastes at the various disposal sites. The EIS addressed the collective population risks during routine conditions and accidents, the radiological risks to the highest exposed individuals during routine conditions, and the consequences to individuals and populations as a result of transportation accidents, including those that could release radioactive or hazardous chemical materials. About 12,600 shipments would be required to transport all of the GTCC LLRW and GTCC-like wastes to the Hanford Site for disposal. This would result in about 50 million km (30 million mi) of highway travel, with no expected LCFs. One fatality directly related to an accident might occur (see Section 6.2.9.1).

The EIS also evaluated the impact of intentional destructive acts that could occur during waste handling, transportation, and disposal (see Section 2.7.4.3 of the EIS). The potential for such destructive acts is low. DOE sites considered in the EIS are secured, and the packaging for the GTCC LLRW and GTCC-like wastes would be robust. The GTCC LLRW and GTCC-like wastes are not readily dispersible, and the impacts from any attempts to disperse these materials during transportation (such as the impacts from an explosive blast) would not be greater than the impacts from any potential accidental release of radioactivity. Impacts from severe natural phenomena, such as earthquakes and tornados, would not be expected to be significant, given that the GTCC LLRW and GTCC-like wastes are largely not dispersible and given the robust nature of the waste packages and containers.

DOE's standard operating procedure for transportation of radioactive waste is developed and continually revised to ensure that the utmost protection of public health and the environment is achieved and that the risk of a traffic accident is minimized. For example, DOE has established a comprehensive emergency management program (Transportation Emergency Preparedness Program or TEPP) that provides detailed, hazard specific planning and preparedness measures to minimize the health impacts from accidents involving loss of control over radioactive

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As stated in the Mayor's testimony on the Hanford TC&WM EIS last year, the USDOE estimated 816 cancer deaths to residents along shipping routes, and to people in traffic near the trucks, from a similar 2008 proposal for nuclear waste shipments. That estimate is based on radiation doses for an adult male and does not account for the possibility of traffic accidents, leakages, or acts of terror along the transfer routes. The City of Portland adamantly opposes any alternative in the GTCC EIS that poses such incalculably high risk to the health of our citizens and surrounding environment.

Given that there are already many barriers to quickly and adequately cleaning up the existing nuclear waste at Hanford, it is plainly unacceptable to consider importing additional waste from other sites.

We recognize that the treatment of nuclear waste is a regional and national issue that requires the collaboration of all levels of government to develop practical and safe solutions. In objecting to the transport of nuclear waste through this region, we offer this city's support in developing a plan for the on-site treatment of nuclear waste to either mitigate the health risks of the waste in transport or to eliminate the need for transport altogether. Treating nuclear waste on-site -- proposed Alternative #1 -- is the best opportunity for our communities to avoid further health and environmental impacts from waste produced from other regional, decommissioned nuclear facilities.

The City of Portland urges the USDOE to follow through on the agency's fourth strategic theme: Environmental Responsibility: Protecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production.

The Portland City Council opposes the transportation of nuclear waste through our region and supports the alternatives in the GTCC EIS which are most protective of the long-term health of the Columbia River and our citizens.

Sincerely,

Sam Adams
Mayor

Amanda Fritz
Commissioner

Nick Fish
Commissioner

Dan Saltzman
Commissioner

Randy Leonard
Commissioner

L283-4

L283-5

L283-6

L283-7

material or toxic chemicals. DOE's TEPP was established to ensure that its contractors and state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving DOE shipments of radioactive materials

If an accident that involved a release of radioactive material to the environment occurred, it would be remediated promptly in accordance with these procedures. These measures would help DOE minimize and mitigate any impacts on the environment.

L283-2 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

L283-3 See response to L283-1.

L283-4 A number of commenters indicated they believed shipping offsite waste would result in 800 LCFs. This value for transportation risk does not exist in this GTCC EIS. DOE believes that the value of approximately 800 LCFs, cited in the public comments, is from the results provided in the *Draft Global Nuclear Energy Partnership Programmatic Environmental Impact Statement* (GNEP PEIS) regarding transportation of spent nuclear fuel (SNF) and HLW. This value represents the maximum impacts associated with 50 years of transportation activities supporting the operations of all existing U.S. commercial light-water reactors if they all were replaced with high-temperature, gas-cooled reactors. The GNEP PEIS was canceled by DOE on June 29, 2009 (74 FR 31017).

The GNEP PEIS involved many more shipments than those for disposal of GTCC LLRW and GTCC-like wastes. Because of this, the resulting estimated impacts for that program (now terminated) were much greater than those given in this EIS. The same types of analyses were done in both the GNEP PEIS and this EIS, but no LCFs are expected to result from transportation of the GTCC LLRW or GTCC-like wastes to the potential disposal sites considered in the GTCC EIS due to the much lower shipment numbers.

L283-5 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.

L283-6 DOE is responsible under the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240) for the disposal of GTCC LLRW. The purpose of the EIS is to evaluate alternatives for the safe and secure disposal of GTCC LLRW and GTCC-like wastes. Continued storage of GTCC LLRW at the generating facilities was evaluated as part of the No Action alternative. Transportation of GTCC LLRW and GTCC-like wastes from generating facilities to a GTCC LLRW disposal facility is a required component of the disposal process that would be identified for the GTCC LLRW and GTCC-like wastes because the disposal site(s) or location(s) would not be the same as the generator sites for reasons provided in the EIS. DOE believes that the transportation of GTCC LLRW and GTCC-like wastes to a more centralized disposal facility would result in lower overall human health risks compared to managing the wastes at multiple locations and can be conducted in a safe manner based on compliance with comprehensive regulatory requirements and past experiences.

J-92

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Final GTCC EIS

Appendix J: Comment Response Document

The EIS evaluates the transportation impacts from the shipments that would be required to dispose of all of the GTCC LLRW and GTCC-like wastes at each of the reference locations evaluated. The EIS addresses the collective population risks during routine conditions and accidents, the radiological risks to the highest exposed individuals during routine conditions, and the consequences to individuals and populations as a result of transportation accidents, including those that could release radioactive or hazardous chemical contaminants. The EIS also evaluated the impact of intentional destructive acts that could occur during waste handling, transportation, and disposal (see Section 2.7.4.3 of the EIS). The potential risk of such destructive acts is estimated to be low. DOE sites considered in the EIS are secure, and the packaging for the GTCC LLRW and GTCC-like wastes would be robust. Because GTCC LLRW and GTCC-like wastes are not readily dispersible, the potential physical impacts from an intentional destructive act (e.g., an explosive blast) would be no greater than those from the release of any radioactivity from a severe accident during waste handling, transportation, and disposal.

DOE's requirements for transportation of radioactive waste are developed and continually revised to ensure maximum protection of public health and the environment, thereby minimizing the risk of a traffic accident. DOE has established a comprehensive emergency management program that provides detailed, hazard specific planning and preparedness measures to minimize the health impacts of accidents involving loss of control over radioactive material or toxic chemicals. DOE's transportation emergency preparedness program was established to ensure that DOE and its contractors, state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving DOE shipments of radioactive materials. Should an accident occur that involves a release of radioactive material to the environment, it would be promptly remediated in accordance with these procedures. These measures would help DOE to minimize and mitigate any impacts on the environment.

L283-7 Stopping the production of nuclear weapons and avoiding or reducing the amount of GTCC LLRW and GTCC-like wastes generated are outside the scope of this EIS, which is to evaluate disposal alternatives to enable the selection of a safe alternative or alternatives for the disposal of GTCC LLRW and GTCC-like wastes.

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MR. BROWN: Okay. Thanks, Steve.

The next speaker, Phil, will go next. And he
will be followed by Jim Haber.

MR. KLEVORICK: My name is Phil Klevatorick,

1 and I represent Clark County today. These are the
2 comments from Clark County on the Draft EIS for the
3 Greater-than-Class C waste. Clark County is also
4 reviewing the document, and we will be providing
5 further detailed comments before the June deadline.

6 (Reading) The Draft EIS recognizes the Low-
7 Level Radioactive Waste --

8 Am I talking too fast? Because I do talk
9 fast. You're good?

10 -- Policy Amendments of 1985 specifics with
11 the Greater-Class-C Low-Level Radioactive Waste as
12 designated by the federal responsibility under Section
13 3(b)(1)(d) and is disposed of in the facility that is
14 adequate to protect public safety and licensed by the
15 NRC.

16 The DOE owns and generates the majority of
17 Greater-than-Class C waste and both the low-level
18 radioactive and non-defense generated TRU waste having
19 characteristics similar to that of the Greater-Class C
20 waste. And, also, the DOE intends to determine their
21 disposal path as well. The DOE is proposing to
22 construct and operate a facility, or facilities, or
23 maybe of an existing facility for disposal of this
24 waste.

25 The transportation description within the

T39-1

T39-1

Calculation of the collective population risk (under routine and accident conditions) is provided in the EIS. While these estimates are conservative, the calculations used expected values where practical (e.g., external shipment dose rates) and provide a reasonable measure for comparison among alternatives, as summarized in Tables 2.7 5 and 2.7 6, and the estimates show that the transportation risks would be small. All alternatives involve routes of hundreds of miles through similar types of rural, suburban, and urban areas. For specific local impacts, Section 5.3.9.2 provides information on potential human health impacts on individuals during normal waste transport along a route. However, the consideration of specific local stakeholder concerns is more appropriate during the final planning stages of a project when actual route selections are finalized, not at the level addressed in this EIS. A generic accident consequence assessment was performed because there is no way to predict the exact location and conditions of an accident, as discussed in C.9.3.3 of the EIS. For all alternatives, potential accidents, even those at the same location, could have impacts that range from negligible to significant depending on the waste involved, the accident severity, and weather conditions. Such an analysis would not help distinguish between alternatives because all alternatives involve routes through or near major population centers.

1 DEIS is very general and vague. It is not site-
 2 specific to any possible DOE site, including the NNSS
 3 or, as I refer to it, the "N2S2." Transportation of the
 4 Greater-than-Class C waste to any disposal site located
 5 in the N2S2 would involve unacceptable impacts for the
 6 heavily populated and, approximately, 2 million
 7 residents of Clark County within which lies the City of
 8 Las Vegas and other major cities and communities.

9 Since there is no rail access to the N2S2 and
 10 the cost of constructing such access would be almost \$3
 11 billion, according to the DOE's own estimates of March
 12 2008 Application for a Certificate of Public
 13 Convenience and Necessity as filed for the Surface
 14 Transportation Board, File Number FD-35106, for the
 15 construction and operation of the Caliente Railroad
 16 supporting the high-level nuclear waste repository at
 17 Yucca Mountain, there is no mention of a railroad being
 18 newly constructed or the use of intermodal transport or
 19 transfer nearby any proposed site, including N2S2.

20 According to Table S-3, a total of 12,600
 21 truck shipments or approximately 5,000 rail shipments
 22 would be required over 60 years. Given the
 23 unlikelihood that the Caliente Railroad would be
 24 constructed specifically for this, Clark County would
 25 bear the brunt of the shipments, as the bottleneck from

T39-1
(Cont.)

T39-2

T39-3

T39-2 DOE/NNSA analyzed various radioactive waste shipping routes through and around metropolitan Las Vegas, Nevada, in the Final Site-Wide Environmental Impact Statement for the Continued Operation of the Department of Energy/National Nuclear Security Administration Nevada National Security Site and Off-Site Locations in the State of Nevada (NNSS SWEIS). DOE/NNSA continued discussions with the State of Nevada on routing options throughout the preparation of the Final NNSS SWEIS. After taking into consideration the comments and concerns expressed by State, county, and local government officials and the public in general during the review and comment period for the Draft NNSS SWEIS, DOE/NNSA decided to maintain the current highway routing restrictions for shipments of low-level radioactive waste (LLW) and mixed-low level radioactive waste (MLLW), as described in the Waste Acceptance Criteria (WAC) for the site. DOE/NNSA explained this decision in the Final NNSS SWEIS. The unchanged WAC restrictions are to avoid (1) crossing the Colorado River near Hoover Dam and (2) the greater metropolitan Las Vegas interstate system. DOE/NNSA is not considering, nor is it making, changes to the NNSS WAC with regard to routing.

Before transporting any GTCC waste to NNSS, DOE would confer with State of Nevada officials. Among the matters to be discussed and resolved would be the best transportation route to use. DOE would welcome the participation of Clark County officials in the transportation route discussions. DOE does not intend to make any decisions regarding specific waste transportation routes via this NEPA process. Any changes to existing routing would be made through revisions to the NNSS waste acceptance criteria (WAC). Revisions to the WAC are undertaken in coordination with the Nevada Division of Environmental Protection (NDEP), pursuant to the Agreement in Principle between the State of Nevada and the DOE/NNSA Nevada Site Office.

T39-3 For calculation of the collective population risk, see the response to T39-1.

The additional human health impacts from intermodal transfer and transport of waste from the nearest rail access point to those disposal sites without direct rail access is generally a small percentage of the total risk discussed in Section C.9.5.5 of the EIS. As is the case for NNSS and similar sites, costs involved in either building a rail spur to the site or the additional cost of intermodal operations were taken into consideration when developing the preferred alternative.

1 most of the county would culminate in our region. Thus
2 it would be fair to assume that the risk of an accident
3 occurring would be greater in Clark County than almost
4 in any other region of the country.

5 Many of these shipments, according to the
6 Draft EIS, would be highway-route-controlled quantity.
7 And like we question as to why they're not all such
8 classification. By law, these shipments must use the
9 Interstate system and, therefore, would bisect Clark
10 County along the I-15 corridor. This increased
11 frequency with the Greater-than-Class C shipments,
12 along with the type of material being shipped, would
13 put Las Vegas' tourism-dependent economy at
14 considerable risk in the event of an accident or a
15 terrorism attack.

16 As no routes were present -- presented in the
17 DEIS, Clark County must assume that I-15 as the major
18 transportation route, which would be highly discouraged
19 because of the stigma associated to any shipment of any
20 nuclear waste is still very high and reigns of great
21 concern for the majority of the residents of Clark
22 County.

23 In fact, there is no economic analysis or
24 transportation plan submitted -- truck, railroad or
25 anything else -- along with the DEIS that would allow

T39-3
(Cont.)

T39-4

T39-5

T39-4 As stated in Section C.9.4.1.1 of the EIS on route selection, many of the GTCC LLRW and GTCC-like wastes considered in the EIS would meet the definition of a highway route controlled quantity (HRCQ) (49 CFR 173.403). However, as noted in the discussion, states and Native American tribes have the opportunity to designate "preferred routes" to replace or supplement the interstate highway system. For those wastes not specifically designated as HRCQ, the selection of a route is left to the carrier, but in the case of GTCC LLRW and GTCC-like wastes, additional consultation with transportation stakeholders would occur.

DOE/NNSA analyzed various radioactive waste shipping routes through and around metropolitan Las Vegas, Nevada, in the Draft NNSS SWEIS. DOE/NNSA continued discussions with the State of Nevada on routing options throughout the preparation of the Final NNSS SWEIS. After taking into consideration the comments and concerns expressed by State, county, and local government officials and the public in general during the review and comment period for the Draft NNSS SWEIS, DOE/NNSA decided to maintain the current highway routing restrictions for shipments of low-level radioactive waste (LLW) and mixed-low level radioactive waste (MLLW), as described in the Waste Acceptance Criteria (WAC) for the site. DOE/NNSA explained this decision in the Final NNSS SWEIS. The unchanged WAC restrictions are to avoid (1) crossing the Colorado River near Hoover Dam and (2) the greater metropolitan Las Vegas interstate system. DOE/NNSA is not considering, nor is it making, changes to the NNSS WAC with regard to routing.

Once an alternative is selected in a ROD for this EIS, implementation will include, as needed and appropriate, NEPA reviews and other analysis (e.g., transportation).

T39-5 The primary radiological transportation risk to the public for any alternative is from the low level of radiation emanating from the transport vehicle. As discussed in Section 5.3.9.1, the collective population risk is a measure of the total risk posed to society as a whole. A comparison of the collective population risk provides a meaningful evaluation of the relative risks between disposal locations, as provided in Tables 2.7.5 and 2.7.6. The magnitude of the collective population risk is primarily determined by the number of routes, the length of each route, the number of shipments along each route, the external dose rate of each shipment, and the population density along a given route. The primary differences between alternatives from the standpoint of transportation are the lengths of the routes as determined by the location of the disposal sites (destination of the shipments). Thus, higher costs and collective population risks are associated with alternatives that require transportation over longer distances. All alternatives involve routes that have similar characteristics, with no significant differences for comparison among alternatives, requiring transportation through a range of rural and urban areas. In addition, the routes used in the analysis are considered representative routes (as discussed in Appendix C, Section C.9.4.1.1, because the actual routes used would be determined in the future. For each disposal site, the routes most affected would be the interstate highways that are in closest proximity to the site.

There are no definitive studies related to the effects of radioactive waste shipments on local traffic, tourism, and property values. With an average of only one to two shipments per day over the potential 60 year lifetime of a proposed disposal facility in the case of GTCC LLRW and GTCC-like waste shipments, it is unlikely that there would be any significant impact on tourism and property values in Clark County or near any of the other sites considered for disposal.

1 further analyses by interested and potentially affected
2 parties.

3 The DEIS fails to review any socioeconomic
4 impact that may be associated with the transportation
5 and subsequent disposal of the Greater-than-Class C at
6 the N2S2. Consideration and risk assessment must be
7 conducted in order to better define the entire impact,
8 such as activities that may occur in Clark County.
9 Failing to do so is a failure to meet the NEPA
10 compliance and thorough review of alternative actions
11 as presented within the DEIS.

12 In addition, there is no mention of how the
13 wastes will be packaged for final disposal for optimal
14 configuration for both shipments and permanent
15 disposal. The DEIS uses a very general overview to
16 radiological impact assessment of the Greater-than-
17 Class C waste shipments and ignores the importance of
18 nonradiological factors in defining the true scope and
19 nature of the impacts associated with such
20 transportation.

21 There is a definitive need to further
22 evaluate the important nonradiological impacts that are
23 not used to discriminate among potential disposal
24 locations. The DEIS does not acknowledge that any
25 facility chosen for disposal of Greater-than-Class C

T39-5
(Cont.)

T39-6

T39-7

T39-8

T39-6

The estimated costs associated with the construction and operation of GTCC waste disposal facilities at each of the sites – including costs for direct and indirect labor, equipment, materials, services, and subcontracts – are included in the assessment of each waste management alternative in the EIS. The cost estimates for the land disposal methods are based on a conceptual design of the disposal facility and could increase with actual implementation. Costs shown for WIPP are based on actual costs experienced to date and reflect construction and operation costs of an operating geologic repository. The economic analysis in the EIS addresses the potential economic impacts, including potential impacts resulting from in migration of workers or their families during the construction period, and any consequent impacts on housing, public finances, public service employment, and traffic.

Costs for institutional controls out to a 10,000-year time frame were not evaluated because the institutional control period was assumed to be for the first 100 years after facility closure. Follow-on site-specific NEPA reviews would take a closer look the implementation and costs of institutional controls.

In general, transportation costs would be similar across all disposal alternatives. The primary difference would be related to the distances traveled in each case.

There are no definitive studies related to the effects of radioactive waste shipments on local tourism and property values. With an average of only one to two shipments per day over the potential 60 year lifetime of a proposed disposal facility in the case of GTCC LLRW and GTCC-like waste shipments, it is unlikely that there would be any significant impact on tourism and property values.

T39-7

Information on waste forms and waste packages and containers is provided in the EIS to allow for a comparative analysis of alternatives for transportation and waste disposal. Treatment of the wastes prior to disposal is outside the scope of the EIS. Such treatment is assumed to be addressed prior to receipt of the waste at the GTCC LLRW and GTCC-like waste disposal facility. DOE agrees that it is important to immobilize long-lived radionuclides such as Tc-99 and I-129 prior to disposal. Solidification techniques (e.g., use of grout) are expected to immobilize certain wastes in the GTCC LLRW and GTCC-like waste inventory. If needed, the actual stabilization methods used will depend, in part, on the waste stream, packaging, and final disposal facility design. DOE considers the assumptions used for waste form stability (see Appendix B) to be reasonable for purposes of the comparative analysis provided in the EIS.

The waste characteristics and physical form would have to meet the disposal facility waste acceptance criteria. It is expected that these waste acceptance criteria would identify requirements (such as allowable concentrations) for individual radionuclides, including Tc 99 and I-129. The specific waste forms and packages used to dispose of GTCC LLRW and GTCC-like wastes would be determined in the future as part of the waste acceptance criteria and packaging requirements developed. See the discussion in Section B.5 and C.9.4.2 of the EIS for more information on packaging requirements. All GTCC LLRW and GTCC-like wastes would be packaged and transported in accordance with all applicable federal and state requirements, and waste disposal activities would be conducted in accordance with appropriate requirements.

T39-8

The NRC served as a commenting agency on the GTCC EIS and therefore did not actively participate in the preparation of the GTCC EIS. Issues associated with potential regulatory changes or NRC licensing would be addressed as necessary to enable implementation.

1 waste must be licensed by and regulated by the NRC.
2 According to Christine Gelles, Director of Waste
3 Disposal, the NRC were invited, as a cooperating agent,
4 but declined to do so as potential conflict in
5 interest.

6 In fact, the NRC itself, Subsection 61.55
7 Sub(iv), Waste Classification, basically states that
8 the waste disposal must be done in a geological
9 repository as defined in Part 60 or 63 of the chapter.
10 Thus, Alternatives 4, disposal in a new trench disposal
11 facility; and Alternative 5, disposal in a new vault
12 disposal facility, are not to be considered. Given
13 that NRC's direction, these alternatives should not
14 have been considered while one can directly interpret
15 the NRC direction as being only a single alternative,
16 which is the geologic disposal proposal.

17 The DEIS also states Area 5 has been used for
18 disposal of higher-activity Low-Level Radioactive Waste
19 and TRU waste in boreholes. No analyses has been
20 provided as to the safety and consequence of this
21 disposal method.

22 However, Section 2.6.5, reviews the N2S2 area
23 within Area 5, which they used as a basis for
24 evaluation because, along with Area 3 supporting the
25 site's radioactive waste management program; as far as

T39-8
(Cont.)

T39-9

T39-10

T39-9 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

T39-10 As indicated in Section 1.4.3 of the GTCC EIS, reference locations are intended to serve as a starting point for each of the sites being considered. If a site or sites were selected for possible implementation of a land disposal method or methods, site-specific NEPA reviews would be conducted as needed, along with further optimization by a selection study, to identify the location or locations within a given site that would be considered the best ones to accommodate the land disposal method(s).

Clark County, Commenter ID No. T39 (cont'd)

1 that Clark County is aware, neither of these two areas
2 have been studied for a geologic repository, nor does
3 the DEIS state that either have been.

4 To select either of these areas within the
5 N2S2 would be not acceptable because no analysis has
6 been conducted or provided as being satisfactory
7 foundation to be used in support of geologic disposal
8 rule as specified by the NRC.

9 Clark County is aware of the Greater-than-
10 Class C history and have been proposed to have disposed
11 of a lot of the high level -- nation's high level waste
12 and spent nuclear fuel at Yucca. Clark County is
13 fearful that Yucca would be chosen in the near term
14 with its present demise before the NRC and DOE's
15 attempt to withdraw its application for the
16 construction of this facility.

17 Clark County does question why the DOE seeks
18 public comment to create a Preferred Alternative.
19 Clark County does not -- does look forward to further
20 information and clarification of the DEIS.

T39-10
(Cont.)

T39-11

T39-11 A preferred alternative is not required to be included in a Draft EIS. The Council on Environmental Quality regulations in 40 CFR 1502.14(e) specify that the section on alternatives in an EIS shall identify the agency's preferred alternative or alternatives, if one or more exists, in the Draft EIS and identify such alternative(s) in the Final EIS unless another law prohibits the expression of such a preference; that is, a preferred alternative shall be identified in the Draft EIS if one exists. If no preferred alternative has been identified at the Draft EIS stage, a preferred alternative need not be included. By the time the Final EIS is filed, 40 CFR 1502.14(e) presumes the existence of a preferred alternative and requires its identification in the Final EIS unless another law prohibits the expression of such a preference.

DOE did not have a preferred alternative at the time of issuance of the Draft EIS because of the complex nature of the proposed action and the potential implications for disposal of GTCC LLRW and GTCC-like wastes. To seek public input on how to identify a preferred alternative for inclusion in the Final EIS, the Draft EIS presented considerations for developing a preferred alternative in the Summary (in Section S.6) and in Section 2.9. As required by 40 CFR 1502.14(e), the Final EIS contains a preferred alternative for the disposal of GTCC LLRW and GTCC-like wastes (see Section 2.10). In developing the preferred alternative, DOE took into consideration public comments on the Draft EIS, public EIS scoping comments, and other factors identified in Sections S.6 and 2.9 of the EIS.

The publication by the EPA of a NOA of the Final EIS in the Federal Register initiated a 30-day public availability or "waiting" period. While the availability period is not a formal public comment period, the public can comment on the Final EIS, including the preferred alternative, prior to final agency action. Comments received will be addressed by DOE in a ROD. As required by the Energy Policy Act of 2005, DOE must submit a Report to Congress that includes the alternatives considered in the EIS and await Congressional action before making a final decision regarding which alternative(s) to implement. The Report to Congress will be made available to the public on the GTCC EIS website (<http://www.gtcceis.anl.gov/>).

Clark County Nuclear Waste Division, Commenter ID No. W541

Abplanalp, Jennifer Marie

From: gtccseiswebmaster@anl.gov
Sent: Monday, June 27, 2011 3:55 PM
To: mail_gtccseisarchives; gtccseiswebmaster@anl.gov; gtccseis@anl.gov
Subject: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10541
Attachments: GTCC_Final_Comments_6.27.11_GTCC10541.pdf

Thank you for your comment, Phil Klevorick.

The comment tracking number that has been assigned to your comment is GTCC10541. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 27, 2011 03:55:20PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10541

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Privacy Preference: Don't withhold name or address from public record
Attachment: P:\NukeWaste\2011\GTCC\GTCC Final Comments 6.27.11.pdf

Questions about submitting comments over the Web? Contact us at: gtccseiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.



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Nancy Lipkik, Director

CLARK COUNTY FINAL COMMENTS
TO THE U.S. DEPARTMENT OF ENERGY'S DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR
DISPOSAL OF GREATER-THAN-CLASS-C RADIOACTIVE WASTE AND GREATER THAN CLASS-C-
LIKE WASTE (DOE/EIS-0375-D)

June 27, 2011

Clark County has reviewed the U.S. Department of Energy's (DOE) Draft Environmental Impact Statement for the Disposal of Greater-Than-Class-C Radioactive (GTCC) Waste and GTCC-Like Waste. Clark County wishes to submit its comments for the record and in a timely manner for the final review of this aforementioned document.

The draft environmental impact statement (DEIS) recognizes the Low-Level Radioactive Waste (LLRW) Policy Amendments Act of 1985 specifies the GTCC LLRW is designated a federal responsibility under Section 3(b)(1)(D) and is to be disposed of in a facility that is adequate to protect public safety and licensed by the Nuclear Regulatory Commission (NRC). The DOE owns and generates the majority of the GTCC waste (both LLRW and non-defense generated TRU waste having characteristics similar to those of GTCC LLRW and DOE intends to determine their disposal path as well). The DOE is proposing to construct and operate a new facility or facilities or to use an existing facility for this disposal of GTCC LLRW and GTCC-like waste.

It appears that the DOE has made a deliberate choice not to designate a preferred alternative in the DEIS. Instead, it is seeking input from the community and stakeholders to create a preferred alternative—presumably a combination of one of the five alternatives proposed or may be an entirely unanalyzed approach. Given the fact that this unknown is extremely important to the final outcome and decision, combined with the enormous potential permutations of 5 alternatives (currently and to be expanded) and 7 potential sites, Clark County looks forward to analyzing and providing comments to the Final Environmental Impact Statement (FEIS). Clark County understands there will be a minimum of a 30-day comment period once the FEIS is issued, to which it is recommended this period should be a minimum of 60-days to analyze the potential impacts the preferred alternative may have on the environment and citizens of Clark County, Nevada.

The transportation description within the DEIS is very general and vague. It is not site specific to any possible DOE site, including the Nevada National Security Site (NNSS). Transportation of GTCC waste to any disposal facility located at the NNSS would involve unacceptable impacts for the heavily populated Clark County (approximately two million residents) within which lies the major cities of Las Vegas, Henderson, North Las Vegas as well as other cities, communities and Tribal lands. Since there is no rail access to NNSS, and the cost for constructing such access would be almost \$3 billion (DOE's own estimates in March 2008 Application For A Certificate of Public Convenience and Necessity as filed with the Surface Transportation Board – FD35106 for the construction and operation of the Caliente Railroad supporting the High Level nuclear Waste repository at Yucca Mountain, Nevada (Yucca)). There is no mention of a railroad being newly constructed or the use of intermodal transfer nearby any proposed site, including the NNSS. In fact, in Section 9.4, Pg. 9-51 (NNSS) there is absolutely no mention of cumulative impacts on transportation along with the current Low-level and Mixed Radioactive (LLRW and MRW) waste shipments to the NNSS. This is in addition to all of the other activities currently ongoing, as well as other future ones, such as the acceptance of untreated LLRW and MRW from other sites around the U.S. This failure to analyze these cumulative details is of serious concern to Clark County, not to mention the planning needed for emergency management purposes.

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W541-1 Calculation of the collective population risk (under routine and accident conditions) is provided in the EIS. While these estimates are conservative, the calculations used expected values where practical (e.g., external shipment dose rates) and provide a reasonable measure for comparison among alternatives, as summarized in Tables 2.7 5 and 2.7 6, and the estimates show that the transportation risks would be small. All alternatives involve routes of hundreds of miles through similar types of rural, suburban, and urban areas. For specific local impacts, Section 5.3.9.2 provides information on potential human health impacts on individuals during normal waste transport along a route. However, the consideration of specific local stakeholder concerns is more appropriate during the final planning stages of a project when actual route selections are finalized, not at the level addressed in this EIS. A generic accident consequence assessment was performed because there is no way to predict the exact location and conditions of an accident, as discussed in C.9.3.3 of the EIS. For all alternatives, potential accidents, even those at the same location, could have impacts that range from negligible to significant depending on the waste involved, the accident severity, and weather conditions. Such an analysis would not help distinguish between alternatives because all alternatives involve routes through or near major population centers.

The additional human health impacts from intermodal transfer and transport of waste from the nearest rail access point to those disposal sites without direct rail access is generally a small percentage of the total risk discussed in Section C.9.5.5 of the EIS. As is the case for NNSS and similar sites, costs involved in either building a rail spur to the site or the additional cost of intermodal operations were taken into consideration when developing the preferred alternative. For the rail option, the use of dedicated trains, if sufficient waste is available for transport at the same time, could reduce transportation risks and costs by minimizing transit times. The current rail analysis therefore bounds what might be expected if dedicated trains were used.

In general, transportation costs would be similar across all disposal alternatives. The primary difference would be related to the distances traveled in each case. Thus, the transportation costs will scale with the shipment distances travelled as presented in the EIS. Any decisions made by DOE would take these factors into account during implementation.

With an average of only one to two shipments per day over the potential 60 year lifetime of a proposed disposal facility in the case of GTCC LLRW and GTCC-like waste shipments, it is unlikely that there would be any significant impact on any local road traffic or current NNSS operations.

Once an alternative is selected in a ROD for this EIS for implementation, site-specific NEPA reviews would be conducted as needed, including an assessment of specific routing and an accident analysis, including dedicated trains and the potential for multiple railcar accidents if applicable. This process will include planning that involves transportation stakeholders.

W541-1

J-102

January 2016

According to Table S-3, a total of 12,600 truck shipments or about 5,000 rail shipments would be required (over 60 years). Given the unlikelihood that the Caliente Railroad would be constructed specifically for this, Clark County would bear the brunt of shipments as the bottleneck from most of the country would culminate in our region. Thus, it would be fair to assume the risk of an accident occurring would be greater in Clark County than in almost any other region in the country. Many of these shipments, according to the DEIS, would be "Highway Route-Controlled Quantity" (HRCQ) shipments (why not all?). By law, HRCQ shipments must use the interstate highway system and would therefore bisect Clark County along Interstate 15 (I-15). This increased frequency of GTCC shipments along with the type of material being shipped would put Las Vegas' tourism-dependent economy at considerable risk in the event of an accident or terrorist attack.

As no routes were presented in the DEIS, Clark County must assume the use of I-15 and U.S. 95 as major transportation routes. This would be highly discouraged because the stigma associated to the shipment of any nuclear waste type is still very high and reigns of great concern to the majority of residents in Clark County. In fact, there is no economic analyses or transportation plan submitted (truck, railroad, etc.) along with the DEIS that would allow further analyses by interested and potentially affected parties. Therefore, Clark County is not able to properly analyze any cumulative impacts these additional shipments would have on first responders or any other emergency personnel, as well as, the additional equipment that maybe needed.

The DEIS fails to review the socio-economic impact that may be associated with the transportation and subsequent disposal of the GTCC at the NNSS. Consideration and risk assessment must be conducted in order to better define the entire impact such activities may have on Clark County. Failing to do this is a failure to meet National Environmental Policy Act (NEPA) compliance and thorough review of alternative actions as presented within the DEIS. In addition, there is no mention of how the wastes will be packaged for final disposal for optimal configuration (both for shipments and permanent disposal). Also, the DEIS uses a very general 'overview' to radiological impact assessment for GTCC waste shipments and ignores the importance of non-radiological factors in defining the true scope and nature of impacts associated with such transportation. There is a definite need to further evaluate the important non-radiological impacts that are not used to discriminate among potential disposal locations.

The DEIS does not acknowledge that any facility chosen for disposal of GTCC waste must be licensed and regulated by the NRC. According to Christine Gelles, Director of Waste Disposal (DOB), the NRC was invited as a cooperating agency, but declined due to potential conflict of interest. In fact the NRC, itself, in SubSection 61.55 (iv) Waste Classification states:

Waste that is not generally acceptable for near-surface disposal is waste for which form and disposal methods must be different, and in general more stringent, than those specified for Class C waste. In the absence of specific requirements in this part, such waste must be disposed of in a geologic repository as defined in part 60 or 63 of this chapter unless proposals for disposal of such waste in a disposal site licensed pursuant to this part are approved by the Commission.

Thus, Alternative 4 (disposal in a new trench disposal facility) and Alternative 5 (disposal in a new vault disposal facility) are not to be considered. Has the DOE commenced discussions with the NRC in rulemaking on this issue? Given the NRC's direction, these alternatives should not have been considered while one can directly interpret the NRC direction as being only a single alternative, the geologic disposal proposal. Clark County would recommend current disposal practices, in place hardened storage facilities until any proposed alternative, except for no alternative, is considered for GTCC disposal.

The DEIS also states Area 5 has been used to dispose of higher-activity low-level radioactive waste and TRU waste in boreholes. No analysis has been provided as to the safety and consequence of this disposal method. However, borehole disposal is still being considered for this area without any description as to what is available, depth, substrate, depth to groundwater, testing that would ensure containment or loss through exposure to the surface or groundwater, the number of boreholes that would be required, etc. The described depth to groundwater for the Frenchman Flat area according to the DEIS9.1.3.2.3, Page 9-29 ranges from 708 feet to 927feet, but without knowing the locations of borehole disposal areas, spacing and concentration, it is impossible to comment on the impacts to the groundwater except to say yes, there will be unless more of this missing information is provided.

However, S.2.6.5 reviews the NNSS area within Area 5 which they used as a basis for evaluation because along with Area 3, supporting the site's radioactive waste management program. As far as Clark County is aware, neither of these two areas have been studied for a geologic repository nor does the DEIS state that either have been.

W541-1 (Cont.)

W541-2

W541-3

W541-4

W541-5

W541-6

W541-7

W541-2 The risk of an accident would naturally be expected to be higher in an area where there are the greatest number of shipments. However, this is true for the area surrounding each disposal site considered in each alternative.

As stated in Section C.9.4.1.1 of the EIS on route selection, many of the GTCC LLRW and GTCC-like wastes considered in the EIS would meet the definition of a highway route HRCQ (49 CFR 173.403). However, as noted in the discussion, states and Native American tribes have the opportunity to designate "preferred routes" to replace or supplement the interstate highway system. For those wastes not specifically designated as HRCQ, the selection of a route is left to the carrier, but in the case of GTCC LLRW and GTCC-like wastes, additional consultation with transportation stakeholders would occur.

DOE/NNSA analyzed various radioactive waste shipping routes through and around metropolitan Las Vegas, Nevada, in the Draft NNSW SWEIS. DOE/NNSA continued discussions with the State of Nevada on routing options throughout the preparation of the Final NNSW SWEIS. After taking into consideration the comments and concerns expressed by State, county, and local government officials and the public in general during the review and comment period for the Draft NNSW SWEIS, DOE/NNSA decided to maintain the current highway routing restrictions for shipments of low-level radioactive waste (LLW) and mixed-low level radioactive waste (MLLW), as described in the Waste Acceptance Criteria (WAC) for the site. DOE/NNSA explained this decision in the Final NNSW SWEIS. The unchanged WAC restrictions are to avoid (1) crossing the Colorado River near Hoover Dam and (2) the greater metropolitan Las Vegas interstate system. DOE/NNSA is not considering, nor is it making, changes to the NNSW WAC with regard to routing.

Once an alternative is selected in a ROD for this EIS, implementation will include, as needed and appropriate, NEPA reviews and other analysis (e.g., transportation).

W541-3 All alternatives involve routes that have similar characteristics, with no significant differences for comparison among alternatives, requiring transportation through a range of rural and urban areas. In addition, the routes used in the analysis are considered representative routes (as discussed in Appendix C, Section C.9.4.1.1, because the actual routes used would be determined in the future. For each disposal site, the routes most affected would be the interstate highways that are in closest proximity to the site.

The primary radiological transportation risk to the public for any alternative is from the low level of radiation emanating from the transport vehicle. As discussed in Section 5.3.9.1, the collective population risk is a measure of the total risk posed to society as a whole. A comparison of the collective population risk provides a meaningful evaluation of the relative risks between disposal locations, as provided in Tables 2.7 5 and 2.7 6. The magnitude of the collective population risk is primarily determined by the number of routes, the length of each route, the number of shipments along each route, the external dose rate of each shipment, and the population density along a given route. The primary differences between alternatives from the standpoint of transportation are the lengths of the routes as determined by the location of the disposal sites (destination of the shipments). Thus, higher costs and collective population risks are associated with alternatives that require transportation over longer distances.

There are no definitive studies related to the effects of radioactive waste shipments (i.e. stigmatism) on such factors as local traffic, tourism, and property values. With an average of only one to two shipments per day over the potential 60 year lifetime of a proposed disposal facility in the case of GTCC LLRW and GTCC-like waste shipments, it is unlikely that there would be any significant impact on tourism and property values in Clark County or near any of the other sites considered for disposal.

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Final GTCC EIS

Appendix J: Comment Response Document

To select either of these areas within the NNSR would not be acceptable because no analysis has been conducted or provided as being a satisfactory foundation to be used in support of the geologic disposal rule as specified by the NRC. No descriptions are provided as to the distance or location of any actual disposal would be from the Clark County boundary to the east of both Area 3 and Area 5 disposal cells. Clark County is aware of the history of the GTCC and having been proposed to have been disposed of along with the nation's high level waste and spent nuclear fuel at Yucca (because of their similar characteristics and life expectancy). Clark County is fearful Yucca Mountain would be chosen in the near term, with its present demise before the NRC and DOE's attempt to withdraw its application for the construction of this facility.

Additional performance assessment issues presented are flawed in the DEIS. Firstly, Page 5-65 conclusion is just the opposite to the argument made-as the distance would increase from 100m to 500m, the maximum annual radiation dose would increase by more than 70% when in actuality it would decrease. Secondly, there is no quantitative data provided that would support the comments that near surface cover could meet the expected performance requirements for disposal of GTCC. Thirdly, the DEIS is deficient, because by assuming the facility characteristics to which the performance is most sensitive will be met rather than showing or demonstrating they can be met and if the DOE is wrong on this, the impact will be significantly different that as expected (such as water filtration through engineered barrier failure after 500years as compared to the 10,000 years for the disposal cycle). Fourthly, Clark County does not want to assume the certification of transportation containers will be certified by United States Department of Transportation when there may be other planned certification entities needed. There is no description as to the certification protocol or process for these shipping containers provided.

Clark County thanks the DOE for the opportunity to provide these comments, which is respectfully submitted for consideration. We also look forward to providing additional clarification and comments in the FEIS once released, based on the DOE preferred alternative and addressing the concerns that impact both the environment, citizens, and the visitors to the County of Clark.

Sincerely,

Irene Navis, Manager
Nuclear Waste Division

W541-7
(Cont.)

W541-8

W541-9

W541-10

W541-11

W541-4 The estimated costs associated with the construction and operation of GTCC waste disposal facilities at each of the sites – including costs for direct and indirect labor, equipment, materials, services, and subcontracts – are included in the assessment of each waste management alternative in the EIS. The cost estimates for the land disposal methods are based on a conceptual design of the disposal facility and could increase with actual implementation. Costs shown for WIPP are based on actual costs experienced to date and reflect construction and operation costs of an operating geologic repository. The economic analysis in the EIS addresses the potential economic impacts, including potential impacts resulting from in migration of workers or their families during the construction period, and any consequent impacts on housing, public finances, public service employment, and traffic.

Costs for institutional controls out to a 10,000-year time frame were not evaluated because the institutional control period was assumed to be for the first 100 years after facility closure. Site-specific NEPA reviews would be conducted as needed and would take a closer look the implementation and costs of institutional controls.

The primary differences between alternatives from the standpoint of transportation are the lengths of the routes as determined by the location of the disposal sites (destination of the shipments). Thus, higher costs and collective population risks are associated with alternatives that require transportation over longer distances.

There are no definitive studies related to the effects of radioactive waste shipments on such factors as local tourism and property values. With an average of only one to two shipments per day over the potential 60 year lifetime of a proposed disposal facility in the case of GTCC LLRW and GTCC-like waste shipments, it is unlikely that there would be any significant impact on tourism and property values.

W541-5 The LLRW PAA (P.L. 99-240) specifies that GTCC LLRW, designated a federal responsibility under section 3(b)(1)(D) that results from activities licensed by the NRC, is to be disposed of in an NRC-licensed facility that has been determined to be adequate to protect public health and safety. However, unless specifically provided by law, the NRC does not have authority to license and regulate facilities operated by or on behalf of DOE. Further, the LLRW PAA does not limit DOE to using only non-DOE facilities or sites for GTCC LLRW disposal. Accordingly, if DOE selects a facility operated by or on behalf of DOE for disposal of GTCC LLRW for which it is responsible under section 3(b)(1)(D), clarification from Congress would be needed to determine NRC's role in licensing such a facility and related issues. In addition clarification from Congress may be needed on NRC's role if DOE selects a commercial GTCC LLRW disposal facility licensed by an Agreement State rather than by NRC.

The NRC served as a commenting agency on the GTCC EIS and therefore did not actively participate in the preparation of the GTCC EIS. Issues associated with potential regulatory changes or NRC licensing would be addressed as necessary to enable implementation.

W541-6 While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), this regulation also indicates that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW. The NRC served as a commenting agency on the GTCC EIS and therefore did not actively participate in the preparation of the GTCC EIS. Issues associated with potential regulatory changes or NRC licensing would be addressed as necessary to enable implementation.

W541-7 As indicated in Section 1.4.3 of the GTCC EIS, reference locations are intended to serve as a starting point for each of the sites being considered. If a site or sites were selected for possible implementation of a land disposal method or methods, site-specific NEPA reviews would be conducted as needed, along with further optimization by a selection study, to identify the location or locations within a given site that would be considered the best ones to accommodate the land disposal method(s).

J-104

January 2016

DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS.

The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

The Secretary of Energy determined that a permanent repository for high-level waste and spent nuclear fuel at Yucca Mountain, Nevada, is not a workable option and will not be developed. Therefore, DOE concluded that co-disposal at a Yucca Mountain repository is not a reasonable alternative and has eliminated it from evaluation in this EIS, as described in Section 2.6 of the EIS.

W541-8 The text in Section 5.3.4.3 was corrected to state that the maximum annual radiation dose would decrease (not increase) by more than 70%, as would be expected as stated in the opening sentence of the paragraph.

W541-9 Data used to evaluate the performance of the near surface disposal method for the NNSS reference location may be found in Chapter 9 and Appendix E of the GTCC EIS.

W541-10 The EIS analyses are based on conceptual engineering information and necessitated the use of a number of simplifying assumptions. This approach is consistent with NEPA, which requires such analyses to be made early in the decision-making process. The various land disposal conceptual designs were assumed to be constructed and operated in a comparable manner at each of the various sites. Information on the conceptual engineering designs for the three proposed land disposal methods is provided in Section D.3 of Appendix D in the EIS. By using the same conceptual designs at all of the sites evaluated in the GTCC EIS, except for cases where a design did not apply (e.g., an intermediate-depth borehole at a site with shallow groundwater), the potential impacts (e.g., radionuclides reaching the groundwater) at the different environmental settings could be readily compared.

In performing these evaluations, a number of engineering measures were included in the conceptual facility designs to minimize the likelihood of contaminant migration from the disposal units. No facility design can guarantee that radionuclide migration from the facility would not occur over and beyond a 10,000-year time period. It was assumed that these measures would perform similarly for all conceptual designs, remaining intact for 500 years after the disposal facility closed. After 500 years, the barriers would gradually fail. To account for these engineered features in the modeling calculations, it was assumed that the water infiltration to the top of the waste disposal area would be zero for the first 500 years and then 20% of the natural rate for the area for the remainder of the time period (through 10,000 years). A water infiltration rate of 20% of the natural rate for the area was only used for the disposal area; the natural background infiltration rate was used at the perimeter of the waste disposal units. Again, this approach enables a comparative evaluation of the influence that site-specific environmental factors would have on the potential migration of radionuclides from the disposal facilities and the potential impacts on human health. It should be emphasized that project- and site-specific engineering factors would be incorporated into the actual facility designs of the site or sites selected in a ROD to dispose of GTCC LLRW and GTCC-like wastes.

DOE recognizes that modeling potential releases of radionuclides from the conceptual disposal sites far into the future approximates what might actually occur. Sufficient detail was included in these designs for use in the EIS analyses, consistent with the current stage of this process. Some of the input values may change in the future and could result in higher impacts (such as from increased precipitation at some sites due to climate change), while others could result in lower impacts (due to decreased precipitation).

DOE believes that 500 years is a realistic time period for the longevity of the types of engineering barriers assumed in the analyses. DOE believes the approach and the assumptions used in the EIS are reasonable for performing the comparative analysis of alternatives required by NEPA. For example, the assumption of a 20% natural background infiltration rate after 500 years was based on a study at SRS that indicated that after 10,000 years, the closure cap at the F-area would still shed about 80% of the cumulative precipitation falling on it, with an effectiveness that would be greater before 10,000 years, then decrease very slowly after 10,000 years. The approach used in the EIS is more conservative than indicated by this study.

Modeling results can be very sensitive to some factors, such as the Kd for a given radionuclide. Care was taken to use average site values for such input parameters for comparison among alternatives. More extensive and detailed sensitivity analysis may need to be conducted during the implementation phase for a GTCC LLRW and GTCC-like waste disposal facility, based on more specific information on the engineering designs of the disposal facilities and their influence on the integrity of waste packages, waste containers, barrier materials, and the surrounding native soil (e.g., location-specific Kd values). However, the results of the evaluation presented in the EIS are sufficient to inform the selection of sites and methods for disposal. Site-specific NEPA reviews would be conducted as needed.

W541-11 Information on waste forms and waste packages and containers is provided in the EIS to allow for a comparative analysis of alternatives for transportation and waste disposal. The specific waste forms and packages used to dispose of GTCC LLRW and GTCC-like wastes would be determined in the future as part of the development of waste acceptance criteria and packaging requirements. See the discussion in Section B.5 and C.9.4.2 of the EIS for more information on packaging requirements. All GTCC LLRW and GTCC-like wastes would be packaged and transported in accordance with all applicable federal, state, and facility requirements.



**DRAFT ENVIRONMENTAL IMPACT STATEMENT for the
DISPOSAL OF GREATER THAN-CLASS C (GTCC) LOW-LEVEL
RADIOACTIVE WASTE AND GTCC-LIKE WASTE
(DOE/EIS-0375-D)
U.S. Department of Energy**

Received
MAY 24 2011

WRITTEN COMMENT FORM
Must be received on or before June 27, 2011

Mr. ___ Mrs. ___ Ms. ___ Mr. & Mrs. (Dr.)
Name: John Tanner
Title: President
Organization: Coalition 21
Address: 2175 Tasman Ave.
City: Idaho Falls State: ID Zip Code: 83404
Phone: 208 529 5605 E-Mail Address: rust@data.wv.net

We completely agree with the Department of Energy's interest in developing a disposal plan for ~~greater than class C nuclear waste. Probably any of the methods and sites presented would be environmentally safe with sufficient research. They vary considerably in the political obstacles. It is DOE's choice what to attempt.~~

Regarding disposal at Idaho's INL, the Idaho Settlement Agreement would need to be renegotiated, and such disposal would be a reversal of DOE's efforts of the past few decades to remove buried waste from the INL. There are similar problems of public perception of the risk of burial over a major aquifer at some of the other sites mentioned in the draft EIS.

The best approach might be storage at the present sites until a geological repository is available for high level waste/spent fuel. That is one more reason for DOE to take the need for such a repository seriously.

Please use other side if more space is needed.

John E. Tanner, Jr.

WITHHOLDING OF PERSONAL INFORMATION: Information you provide on this form may be published as part of the public record for this project, including publication on the Internet. Individual respondents may request confidentiality by checking one of the two boxes below. The DOE will honor such requests to the extent allowed by law. All submission from organizations and businesses, or from individuals identifying themselves as representatives or officials of organizations or businesses, will be available to the public in their entirety.

- Withhold my name and address from the public record.
- Withhold only my address from the public record.

Comment forms may be mailed to: Mr. Arnold Edelman, Document Manager, Office of Regulatory Compliance (EM-43), U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, DC 20585-0119.
Comment form may be faxed to: (301) 903-4303
or sent by electronic mail to: gtccis@anl.gov

- L274-1 Comment noted. DOE believes that the preferred alternative is protective of both the environment and public health and safety.
- L274-2 The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500-1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500-1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INL, LANL, NNSS, SRS, and the WIPP Vicinity, for which two reference locations - one within and one outside the WIPP Land Withdrawal Boundary - were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.
- L274-3 The action alternatives evaluated in the GTCC EIS did not include interim storage of GTCC LLRW and GTCC-like wastes until a geologic repository for spent nuclear fuel and high-level radioactive waste becomes available because such interim storage is outside the scope of the GTCC EIS. The purpose of the GTCC EIS is to evaluate the range of reasonable alternatives for the safe and secure disposal of GTCC LLRW and GTCC-like wastes. The No Action Alternative evaluates continued storage of GTCC LLRW and GTCC-like wastes consistent with ongoing practices.

L274-1

L274-2

L274-3

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MR. BROWN: Thank you. We have Martha Shelley next and then Joe Walsh.

MS. SHELLEY: Hi. I am Martha Shelley. I'm with Code Pink Portland.

AUDIENCE MEMBER: Yes. Right on.

MS. SHELLEY: I would like to say I support the creation of a deep geological repository for existing nuclear waste, and absolutely oppose the building of additional nuclear power plants to create additional nuclear waste. These gentlemen here say that a deep repository was too expensive, it's going to cost two or three billion dollars. This country spends \$120 billion every year on wars in the Middle East, and has since -- what, ten years ago. 120 billion, but we can't put a deep depository in this country for the nuclear waste.

The DOE and the NRC are acting with unbelievable arrogance. You talk about repositories to control waste for 10,000 years. 10,000 years ago people were just hunter, gatherers. Only 5,000 years ago the

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T135-1

T135-2

T135-3

T135-1 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

T135-2 Stopping the construction of additional nuclear power plants which generate nuclear waste is outside the scope of the GTCC EIS, the scope of which is to evaluate disposal alternatives to enable the selection of a safe alternative or alternatives for the disposal of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluates the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes in compliance with the requirements specified in NEPA, the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240), and Section 631 of the Energy Policy Act of 2005 (P.L. 109-58). The GTCC EIS evaluates the potential environmental impacts of the proposed disposal alternatives for GTCC LLRW and GTCC-like wastes. Based on the evaluation, DOE has determined that there are safe and secure alternatives for the disposal of GTCC LLRW and GTCC-like wastes. The GTCC EIS provides information that supports this determination, and, as discussed in Section 1.1, Purpose and Need for Agency Action, DOE is responsible for the disposal of GTCC LLRW and GTCC-like wastes.

T135-3 DOE recognizes that results from modeling potential releases of radionuclides from the conceptual disposal sites far into the future only approximates what could actually occur and is highly uncertain. However, his approach is consistent with NEPA, which requires such analyses to be made to aid in the decision-making process. Analysis of the expected performance of the disposal options used best available data and scientific methods for estimating the performance of the engineered and natural systems, including analysis of the uncertainties associated with estimating performance over long periods of time.

J-108

January 2016

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1 pyramids were boing built. This country, what, 400
2 years old, that Columbus, quote, "discovered"
3 America?

4 We're talking about plutonium. It's the most
5 poisonous substance on the planet. An ounce of it
6 released and disbursed evenly will kill every human
7 being on the planet, one ounce. Its half-life is
8 24,000 years. The amount released in Fukushima is
9 going to be dangerous for up to half a million years.
10 Half a million years ago, there were human beings on
11 the planet living in caves. It was paleolithic
12 times. It took until 10,000 years ago for human
13 beings to start building towns, to start moving away
14 from hunting and gathering into civilized areas.

15 The arrogance to think that you can plan for
16 10,000 years, that you're going to make us safe for
17 10,000 years, is unbelievable. The nuclear industry
18 seems to be willing to poison the entire planet for
19 the next half million years in order to reap
20 short-term profits for the psychopaths that we call
21 CEOs.

22 I don't believe any of your environmental impact
23 statements or charts or statistics. They're no more
24 reliable than the Tokyo Electric Power assurances
25 about the safety of Fukushima or any of the other

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T135-3
Cont.

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Code Pink Portland, Commenter ID No. T135 (cont'd)

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1 power plants over there. They're junk. Your agency
2 has been captured by the people it's supposed to
3 regulate, and if you guys had any conscious, you
4 would quit your jobs and start talking honestly about
5 what could be done about nuclear power.

Colorado State Patrol, Commenter ID No. W339

Abplanalp, Jennifer Marie

From: gtccsiswebmaster@anl.gov
Sent: Wednesday, June 22, 2011 5:09 PM
To: gtccsiswebmaster@anl.gov
Subject: Receipt: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10339

Thank you for your comment, Tammy Ottmer.

The comment tracking number that has been assigned to your comment is GTCC10339. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 22, 2011 05:08:37PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10339

First Name: Tammy
Last Name: Ottmer
Organization: Colorado State Patrol
Address: 15065 S. Golden Road
City: Golden
State: CO
Zip: 80401
Country: USA
Email: tammy.c.ottmer@gmail.com
Privacy Preference: Don't withhold name or address from public record

Comment Submitted:
General comment about the use of RADTRAN, TRAGIS, RISKIND:

Any data generated by these programs is out of date. All of these programs will need to be re-run once they are updated with 2010 census data as well as current routing information.

Questions about submitting comments over the Web? Contact us at: gtccsiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

W339-1 Overall, the total distances travelled for each disposal site considered would not be expected to significantly change from 2008 (date of the TRAGIS routing database used). Minor changes, possibly a few percent (upward for all alternatives), might be expected to occur in the population estimates with the use of updated census information because of the overall increase in the general U.S. population and because all alternatives involve a range of routes and long distances which would negate any sharp increases or decreases in population in localized areas. However, such changes would not affect the relative comparison among alternatives. Any potential site-specific NEPA reviews would use the latest information available.

W339-1

J-111

January 2016

Final GTCC EIS

Appendix J: Comment Response Document

Columbia Ecovillage, Commenter ID No. W487

Abplanalp, Jennifer Marie

From: gtcciswebmaster@anl.gov
Sent: Sunday, June 26, 2011 12:22 AM
To: gtcciswebmaster@anl.gov
Subject: Receipt: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10487

Thank you for your comment, Donald McKinlay.

The comment tracking number that has been assigned to your comment is GTCC10487. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 26, 2011 12:21:33AM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10487

First Name: Donald
Last Name: McKinlay
Organization: Columbia Ecovillage
Address: 4613 NE Killingsworth Street
Address 2: Unit #2
City: Portland
State: OR
Zip: 97218
Country: USA
Email: macmckinlay@comcast.net
Privacy Preference: Don't withhold name or address from public record

Comment Submitted:
It is a crime to transport radioactive waste.

It is a crime to produce radioactive waste that needs to be transported to another location.

It is a crime to increase cancer, birth defects, other diseases, environmental destruction and extinctions through these activities and the promotion of these activities.

Questions about submitting comments over the Web? Contact us at: gtcciswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

W487-1 It is not a crime to transport radioactive waste in the U.S. Its transport is governed by a number of federal regulations. The U.S. Department of Transportation (DOT) and the NRC have primary responsibility for federal regulations governing commercial radioactive materials transportation. Non-DOE shipments of GTCC LLRW from commercial sites would be transported by commercial carriers and would be regulated by DOT and the NRC. In addition, DOE shipments by commercial carriers of GTCC LLRW from commercial sites or of GTCC-like waste from DOE sites would be regulated by DOT and NRC.

DOE has broad authority under the AEA to regulate all aspects of activities involving radioactive materials that are undertaken by DOE or undertaken on its behalf, including the transportation of radioactive wastes. However, in most cases that do not involve national security, DOE does not exercise its authority to regulate DOE shipments and instead utilizes commercial carriers that undertake shipments of DOE materials under the same terms and conditions as those used for commercial shipments. These shipments are subject to regulation by DOT and the NRC. As a matter of policy, however, even in the limited circumstances where DOE exercises its AEA authority for shipments, DOE requirements mandate that all DOE shipments be undertaken in accordance with the requirements and standards that apply to comparable commercial shipments, unless there is a determination that national security or another critical interest requires different action.

W487-2 DOE is responsible under the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240) for the disposal of GTCC LLRW. The purpose of the EIS is to evaluate alternatives for the safe and secure disposal of GTCC LLRW and GTCC-like wastes. Continued storage of GTCC LLRW at the generating facilities was evaluated as part of the No Action alternative. Transportation of GTCC LLRW and GTCC-like wastes from generating facilities to a GTCC LLRW disposal facility is a required component of the disposal process that would be identified for the GTCC LLRW and GTCC-like wastes because the disposal site(s) or location(s) would not be the same as the generator sites for reasons provided in the EIS. DOE believes that the transportation of GTCC LLRW and GTCC-like wastes to a more centralized disposal facility would result in lower overall human health risks compared to managing the wastes at multiple locations and can be conducted in a safe manner based on compliance with comprehensive regulatory requirements and past experiences.

W487-3 Stopping the generation of nuclear waste, the production of nuclear weapons and avoiding or reducing the amount of GTCC LLRW and GTCC-like wastes generated are outside the scope of this EIS, the scope of which is to evaluate disposal alternatives to enable the selection of a safe alternative or alternatives for the disposal of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluates the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes in compliance with the requirements specified in NEPA, the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240), and Section 631 of the Energy Policy Act of 2005 (P.L. 109-58). The GTCC EIS evaluates the potential environmental impacts of the proposed disposal alternatives for GTCC LLRW and GTCC-like wastes. Based on the evaluation, DOE has determined that there are safe and secure alternatives for the disposal of GTCC LLRW and GTCC-like wastes. The GTCC EIS provides information that supports this determination, and, as discussed in Section 1.1, Purpose and Need for Agency Action, DOE is responsible for the disposal of GTCC LLRW and GTCC-like wastes.

W487-1

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W487-3

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MR. BROWN: Thanks very much.

Amy Harwood, and she'll be followed by Janet Johnson.

MS. HARWOOD: My name is Amy Harwood, and I'm here representing Columbia Riverkeeper.

Just short comments, but I do want to share in, echo Jerry's comments and say that we are opposed to additional waste coming to the Hanford Site and support the ongoing cleanup to continue of the existing buried waste.

We have significant concerns about the legacy that this leaves for the communities near and down river from Hanford. We have concerns about the ability for the Department of Energy to fulfill their obligations in the tri-party agreement.

And I'll just say, on a side note, I've been, the last couple of days, going to some high school classes and talking to them about Hanford, and it's resonated to me to see their reactions, some of the high school students' reactions, to this issue. It's sort of shock. I think a

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T15-1 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

T15-2 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.

T15-1

T15-2

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1 lot of them have grown up feeling like Hanford is pretty
2 important to their families, and to think that this is
3 going to get added on to this legacy, it's been
4 interesting seeing some of their reactions.

5 The Hanford Reach is well documented as the only
6 remaining -- as one of the remaining significant spawning
7 grounds for the fall-run Chinook Salmon on the main stem
8 of the Columbia.

9 And I'm sure this isn't news to anyone in this
10 room, but I find it surprising that there is such a lack
11 of information about Department of Energy's ESA
12 obligations for impact several species in the EIS, and we
13 find it unacceptable.

14 Also, the cost reasoning for not considering more
15 appropriate locations in deep geological sites is
16 definitely not reasonable. You said in the presentation
17 that the salt site costs \$2 billion, and yet the VIT plant
18 being built at Hanford is considerably more than that. So
19 I think that that actually came across as sounding like a
20 drop in the bucket.

21 And then, just on a personal note, I split my
22 time between LaGrande, Oregon, and Portland. So I travel
23 on I-84 and I-5 a lot. And I find it really discouraging
24 that it seems as though the analysis for the
25 transportation of this waste is being left up until the

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T15-3 DOE discusses its obligations under the Endangered Species Act in Section 5.2.5 of the Draft EIS. Further consultation with the US Fish and Wildlife Service would occur as necessary as part of site-specific NEPA reviews to implementation of the preferred alternative.

T15-4 DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

T15-5 The routes used in the analysis are considered representative routes because the actual routes used would be determined in the future as discussed in Appendix C of the EIS, Section C.9.4.1.1. For each disposal site such as Hanford, the routes most affected would be the interstate highways that are in closest proximity to the site. Regardless of where the GTCC waste disposal facility is ultimately located, a relatively small amount of GTCC LLRW and GTCC-like wastes may be transported through the Columbia River Gorge on its way to the disposal facility. The waste would be generated within the states of Oregon and Washington and would include actinide sealed sources and Cs-137 irradiators from local medical institutions, research facilities, universities, and other NRC and Agreement State licensees.

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1 site-specific review, and I think that that's an
2 inappropriate place for that analysis to exist.

3 I suspect that, in Portland, you'll hear from
4 people concerned about the fact that these trucks would be
5 going -- potentially going through the city, but then
6 again, we don't even know if that's the case because
7 there's very little recognition of what routes would
8 actually be used.

9 And I think it's sort of a deep irony that the
10 origin of NEPA is from highways being built through
11 neighborhoods and the impact that they would have on
12 people, and yet you have totally left that part out of
13 this EIS, which, to me, seems like something that will
14 actually impact a far greater number of people than even
15 the individual sites that you're considering.

16 I will leave the rest of my comments to be
17 submitted in paper through Columbia Riverkeeper, but
18 thanks a lot.

T15-5
(Cont.)

Columbia Riverkeeper, Commenter ID No. W539

Abplanalp, Jennifer Marie

From: gtceiswebmaster@anl.gov
Sent: Monday, June 27, 2011 2:49 PM
To: mail_gtceisarchives; gtceiswebmaster@anl.gov; gtceis@anl.gov
Subject: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10539
Attachments: GTCC_Comments_Dan_FINAL_GTCC10539.pdf

Thank you for your comment, Daniel Serres.

The comment tracking number that has been assigned to your comment is GTCC10539. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 27, 2011 02:48:49PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10539

First Name: Daniel
Middle Initial: R
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City: Hood River
State: OR
Zip: 97021
Country: USA
Email: dserres@gmail.com
Privacy Preference: Don't withhold name or address from public record
Attachment: GTCC Comments Dan FINAL.pdf

Comment Submitted:
Please see the attached comments of Columbia Riverkeeper with regard to the Draft Environmental Impact Statement for Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D).

Questions about submitting comments over the Web? Contact us at: gtceiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

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January 2016

Columbia Riverkeeper, Commenter ID No. W539 (cont'd)



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June 23, 2011

Greater-Than-Class C Low-Level Radioactive Waste EIS
Office of Technical and Regulatory Support (EM-43)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585-0119

Via Email and U.S. Mail

RE: Public Comments on the Draft Environmental Impact Statement for Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D)

Dear Mr. Edelman and Office of Technical and Regulatory Support (EM-43):

On behalf of Columbia Riverkeeper, please accept the following public comments on the DEIS for the Disposal of Greater-Than-Class-C (GTCC) and GTCC-like wastes.

I. COLUMBIA RIVERKEEPER'S COMMITMENT TO PROMPT, EFFECTIVE CLEANUP AT HANFORD

Columbia Riverkeeper is a 501(c)(3) nonprofit organization with thousands of members in Washington and Oregon. Our mission is to protect and restore the Columbia River, from its headwaters to the Pacific Ocean. Since 1989, Columbia Riverkeeper has played an active role in monitoring and improving cleanup activities at the Hanford Nuclear Reservation (Hanford). A legacy of the Cold War, the Hanford site continues to leach radioactive pollution into the Columbia River. Hanford's legacy is not a local issue. Nuclear contamination from Hanford threatens the Pacific Northwest's people, a world-renowned salmon fishery, and countless other cultural and natural resources.

Each summer Columbia Riverkeeper leads a series of kayak trips on the Hanford Reach of the Columbia River. During these trips, Columbia Riverkeeper's staff and members tour areas of the Hanford Reach that are currently being polluted by excessive levels of radioactive contaminants. The Hanford Reach is particularly unique because it is the last free-flowing stretch of the Columbia River. For example, during a trip on July 17, 2010, Riverkeeper's staff and members observed over a dozen salmon &/or steelhead while kayaking past the Hanford site. On these educational tours, our members learn

W539-1 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

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Columbia Riverkeeper, Commenter ID No. W539 (cont'd)

about the Endangered Species Act-listed salmon and steelhead that spawn, rear, and migrate in the Hanford Reach.

Columbia Riverkeeper's staff and members are dedicated to a long-term solution for Hanford cleanup and adamantly oppose the importation of additional radioactive or chemical wastes to the Hanford site. Consistent with these values, we urge the Department of Energy to remove Hanford from the list of sites being considered for disposal of GTCC and GTCC-like wastes.

II. PROPOSED U.S. DEPARTMENT OF ENERGY ACTION AND THREATS POSED BY IMPORTATION OF NEW WASTE

A. The U.S. Department of Energy's Proposal.

U.S. DOE is considering multiple sites and methods for the disposal of GTCC and GTCC-like wastes. Hanford is one of six federal sites being considered for disposal of some or all of the GTCC waste. The GTCC DEIS ("DEIS") does not identify a preferred alternative for either the location or method of GTCC and GTCC-like wastes. Rather, USDOE considered multiple sites and methods for disposal in addition to deep geologic disposal, which is the recommended method for disposal for GTCC waste.

At the Hanford site, DOE proposes three different methods of disposal – boreholes, trenches, and vaults. The proposed location for the disposal activities is not specifically identified, but USDOE generally intends to use land south of Hanford's 200 East area. Hanford's 200 Area is already characterized by high levels of soil, soil-water, and groundwater contamination. Indeed, over 80 square miles of the Hanford site already exceed legal standards for groundwater contamination. USDOE's proposal to introduce more waste into trenches, boreholes, and vaults at the site will contribute to added long-term contamination of groundwater.

As described in greater detail below, all of the disposal options identified for Hanford fail to achieve an adequate level of containment for highly radioactive GTCC wastes. GTCC and GTCC-like wastes contain long-lived and mobile contaminants that are not suitable for near-surface disposal. USDOE considers other options – both in disposal method and location – for GTCC and GTCC-like wastes. CRK supports the use of deep geologic disposal for the waste streams identified in the GTCC DEIS. Although the DEIS considers potential deep geologic disposal at the Waste Isolation Pilot Plant (WIPP) in New Mexico, this location cannot currently accept non-defense related wastes under existing law. Hence, USDOE fails to identify an adequate range of alternatives for deep geologic disposal of GTCC wastes.

B. Threats Posed by GTCC and GTCC-like Waste Disposal Options

GTCC and GTCC-like wastes contain long-lived and mobile contaminants, such as Technetium-99, Cesium-137, plutonium, americium, and curium.¹ As noted in the

W539-1
(Cont.)

W539-2

W539-3

W539-4

W539-2 DOE has considered cumulative impacts at the Hanford Site in this GTCC EIS. The disposal of GTCC LLRW and GTCC-like waste at the Hanford Site could result in environmental impacts that may warrant mitigation for Tc-99 and I-129 through limiting receipt of these waste streams (see Table 6.2.4.2 and Figure 6.2.4.1 in this EIS).

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

W539-3 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

W539-4 Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

EIS, groundwater in Hanford's 200 Area already exceeds drinking water standards for chemical and radioactive contamination. Ultimately, this groundwater migrates to the Columbia River. Plant, animal, and aquatic life at the Hanford site and in the Columbia River – in addition to downstream human communities – face direct contamination risks from radiological and chemical wastes already at the Hanford site. Because of the long-lived and mobile nature of the GTCC wastes proposed for disposal at Hanford, USDOE's disposal options at the Hanford site are unacceptable and do not protect human health and the environment.

Importation of GTCC and GTCC-like wastes would involve the importation and disposal in near-surface environments of highly dangerous waste. GTCC waste contains contaminants such as uranium, Te-99, and I-129 -- all of which are already present at excessive levels in Hanford groundwater. The DEIS estimates that the peak annual risk to human health and the environment will reach high levels when combined with existing risks at the Hanford site -- 48 mrem/year for trench disposal and 49 rem/year for vault disposal.³ Worse yet, the peak ground water dose for vaults and trenches is roughly 600 mrem/year -- a level that poses a serious risk to human health.

Disturbingly, the peak risk for added GTCC wastes would compound the risks that already exist at the Hanford site from groundwater pollution. The existing risk is a major human health and environmental risk, and it is the subject of a major cleanup operation at the Hanford site. Proposals to add more radioactive waste to the Hanford site -- like the current USDOE proposal to dispose of GTCC waste at Hanford -- undermine the efficacy and momentum behind cleanup efforts.

III. COMMENTS ON MAJOR FLAWS IN USDOE ANALYSIS

Columbia Riverkeeper opposes the disposal of off-site GTCC and GTCC-like wastes at the Hanford site. DOE's analysis does not provide an adequate range of alternatives for using the correct disposal method -- deep geologic disposal. The following comments address some of the specific problems with the disposal of GTCC and GTCC-like wastes at Hanford.

A. EIS Understates the Risk from Borehole Disposal Method at Hanford

USDOE's analysis presents highly diverging estimates of radioactive doses from trench disposal, above-ground vaults, and intermediate depth borehole disposal. The DEIS presents estimates of radioactive risks that differ by an order of magnitude between trenches and boreholes, yet the DEIS does not present an adequate explanation for this discrepancy. Simply put, it appears that USDOE is sharply underestimating the risk from borehole disposal of GTCC and GTCC-like wastes.

In particular, USDOE's analysis underestimates the risks from borehole disposal methods that will likely directly contribute to direct dose risks as well as long-term groundwater contamination by GTCC wastes. Hanford has a long history of contamination arising from waste disposal methods that introduced radioactive materials

W539-5

W539-5 The GTCC EIS evaluates the transportation impacts from the shipments that would be required to dispose of the entire inventory of GTCC LLRW and GTCC-like wastes at the Hanford Site and all the other sites being evaluated.

The GTCC EIS evaluates collective population risks during routine conditions and accidents, radiological risks to the highest exposed individuals during routine conditions, and consequences to individuals and populations as a result of transportation accidents, including the release of radioactive or hazardous chemical materials. For the truck option, it is estimated that about 12,600 shipments resulting in about 50 million km (30 million mi) of travel would be required. This transport of GTCC LLRW and GTCC-like wastes would not result in any LCFs, although one fatality directly related to an accident might occur (see Section 6.2.9.1).

In addition, Chapter 6 of the TC&WM EIS also has evaluated cumulative impacts addressing disposal of potential future wastes (including GTCC LLRW and GTCC-like waste) at the Hanford site.

W539-6

W539-6 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

W539-7

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

into the soil column. Boreholes are likely to be roughly as dangerous as trenches and vaults in the long-term. Because GTCC wastes contain long-lived and potentially mobile contaminants such as uranium, USDOE cannot reasonably anticipate boreholes to be significantly more effective at reducing risks than trenches and vaults. Over the thousands of years where highly radioactive GTCC waste will remain dangerous, none of these storage options are likely to remain robust.

Additionally, the groundwater risks posed by borehole disposal are estimated to be 1/3rd the level of trenches and vaults. The groundwater dose for uranium, alone, is anticipated to be 200 mrem/year for borehole disposal and 600 mrem/year for trenches and vaults. Again, the discrepancy between the dose estimates is too large, given that the long-lived and mobile nature of uranium will cause any of the non-geologic disposal options to fail over the thousands of years that uranium will remain dangerous. Regardless, all of the estimated dose rates for groundwater are unacceptably high. USDOE's own analysis demonstrates that the risk of disposal in boreholes, trenches or vaults will harm human health and the environment.

USDOE also makes a critical error in assuming that engineered barriers will remain effective for hundreds of years. According to USDOE's analysis, "it is assumed that the engineered barriers (including the cover) would remain effective for the first 500 years after closure of the disposal facility and that during this time, essentially no infiltrating water would reach the wastes from the top of the disposal facility."ⁱⁱⁱ USDOE fails to account for the high potential for lateral groundwater flow to occur and to increase over time. USDOE states that radionuclides underneath engineered barriers will be "available" to infiltrating water after 500 years. Realistically, the barriers may fail sooner than 500 years, increasing the risk to the environment and the public from some of the more short-lived radionuclides (such as Cesium) that may be contained in GTCC wastes.

B. Lack of integration of TC/WM EIS information

USDOE's proposal to bring GTCC waste into Hanford directly conflicts with USDOE's own analysis produced in the Tank Closure and Waste Management (TC&WM DEIS). According to the GTCC DEIS, "DOE announced in the December 18, 2009, *Federal Register* (74 FR 67189) that its preferred alternative in the Draft Tank Closure and Waste Management (TC&WM) EIS (DOE 2009) includes not shipping GTCC LLRW to Hanford at least until the Waste Treatment Plant is operational." Given the previous clear indication from the TC&WM EIS, the Hanford site should not be considered a reasonable alternative for disposal of GTCC wastes.

USDOE briefly acknowledges but does not fully incorporate the analysis conclusions of the TC& WM DEIS in its evaluation of GTCC waste options. For example,

For the Hanford Site, as stated in the *Draft Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington*

W539-7 The EIS analyses are based on conceptual engineering information and necessitated the use of a number of simplifying assumptions. This approach is consistent with NEPA, which requires such analyses to be made early in the decision-making process. The various land disposal conceptual designs were assumed to be constructed and operated in a comparable manner at each of the various sites. Information on the conceptual engineering designs for the three proposed land disposal methods is provided in Section D.3 of Appendix D in the EIS. By using the same conceptual designs at all of the sites evaluated in the GTCC EIS, except for cases where a design did not apply (e.g., an intermediate-depth borehole at a site with shallow groundwater), the potential impacts (e.g., radionuclides reaching the groundwater) at the different environmental settings could be readily compared.

In performing these evaluations, a number of engineering measures were included in the conceptual facility designs to minimize the likelihood of contaminant migration from the disposal units. No facility design can guarantee that radionuclide migration from the facility would not occur over and beyond a 10,000-year time period. It was assumed that these measures would perform similarly for all conceptual designs, remaining intact for 500 years after the disposal facility closed. After 500 years, the barriers would gradually fail. To account for these engineered features in the modeling calculations, it was assumed that the water infiltration to the top of the waste disposal area would be zero for the first 500 years and then 20% of the natural rate for the area for the remainder of the time period (through 10,000 years). A water infiltration rate of 20% of the natural rate for the area was only used for the disposal area; the natural background infiltration rate was used at the perimeter of the waste disposal units. Again, this approach enables a comparative evaluation of the influence that site-specific environmental factors would have on the potential migration of radionuclides from the disposal facilities and the potential impacts on human health. It should be emphasized that project- and site-specific engineering factors would be incorporated into the actual facility designs of the site or sites selected in a ROD to dispose of GTCC LLRW and GTCC-like wastes.

DOE recognizes that modeling potential releases of radionuclides from the conceptual disposal sites far into the future approximates what might actually occur. Sufficient detail was included in these designs for use in the EIS analyses, consistent with the current stage of this process. Some of the input values may change in the future and could result in higher impacts (such as from increased precipitation at some sites due to climate change), while others could result in lower impacts (due to decreased precipitation).

DOE believes that 500 years is a realistic time period for the longevity of the types of engineering barriers assumed in the analyses. DOE believes the approach and the assumptions used in the EIS are reasonable for performing the comparative analysis of alternatives required by NEPA. For example, the assumption of a 20% natural background infiltration rate after 500 years was based on a study at SRS that indicated that after 10,000 years, the closure cap at the F-area would still shed about 80% of the cumulative precipitation falling on it, with an effectiveness that would be greater before 10,000 years, then decrease very slowly after 10,000 years. The approach used in the EIS is more conservative than indicated by this study.

Estimated radiation doses and LCFs were calculated for each site and disposal concept for 10,000 years, and if the peak impact did not occur during this time frame, the analysis was extended out to 100,000 years. DOE believes that the assumptions made to support the long-term modeling calculations for the groundwater pathway are reasonable and enable a comparative evaluation of the impacts between alternatives. The results of the evaluation presented in the EIS are sufficient to inform the selection of sites and methods for disposal. Site-specific NEPA reviews would be conducted as needed.

W539-8 See response to W539-1.

(DOE 2009), when the impacts of technetium-99 from past leaks and cribs and trenches (ditches) are combined, DOE believes it may not be prudent to add significant additional technetium-99 to the existing environment. Therefore, one means of mitigating this impact would be for DOE to limit disposal of off-site waste streams containing iodine-129 or technetium-99 at Hanford.

GTCC DEIS at S-50. USDOE does not propose a reasonable method of limiting GTCC imported waste to sources without Tc-99 or I-129. The DEIS should provide specific mitigation measures that directly address how problem contaminants – those that are long-lived, mobile, and already posing a threat to groundwater and the Columbia River – will be excluded from GTCC wastes that could come to the Hanford site.

Additionally, USDOE's analysis fails to fully account for the cumulative burden of other chemical and radioactive contaminants that remain on the Hanford site, for which cleanup has thus far been unsuccessful. For example, the uranium dose for groundwater from GTCC waste presents a significant risk on its own, but it is likely to be much worse when combined with the significant uranium contamination that already exists on the Hanford site. The TC&WM DEIS predicts that uranium contamination will be a major risk to public health and the environment for thousands of years.

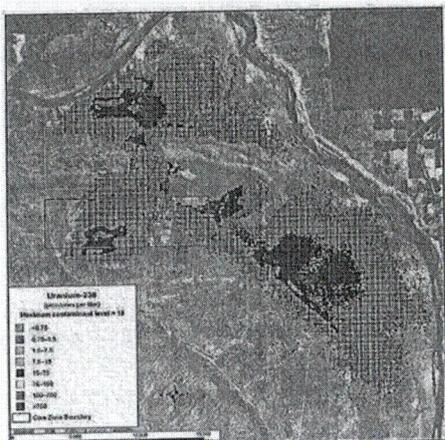


Figure U-25. Spatial Distribution of Groundwater Uranium-238 Concentration (Non-TC & WM Sources), Calendar Year 2135

W539-9 Information on waste forms and waste packages and containers is provided in the EIS to allow for a comparative analysis of alternatives for transportation and waste disposal. Treatment of the wastes prior to disposal is outside the scope of the EIS. Such treatment is assumed to be addressed prior to receipt of the waste at the GTCC LLRW and GTCC-like waste disposal facility. DOE agrees that it is important to immobilize long-lived radionuclides such as Tc-99 and I-129 prior to disposal. Solidification techniques (e.g., use of grout) are expected to immobilize certain wastes in the GTCC LLRW and GTCC-like waste inventory. If needed, the actual stabilization methods used will depend, in part, on the waste stream, packaging, and final disposal facility design. DOE considers the assumptions used for waste form stability (see Appendix B) to be reasonable for purposes of the comparative analysis provided in the EIS.

The waste characteristics and physical form would have to meet the disposal facility waste acceptance criteria. It is expected that these waste acceptance criteria would identify requirements (such as allowable concentrations) for individual radionuclides, including Tc 99 and I-129. The specific waste forms and packages used to dispose of GTCC LLRW and GTCC-like wastes would be determined in the future as part of the waste acceptance criteria and packaging requirements developed. See the discussion in Section B.5 and C.9.4.2 of the EIS for more information on packaging requirements. All GTCC LLRW and GTCC-like wastes would be packaged and transported in accordance with all applicable federal and state requirements, and waste disposal activities would be conducted in accordance with appropriate requirements

W539-10 See response to W539-2.

TC&WM DEIS, Appendix U-26.

USDOE appears to use different modeling methodology for its GTCC DEIS than it did for the TC&WM DEIS. The TC&WM DEIS used a more sophisticated modeling approach to predict long-term contamination risks (such as the uranium contamination depicted above). The discrepancy between the methods used in the two NEPA analyses should be resolved by USDOE adopting the more rigorous approach. Because the more rigorous modeling approach is readily available (and has been used by USDOE, itself), the current GTCC DEIS is deficient and does not use the best available science. We oppose the consideration of Hanford as a GTCC waste disposal option. However, if USDOE is going to continue to consider Hanford as a possible disposal location, the agency should, at the very least, incorporate the most detailed and thorough analysis available.

C. Lack of specific information about transportation routes and risks of transportation of GTCC and GTCC-like wastes

The proposed plan acknowledges that disposal of GTCC wastes will require at least 12,000 truckloads of highly radioactive waste. The GTCC DEIS does not identify specific routes and the proportion of wastes likely to travel those routes. Without specific information about the routes that would be necessary for shipping GTCC wastes, the public cannot meaningfully weigh the relative risks between different disposal locations. For example, if waste generated in California were to be shipped to Hanford, the highly populated I-5 corridor could be used.

NEPA requires USDOE to disclose the potential impacts of its proposed action. The lack of detailed information about potential shipping routes has generated significant confusion and concern in communities near the Columbia River. The I-84 corridor through the scenic Columbia River Gorge is narrow, busy, and home to thousands of Oregonians and Washingtonians. The main highways through the Gorge pass through the center of cities like The Dalles, Bingen, White Salmon, and Hood River. The public has a right to know precisely how many shipments would be routed through specific cities and towns.

In general, cross-country shipments of GTCC waste to Hanford represent a significant risk to the public, and one that is dramatically understated in the GTCC DEIS. The DEIS essentially dismisses the potential for a radiological release from an accident or attack on a nuclear waste shipment. When combined with the lack of specific shipping route information, this underestimation of the risk of an accident or attack prevents the public from getting a realistic picture of the transportation risks associated with the shipment of GTCC wastes. USDOE should revise and re-issue the GTCC DEIS in a form that includes detailed analysis of transportation risks, specific to the potential use of the Hanford site and the routes that approach the site.

W539-11

W539-12

W539-13

W539-14

W539-11 A more sophisticated modeling approach would not provide any appreciable difference in the overall modeling results for the GTCC EIS. The specific locations that would be used at each potential site for development of a disposal facility for GTCC LLRW and GTCC-like wastes are not known at this time. The use of "reference locations" was used in the EIS to allow for a quantitative assessment of the impacts that could occur at each site. While some parameters could change within a short distance, most would not. For consistency across potential disposal sites, the RESRAD-OFFSITE computer code was used to model the migration of radionuclides from the GTCC LLRW and GTCC-like wastes placed into the conceptual disposal facility designs for the three land disposal methods (not all three methods were evaluated for each site). Site-specific information provided by technical staff from various sites that were evaluated was used in these modeling analyses to the extent it was available, and conservative assumptions were used to fill any remaining data gaps. While the computer model was largely developed to support environmental restoration activities, it has a number of features that make it a good choice for use in this EIS.

The RESRAD-OFFSITE code, like all codes, has limitations. This code was selected for the GTCC EIS analysis because of its manageable number of input parameters, its comprehensive transport analysis for radionuclides in the unsaturated zones and saturated zone, and its flexibility in accepting radionuclide release rates calculated outside the RESRAD-OFFSITE framework. Furthermore, the RESRAD-OFFSITE code has been benchmarked with other computer codes. The results obtained from the code are considered to be technically sound estimates.

The analysis presented in the EIS is adequate for the comparison of the disposal alternatives evaluated. Fate and transport parameters utilized in the estimations were based on site-specific (e.g., specific to the reference location to the extent available) information and, as such, are considered reasonable for the purpose of the comparison made in the EIS. However, DOE recognizes that additional project- and site-specific information and modeling could be used to inform the implementation of a disposal facility at a given location. This additional information is expected to reduce the uncertainty associated with these types of evaluations to the extent possible. Site-specific information would be evaluated in any site-specific NEPA review that would be conducted based on a ROD for this EIS.

W539-12 The primary radiological transportation risk to the public for any alternative is from the low level of radiation emanating from the transport vehicle. As discussed in Section 5.3.9.1, the collective population risk is a measure of the total risk posed to society as a whole. A comparison of the collective population risk provides a meaningful evaluation of the relative risks between disposal locations, as provided in Tables 2.7 5 and 2.7 6. The magnitude of the collective population risk is primarily determined by the number of routes, the length of each route, the number of shipments along each route, the external dose rate of each shipment, and the population density along a given route. The primary differences between alternatives from the standpoint of transportation are the lengths of the routes as determined by the location of the disposal sites (destination of the shipments). Thus, higher collective population risks are associated with alternatives that require transportation over longer distances. All alternatives involve routes that have similar characteristics, with no significant differences for comparison among alternatives, requiring transportation through a range of rural and urban areas. In addition, the routes used in the analysis are considered representative routes because the actual routes used would be determined in the future as discussed in Appendix C, Section C.9.4.1.1. For each disposal site, the routes most affected would be the interstate highways that are in closest proximity to the site.

D. Excessive Long-Term Cumulative Risk to the Columbia River and Human Health

The proposed plan for sending GTCC waste to Hanford must be considered in tandem with other proposals to store, treat, and ship additional waste to the site. For example, USDOE has proposed shipping over 3 million cubic feet of highly radioactive waste to the Hanford site in addition to the GTCC waste disposal plan. The GTCC DEIS must account for the cumulative impacts of all waste disposal activities proposed for the site. Clearly, according to the TC&WM DEIS, contamination at the site already exceeds levels that are acceptable for human health and the environment. USDOE must take a comprehensive, coordinated look at the impacts of contamination at the Hanford site as well as waste that could be added to the site.

Already, members of the public and tribal members who consume large quantities of fish from the Columbia River experience increased rates of cancer. Columbia River salmon carry a toxic burden, not only from Hanford, but also from other industrial and agricultural activities throughout the basin. USDOE must evaluate how GTCC wastes, which would ultimately reach groundwater and the Columbia River, would contribute to an already impaired River system and the health of those who use the River.

In the long-term, USDOE states that it evaluates risk based on a resident farmer scenario. Presumably, because institutional controls cannot be relied upon to fully control the site, USDOE must evaluate the risk to the public from using groundwater for crop irrigation, drinking water, and other purposes. Moreover, the State of Oregon has recently adopted enhanced fish consumption standards intended to reduce toxic pollution into the Columbia River. We urge USDOE to incorporate into its revised GTCC DEIS assumptions that reflect a higher level of fish consumption. Columbia River Treaty Tribes must be engaged in this process, and USDOE should incorporate the site-specific impact assessments that have been developed for the Hanford site before giving Hanford consideration as a disposal site for GTCC and GTCC-like wastes.

E. Failure to Consult Under Section 7 of the Endangered Species Act.

USDOE is largely dismissive of potential impacts to fish and wildlife species from the importation of GTCC and GTCC-like wastes to Hanford and the disposal of these wastes in trenches, vaults, or boreholes. USDOE states,

Impacts on these species would likely be small, since the area of habitat disturbance would be small relative to the overall size of such habitat in the area. Several federally listed or state-listed bird and mammal species occur within the GTCC project areas at the Hanford Site, SRS, LANL, and NNSS. Impacts on these species would likely be small, since the area of habitat disturbance would be small relative to the overall size of such habitat in the area. Adverse impacts would be minimized by conducting biological surveys in the project area and using good engineering practices to minimize impacts on the environment.

W539-15

W539-13 Calculation of the collective population risk (under routine and accident conditions) is provided in the EIS. While these estimates are conservative, the calculations used expected values where practical (e.g., external shipment dose rates) and provide a reasonable measure for comparison among alternatives, as summarized in Tables 2.7 5 and 2.7 6, and the estimates show that the transportation risks would be small. All alternatives involve routes of hundreds of miles through similar types of rural, suburban, and urban areas. For specific local impacts, Section 5.3.9.2 provides information on potential human health impacts on individuals during normal waste transport along a route. However, the consideration of specific local stakeholder concerns is more appropriate during the final planning stages of a project when actual route selections are finalized, not at the level addressed in this EIS. A generic accident consequence assessment was performed because there is no way to predict the exact location and conditions of an accident, as discussed in C.9.3.3 of the EIS. For all alternatives, potential accidents, even those at the same location, could have impacts that range from negligible to significant depending on the waste involved, the accident severity, and weather conditions. Such an analysis would not help distinguish between alternatives because all alternatives involve routes through or near sensitive areas and major population centers.

W539-16

All information necessary to duplicate the transportation accident consequence assessment was available in Section 5.3.9.3 of the Draft EIS, with the exception of the source terms used for the contact-handled and remote-handled Other Waste. These latter source terms have been added to Section 5.3.9.3 of the Final EIS. The accident risk analysis (see Section C.9.3.1) is separate from the accident consequence analysis (see Section C.9.3.3). All relevant data for the accident risk analysis, with the exception of the shipment source terms and route information, are provided in Section C.9.3. Approximately 1,200 routes were considered in this analysis, so it was not considered practical to include this information in the EIS. Such information is readily available by using the TRAGIS routing model, as referenced in Appendix C. Shipment-specific source terms were determined by dividing the origin source inventory by the number of shipments from that site. Site inventories were published in Sandia (2007, 2008), as referenced in Appendix B, which also contains the per-shipment packaging assumptions for each waste type. The shipment-specific source terms were omitted from the EIS for brevity and because of the low estimated impacts.

W539-17

Once an alternative is selected in a ROD for this EIS for implementation, site-specific NEPA reviews would be conducted as needed, including an assessment of specific routing and an accident analysis. This process will include planning that involves transportation stakeholders.

W539-14 A generic accident consequence assessment was performed because there is no way to predict the exact location and conditions of an accident, as discussed in C.9.3.3 of the EIS. For all alternatives, potential accidents, even those at the same location, could have impacts that range from negligible to significant depending on the waste involved, the accident severity, and weather conditions. Such an analysis would not help distinguish between alternatives because all alternatives involve routes through or near major population centers. All information necessary to duplicate the transportation accident consequence assessment was available in Section 5.3.9.3 of the Draft EIS, with the exception of the source terms used for the contact-handled and remote-handled Other Waste. These latter source terms have been added to Section 5.3.9.3 of the Final EIS.

GTCC DEIS at S-43. USDOE does not provide adequate specificity to warrant the conclusion that fish and wildlife impacts would be minor. Indeed, as demonstrated in the previous TC&WM DEIS, the Columbia River and the surrounding environment at the Hanford site face contamination risks for thousands of years already. USDOE has not undertaken an adequately detailed review of how GTCC waste will exacerbate ecological risks to fish and wildlife at the Hanford site, which is important habitat for multiple federally listed fish and wildlife species.

As Columbia Riverkeeper has noted in many previous comments, USDOE is required to consult with the federal expert agencies when a federal action at Hanford may affect federally-listed endangered or threatened species. See Columbia Riverkeeper Comment on USDOE Mercury Storage at Hanford (Aug. 2009); Columbia Riverkeeper Comment to USDOE on Tri-Party Agreement Proposed Changes and Consent Decree (Dec. 2009); Columbia Riverkeeper Comment on USDOE Tank Closure Waste Management Environmental Impact Statement (May 2010). Pursuant to Section 7 of the Endangered Species Act (ESA), USDOE must consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) to determine how the proposed action may affect any threatened or endangered species in the Hanford Reach of the Columbia River.

i. Endangered and Threatened Salmon and Steelhead in the Hanford Reach.

Among the forty-three species of fish present in the Hanford Reach are several endangered species, including the Upper Columbia River spring-run Chinook salmon and steelhead ESUs. For thousands of years, the Columbia River supported the most abundant salmon runs on Earth.¹⁴ Beginning in the late 1990s, the National Marine Fisheries Service listed thirteen stocks of migratory salmonids as threatened or endangered under the Endangered Species Act. These fish spend part of their life-cycle in the Columbia River and its tributaries and part of their life in the Pacific Ocean, eventually returning to the Columbia to reproduce and die.

The Hanford Reach is well documented as the only remaining significant spawning ground for the fall run Chinook salmon on the mainstem of the Columbia River.¹⁵ According to the U.S. Fish and Wildlife Service, "[t]he [Hanford] Reach contains islands, riffles, gravel bars, oxbow ponds, and backwater sloughs that support some of the most productive spawning areas in the Northwest, including the largest remaining stock of wild fall Chinook salmon in the Columbia River."¹⁶ The fall Chinook salmon that spawn and rear throughout the Hanford Reach support in-river commercial and tribal fisheries, commercial fisheries in the North Pacific Ocean, and sport fisheries.¹⁷

In addition to fall run Chinook salmon, the Hanford Reach also supports over forty other species of fish, including sturgeon, steelhead, and bull trout. The prevalence of endangered and threatened fish in the Hanford Reach raises serious questions about the current and future impacts of Hanford's pollution legacy and USDOE's decisions that impact how much pollution will enter the Columbia for generations. Importantly,

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The accident risk analysis (see Section C.9.3.1) is separate from the accident consequence analysis (see Section C.9.3.3). All relevant data for the accident risk analysis, with the exception of the shipment source terms and route information, are provided in Section C.9.3. Approximately 1,200 routes were considered in this analysis, so it was not considered practical to include this information in the EIS. Such information is readily available by using the TRAGIS routing model, as referenced in Appendix C. Shipment-specific source terms were determined by dividing the origin source inventory by the number of shipments from that site. Site inventories were published in Sandia (2007, 2008), as referenced in Appendix B, which also contains the per-shipment packaging assumptions for each waste type. The shipment-specific source terms were omitted from the EIS for brevity and because of the low estimated impacts.

The analysis of intentional destructive acts is given in Section 2.7.4.3 of the EIS. This analysis provides a perspective on the risks that the GTCC LLRW and GTCC-like wastes could pose should such an act occur. In general, the risk presented from an intentional destructive act is similar to that from a high-severity transportation accident. The accident consequence assessment (given in Section 5.3.9.3 of the Final EIS) presents the results for transportation accidents that fall into the highest severity category. The severe environment that occurs under such conditions can be considered to be similar to that which could be initially instigated by an act of sabotage. In highly populated areas, where the highest exposures would be anticipated, a rapid response would be expected, minimizing the amount of time available to fully breach a Type B package. Should such shipments be diverted and the radioactive material removed for dispersion, higher exposures could be achieved, and potential impacts could be significant. The economic impact could reach several billions of dollars. The extent of the impacts would depend on the exact location of the release, density of the surrounding population, local meteorology, and emergency response capabilities in the affected area. In addition, the final transportation routes will not be selected until a ROD for the EIS is issued and site-specific NEPA review would be conducted as needed.

W539-15 See response to W539-5.

W539-16 All relevant potential exposure pathways were considered in the analyses presented in the EIS, including impacts from surface runoff and airborne emissions. These analyses addressed a range of reasonable scenarios and estimated the potential impacts on all environmental resources consistent with NEPA requirements. For the human health assessment, the focus was on the groundwater pathway, since this is the most likely manner in which someone could be exposed to the radioactive contaminants in the GTCC LLRW and GTCC-like wastes in the distant future. As discussed in Section 2.7.4.2, the hypothetical resident farmer scenario was only used to provide estimates for comparing the various sites evaluated; however, this scenario may not be consistent with the reasonably foreseeable future scenario at some of the sites evaluated. Site-specific NEPA reviews would be conducted as needed. This information could include sensitive subpopulations and specific pathways of exposure for American Indians. In a similar fashion, additional cumulative impacts analyses would be conducted by using additional site-specific information when the location selected for a GTCC LLRW and GTCC-like waste disposal facility was determined.

W539-17 All relevant potential exposure pathways were considered in the analyses presented in the EIS. These analyses addressed a range of reasonable scenarios and estimated the potential impacts on all environmental resources, including ecological resources, consistent with NEPA requirements. DOE discusses its obligations under the Endangered Species Act in Section 5.2.5 of the Draft EIS. Further consultation with the US Fish and Wildlife Service and/or the National Marine Fisheries Service would occur as necessary as part of site-specific NEPA review to implementation of the preferred alternative.

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strontium-90, uranium, chromium and other contaminants are documented entering salmon spawning grounds along the Hanford Reach,^{viii} GTCC waste disposal at Hanford will ultimately add to this existing contamination burden.

ii. USDOE Must Consult Under ESA § 7.

Section 7 of the Endangered Species Act (ESA), the heart of the ESA's requirements for federal actions, imposes strict substantive and procedural duties on federal agencies to ensure that their activities do not cause jeopardy to listed species or adverse modification to their critical habitat. 16 U.S.C. § 1536(a)(2). Not satisfied that federal agencies possessed the requisite expertise, Congress added a strict procedural requirement: that the determination of whether any federal action would be likely to result in jeopardy or adverse modification would be made "in consultation with and with the assistance of [the Services]." *Id.* This mandatory consultation is the key to section 7; in fact, Congress titled Section 7, "Interagency Cooperation."

Section 7 embodies another safeguard to protect against substantive jeopardy. Section 7 requires federal agencies—action and expert agencies alike—to use the best available scientific information in meeting their section 7 obligations. The agencies are generally the repositories of the best scientific evidence given their role in listing threatened and endangered species, in conducting section 7 consultations, in issuing incidental take permits and statements, and in developing recovery plans.

The ESA mandates consultations to ensure that an agency action "is not likely to jeopardize the continued existence of any" listed species or adversely modify critical habitat. 16 U.S.C. § 1536(a)(2). Regulations require such consultations whenever an action "may affect" a listed species. See 50 C.F.R. § 402.14. Where an action is "likely to adversely affect" a listed species, the agency must conduct formal consultation with the National Marine Fisheries Service (NMFS) and/or the U.S. Fish and Wildlife Service (USFWS) (collectively "the Services"). The end product of formal consultation is a biological opinion in which the Services determine whether the action will cause jeopardy to the species or adversely modify designated critical habitat. 16 U.S.C. § 1536(b).

In their joint consultation regulations, NMFS and the FWS established a preliminary review that can be used to sidestep formal consultation in limited situations. For all actions that "may affect" a listed species, the action agency must determine whether the action is "likely to adversely affect" or "not likely to adversely affect" the listed species. 50 C.F.R. § 402.14(a)-(b). An action that is "likely to adversely affect" a listed species or its critical habitat must undergo formal consultation that culminates with the services' issuance of a biological opinion that complies with the ESA and regulatory requirements. *Id.* §§ 402.02, 402.14(a).

Under the joint regulations, a "not likely to adversely affect" determination can lead instead to an informal consultation, which consists of all discussions and communications between the agencies and ends with the Services' written concurrence in that determination. *Id.* § 402.13. If the expert agency does not concur, the action is

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Columbia Riverkeeper, Commenter ID No. W539 (cont'd)

W539-18 Comment noted.

deemed "likely to adversely affect" and the agencies must conduct a formal consultation. *Id.* §§ 402.02, 402.14(a). Use of informal consultation is optional in those instances where it is available.

An agency may avoid "consultation only when it has determined the proposed action is unlikely to adversely affect the protected species or habitat and the [expert agency] concurs with that determination." *Tinogui-Chalola Council of Klitanemuk v. U.S. Dept. of Energy*, 232 F.3d 1300, 1306 (9th Cir. 2000) (citing 50 C.F.R. § 402.14(b)).

Question 1: Has USDOE initiated Section 7 consultation with NMFS and/or the USFWS regarding the proposed strontium-90 action?

Question 2: If USDOE has not initiated Section 7 consultation, does USDOE intend to initiate Section 7 consultation? Please explain

Question 3: If USDOE has not and does not intend to initiate Section 7 consultation, please explain the agency's rationale for not consulting with the Services under the ESA.

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III. CONCLUSION: USDOE MUST ABANDON ITS CONSIDERATION OF HANFORD FOR DISPOSAL OF GTCC AND GTCC-LIKE WASTES

Thank you in advance for considering Columbia Riverkeeper's comments on the proposal to dispose GTCC and GTCC-like wastes at the Hanford site. We strongly urge USDOE to abandon its consideration of Hanford as a disposal site for these highly radioactive wastes. If USDOE has any questions or would like to discuss these public comments, please contact Columbia Riverkeeper at crk@gorge.net to arrange a meeting.

W539-18

Sincerely,

/s/ Dan Serres

Dan Serres
Columbia Riverkeeper
Conservation Director

/s/ Lauren Goldberg

Lauren Goldberg
Columbia Riverkeeper
Staff Attorney

Columbia Riverkeeper, Commenter ID No. W539 (cont'd)

ⁱGTCC EIS 1-18.

ⁱⁱGTCC EIS S-47, Table S-4

ⁱⁱⁱGTCC EIS S-31.

^{iv}National Resource Council, *Managing the Columbia River: Instream Flows, Water Withdrawals, and Salmon Survival* (2004).

^v"The Hanford Reach of the Columbia River provides the only major spawning habitat for the upriver bright race of fall Chinook salmon in the mainstem Columbia River." USDOE-PNNL, PNL-7289; USDOE OSTI ID: 7051730. "Today, however, the 51-mile Hanford Reach is the only significant spawning habitat that remains for the upriver bright race of fall Chinook salmon in the main stem Columbia River." USDOE-PNNL at: <http://science-od.pnl.gov/pals/resource/cards/ChinookSalmon.stm> (2009).

^{vi}U.S. Fish and Wildlife Service Website, <http://www.fws.gov/hanfordreach/salmon.html>.

^{vii}Id.

^{viii}See e.g. *Groundwater Contaminants at Hanford*, Washington Dept. of Ecology <http://www.ecy.wa.gov/programs/hwp/gwh/hanfordca.html>; *Hanford Site Groundwater Monitoring for Fiscal Year 2003*, Department of Energy, DOE/RL-2008-66; *Hanford Integrated Groundwater and Vadose Zone Management Plan*, Department of Energy, DOE/RL-2007-20, Fig. 3.

T119-1 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.

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2 MR. BROWN: Chuck Johnson is speaking, and Toby
3 Cantine, I believe, will follow.

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5 MR. JOHNSON: I'm Chuck Johnson. I'm a board
6 member of Columbia Riverkeepers, and I'm going to
7 express some general comments in opposition to this
8 proposal in the EIS to store additional radioactive
9 waste. In this case, greater-than-class C waste at
10 the Hanford site on the Columbia River, the lifeblood
11 of the Pacific Northwest.

11

12 Columbia Riverkeepers' staff members will speak
13 later with more specific comments. The fact that we
14 are here at all reflects to me the tone-deafness of
15 the U.S. Department of Energy and the antidemocratic
16 nature of the nuclear power and weapons complex. The
17 people of Oregon and Washington have spoken out
18 clearly, consistently and repeatedly against the
19 storage of additional radioactive waste at Hanford
20 until the existing massive volume and hazard of
21 radioactive waste already leaking and lurking under
22 the surface and seeping through the aquifers into the
23 Columbia River has been fully cleaned up.

23

24 In a statewide vote in Oregon in 1987, and in
25 Washington in 2004, the voter's of both states voted
by greater than three-to-one margin to oppose any

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1 storage of additional radioactive waste at the
 2 Hanford site until they've had a complete cleanup of
 3 that site. Just this morning, the Oregonian,
 4 Oregon's largest circulation newspaper, strongly
 5 editorialized against this particular
 6 greater-than-class C plant.

7 Back in the Clinton administration, U.S. DOE
 8 Secretary Hazel O'Leary promised that the Hanford
 9 site would become a cleanup site, not a site for
 10 additional radioactive waste generating activity.
 11 Washington State, the tribal government put sovereign
 12 treaties over the land, and the DOE signed the
 13 tri-party agreement to change the Hanford site's
 14 mission from generation of waste, from waste
 15 producing activities, to waste containment and
 16 cleanup.

17 This proposal blows a hole in the tri-party
 18 agreement large enough to drive over a thousand
 19 radioactive waste trucks through it. It is absurd
 20 that the U.S. DOE continues to come to our region
 21 with a straight face and propose to double the amount
 22 of long-lived radionuclides to the Hanford site, or
 23 even to bring any additional waste at all in the face
 24 of universal, consistent public opposition. We
 25 expect dictatorships to behave in this way, but not

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T119-1
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T119-2

T119-2 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

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1 representatives of the U.S. government.

2 Finally, your EIS is deficient for any location
3 in the U.S., not just at Hanford, because your
4 proposed methods of disposal guarantee migration from
5 the site of lethal, extremely long-lived nuclear
6 elements.

7 The best course for U.S. DOE at this point is to
8 go back to the drawing board. The fact that no
9 granite rock sites are being considered for long-term
10 disposal is purely a political consideration and a
11 scientific travesty. You need to know that we will
12 fight you bitterly every step of the way if you
13 proceed with any proposal for storing additional
14 radioactive or chemical waste at Hanford. Thank you.

T119-3

T119-4

T119-3 The three land disposal facility conceptual designs (above-grade vault, enhanced near-surface trench, and intermediate-depth borehole) were selected as being representative of a range of land disposal configurations (varying degrees of waste consolidation and geometry) that could be employed for the disposal of the GTCC LLRW and GTCC-like waste inventory. As discussed in Section 1.4.2, each concept has been used to some degree in the United States or other countries. The same vault, borehole, and trench characteristics were considered for the disposal sites evaluated in order to compare the performance of each site's natural hydrological, geological, and meteorological properties relative to contaminant fate and transport once any engineered barriers would begin to fail.

The conceptual nature of these configurations takes into account the characteristics of all of the disposal sites for which they were considered, but their designs (e.g., width, depth, cover depth, reinforced containment) could be altered or enhanced, as necessary, to provide an optimal solution at a specific location. As an example, the cover depth could be adjusted to ensure that roots from vegetation would not compromise the top of the engineered barrier. In addition, the dimensions of the generic land disposal units (e.g., trench - width and depth, borehole - diameter and depth, vault - width, depth, and height) were selected based on similar existing facilities, existing equipment and methods for construction, and optimized (maximized waste volume disposed of for a given disposal unit volume; simple waste handling procedures to minimize exposure) for the types of waste packages considered. All designs could also accommodate different disposal packages (existing and proposed) with minor variations in their dimensions, but the EIS analyses would remain relevant for each option considered.

No facility design can guarantee that radionuclide migration from the facility would not occur over and beyond a 10,000-year time period. Past operational experience with near-surface types of disposal facilities at DOE sites has shown that when properly implemented, they can provide isolation of radioactive waste from the environment for extended time periods. Past problems that have arisen with each option provide additional information to improve the design and performance of future land disposal facilities. Issues related to performance over time would be analyzed in a project-specific analysis to address technical and long-term concerns.

T119-4 The action alternatives evaluated in the GTCC EIS did not include interim storage of GTCC LLRW and GTCC-like wastes until a geologic repository, in granite or otherwise, for spent nuclear fuel and high-level radioactive waste becomes available because such interim storage is outside the scope of the GTCC EIS. The purpose of the GTCC EIS is to evaluate the range of reasonable alternatives for the safe and secure disposal of GTCC LLRW and GTCC-like wastes. The No Action Alternative evaluates continued storage of GTCC LLRW and GTCC-like wastes consistent with ongoing practices.

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18 MR. BROWN: Okay. Joni Arends is next and I
19 think it's Tom Gallegos is next.

20 Joni.

21 MS. ARENDS: Good evening. My name is Joni
22 Arends, and I am with Concerned Citizens for Nuclear
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65

1 Safety, based in Santa Fe.

2 First of all, I'm going to have four main
3 points. The first one is that CCNS supports the legal
4 analysis that was presented last evening by Don Hancock
5 and Southwest Research and Information Center, as well
6 as Dave McCoy with Citizen Action New Mexico, with
7 regard to the problems with this draft environmental
8 impact statement.

9 We're very concerned about the 26 year delay
10 in bringing this project forward, and we're concerned
11 about the length of time that this EIS will go on, for
12 the next 70 years, and believe that there should be an
13 alternative, which would be to create a Manhattan II
14 type project where the Department of Energy would use
15 its expertise with these contaminants, with these
16 radionuclides to figure out another way to do this
17 rather than scoop and move or hide and hope.

18 And we really support a Manhattan II type of
19 project to figure out how to solve this problem to
20 protect human health and the environment.

21 Secondly, CCNS will be submitting our comments
22 with regard to the corrective measures evaluation

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T98-1

The EIS considered the range of reasonable alternatives for disposal of the inventory of GTCC LLRW and GTCC-like wastes identified for inclusion in these analyses. DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

Long-term storage and a retrievable "disposal" option were considered to be outside the scope of the EIS because neither would provide a permanent disposal solution. Regarding the use of mined cavities, DOE does not believe it is reasonable to dispose of GTCC LLRW and GTCC like waste in a new mined cavity (other than the existing WIPP facility) because of the potential cost and time it would take to develop such an alternative in comparison to the relatively small amount of waste. With regard to existing mines, no specific mine has been identified as having the proper characteristics for disposal of GTCC LLRW and GTCC-like wastes.

T98-1

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1 report that was submitted by many different groups to
2 the New Mexico Environment Department recently about
3 our concerns about the inadequate knowledge of Area G.
4 In particular, we're concerned about the fact that
5 during the hazardous waste permit hearing last year,
6 one of the exhibits was a schematic that showed either
7 a cone, a volcanic cone, or a volcanic dike directly
8 under Area G.

9 And I want to make sure that the record
10 reflects that there's 21 million cubic feet of waste
11 already buried in unlined pits, trenches and shafts at
12 Los Alamos National Laboratory, and every time it rains
13 or snows those contaminants are moving towards our
14 drinking water supply in Santa Fe, in Albuquerque and
15 communities along with the biota and the plants and
16 animals.

17 So now I'm going to shift gears. I'm going to
18 thank you, Holmes, for this open and fair process and
19 to acknowledge that when the environmental impact
20 statement processes take place or originate with DOE
21 Headquarters, it's a much different process than when
22 it's run by Los Alamos National Laboratory, the
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T98-2

T98-3

- T98-2 Site-specific environmental factors, such as past seismic or volcanic activity in the LANL area, were taken into account and evaluated in the EIS as appropriate. The results of the evaluation were taken into consideration in identifying the preferred alternative presented in the Final EIS.
- T98-3 Comment noted. The issue of ground water and surface water contamination was taken into consideration as part of the cumulative impacts analysis. The cumulative impacts at LANL from the proposed action are summarized in Section 8.4.2 of the EIS.

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1 Department of Energy, Los Alamos site office, or the
2 National Nuclear Security Administration based in Los
3 Alamos.

4 And so I want to contrast tonight that we have
5 a court reporter. He's recording these events.
6 There's an audio recording.

7 At the recent Chemistry and Metallurgy
8 Research Replacement Project scoping meeting, we had no
9 court reporter. We had no opportunity to hear one
10 another speak. We were -- if you wanted to make a
11 comment, you were shuffled off to a table on the side
12 of the room with a microphone that may or may not work,
13 or you could type the comments in.

14 At the first scoping meeting in White Rock we
15 asked specifically for changes to be made at the
16 Puwauke scoping hearing, and changes were made.
17 However, we had to rely on Cultural Energy to record
18 the comments because there was no audio recording of
19 what people said.

20 And in fact, unless you submitted a written
21 comment, there was no one -- there was no transcription
22 of what we created that day.

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1 So with regard to the upcoming public hearings
2 on the draft environmental impact statement for the
3 Chemistry and Metallurgy Research Replacement Nuclear
4 Facility, we demand that the Department of Energy tell
5 us how many minutes do we have to make comments two
6 weeks prior to the hearings. We have to understand if
7 we're going to have three minutes or we're going to
8 have five minutes because we can go back to the
9 testimony that was provided to the Blue Ribbon
10 Commission in Albuquerque where we were told that we
11 would have five minutes, and when we got there, we had
12 three minutes.

13 I spent a lot of time preparing comments for
14 Concerned Citizens for Nuclear Safety, and when I got
15 there I was told that my argument had to be limited to
16 three minutes. Well, a lot of the meat of the argument
17 was eliminated because I didn't have time because the
18 rules changed.

19 So again --

20 MR. BROWN: I really hesitate to hold up the--

21 (Laughter.)

22 MS. ARENDS: Right, right.

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T98-4 Even though it is beyond the scope of this GTCC EIS, the comment is noted. A copy of these comments has been provided to NNSS officials.

T98-4

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Concerned Citizens for Nuclear Safety, Commenter ID No. T98 (cont'd)

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1 MR. BROWN: -- the minute sign.

2 MS. ARENDS: Thank you.

3 MR. BROWN: But let me add that because some
4 people spoke less than five minutes and some people
5 canceled, I think we're going to have some time at the
6 end --

7 MS. ARENDS: Okay.

8 MR. BROWN: -- for those who wanted to
9 supplement their original statement. So please
10 proceed.

11 MS. ARENDS: And I'm making these comments
12 about the CMRR process to make sure that DOE
13 Headquarters hears what we need in order to make
14 informed comments about our concerns.

15 Now, I'm going to take Rebecca's advice and
16 become very angry. At the March 10th, 2011, CMRR semi-
17 annual meeting, I specifically asked the Department of
18 Energy, the National Nuclear Security Administration,
19 and Los Alamos National Laboratory to not release the
20 draft environmental impact statement during Holy Week,
21 and I want to ask the National Nuclear Security
22 Administration, the Department of Energy, and Los
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1 Alamos National Laboratory about what part of "do not
2 release the draft environmental impact statement during
3 Holy Week" does DOE not understand.

4 The amount of disrespect by releasing that
5 document at 6:00 p.m., Eastern Standard Time, on the
6 Internet is beyond the scope of disrespect. It goes to
7 the heart of the relationship between DOE and these
8 communities surrounding Los Alamos National Laboratory.

9 And this EIS process provides an opportunity
10 to heal some of those wounds, and these agencies need
11 to take that opportunity.

12 And I did talk to Roger Schneider ahead of
13 this comment, and he said that we're going to talk
14 about it. So I welcome that conversation.

15 Thank you.

J-137

January 2016

Concerned Citizens of Wagon Mound and Mora County, Commenter ID No. E96

*Concerned Citizens of Wagon Mound and Mora County
P.O. Box 318
Wagon Mound, New Mexico 87752
Phone: (505) 573-1904 - E-mail: ccwmnc@gmail.com*

Arnold Edelman, Document Manager
DOE GTCC EIS
Cloverleaf Bldg., EM-43,
1000 Independence Avenue, SW,
Washington, DC 20585

June 22, 2011

RE: Greater than Class C (GTCC) Low-Level Radio Active Waste and GTCC-Like Waste.

Dear Mr. Edelman:

Please add these comments to your file on the hearing process for the Draft Environmental Impact Statement (DEIS) for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste. Our organization and a majority of our community are opposed to GTCC waste being disposed of in New Mexico, whether it be at or near the WIPP site or in Los Alamos. We support the alternative position proposed by other groups in New Mexico of HOSS (Hardened On-site Storage).

We firmly believe that New Mexico has already taken its share of the hazardous waste burden of the United States weapons and energy industries. We have in our state the only hazardous waste repository in the US and have already been receiving hazardous waste for over 12 years at WIPP. We have carried the risks of uranium mining and milling and nuclear weapons research and testing in this state for years in indigenous nations, Los Alamos, Sandia Labs and other areas of the state. Yet, other than the burden of risks, the majority of New Mexicans have seen little benefit. There has been little effort by our federal government and agencies such as DOE to push for health, water, air and soil studies, and provide for health services, especially in rural areas.

Rural communities such as ours are placed at risk with little information and security. As an example, in all the years that WIPP has accepted hazardous waste, there is little information and no public meetings have been held to talk to residents about the WIPP trucks and their cargo in Mora County.

Mora County, is one of the poorest counties in the nation as well as New Mexico. It is a very rural county with few health service options available. The closest Hazmat is 70

E96-1 The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500–1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500–1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INL, LANL, NNSS, SRS, and the WIPP Vicinity, for which two reference locations – one within and one outside the WIPP Land Withdrawal Boundary – were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.

DOE also conducted a generic evaluation of commercial disposal facilities on nonfederal lands in the EIS to order to provide, to the extent possible, information regarding the potential long-term performance of other (nonfederal) locations for siting a GTCC waste land disposal facility.

Final siting of a disposal facility for GTCC LLRW and GTCC-like wastes would involve further NEPA review as needed and be in accordance with applicable laws and regulations and would involve local stakeholder involvement and consent.

E96-2 The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

E96-3 All relevant potential exposure pathways were considered in the analyses presented in the EIS. These analyses addressed a range of reasonable scenarios and estimated the potential impacts on all environmental resources, including environmental justice, consistent with NEPA requirements. Environmental justice impacts to residents of New Mexico were addressed in Sections 4.2.7, 8.2.7, and 11.2.7 in the EIS.

E96-1

E96-2

E96-3

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January 2016

Final GTCC EIS

Appendix J: Comment Response Document

Concerned Citizens of Wagon Mound and Mora County,
Commenter ID No. E96 (cont'd)

miles away and the only emergency response available in the village and county are volunteer fire departments. With all due respect to these individuals who go above the call of duty in providing support to their communities; they have little, if any, training in dealing with a hazardous waste accident.

We understand that there may be some trainings available however, They are not easily accessible and do not serve the volunteer emergency response folks. As volunteers, few are unable to get away from their jobs without losing pay. This does not make it easy for folks to want or try to go to training that costs them money they don't have. Trainings and protocols need to be developed for these populations providing work release justification and support as well as per diems. This is a responsibility that the DOE and the federal government have not addressed.

More importantly, the gratuitous consideration of environmental justice issues and disparate and cumulative impacts, public notice, language use, and a lack of information given to rural communities continues to be an issue. WIPP trucks pass through our community several times a day and few in our community know anything about WIPP or hazardous waste. These trucks are not appropriately marked and should not be allowed to stop in populated areas.

Once again we wish to state our strong opposition to GTCC waste being designated for disposal in New Mexico. New Mexico as a poor majority minority state should not have to bear a disproportionate hazardous waste burden. It is time that this country face the real dangers of nuclear proliferation and reliance on old and dangerous energies, and the resulting major problem - radioactive waste. With the solar and wind possibilities in New Mexico, it does not make any sense to keep producing more and more hazardous waste.

Sincerely,

Sofia Martinez, President
CCWMMC

E96-4

Stopping the generation of nuclear waste, ensuring the safety of nuclear power plants, and promoting alternative energy sources are outside the scope of the GTCC EIS, the scope of which is to evaluate disposal alternatives to enable the selection of a safe alternative or alternatives for the disposal of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluates the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes in compliance with the requirements specified in NEPA, the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240), and Section 631 of the Energy Policy Act of 2005 (P.L. 109-58). The GTCC EIS evaluates the potential environmental impacts of the proposed disposal alternatives for GTCC LLRW and GTCC-like wastes. Based on the evaluation, DOE has determined that there are safe and secure alternatives for the disposal of GTCC LLRW and GTCC-like wastes. The GTCC EIS provides information that supports this determination, and, as discussed in Section 1.1, Purpose and Need for Agency Action, DOE is responsible for the disposal of GTCC LLRW and GTCC-like wastes.

E96-3
(Cont.)

E96-4

J-139

January 2016

Conejos County Clean Water, Inc., Commenter ID No. E1

Picel, Mary H.

From: Andrea Guajardo <andiegajardo@gmail.com>
Sent: Sunday, June 26, 2011 6:30 PM
To: gtcccis@anl.gov
Cc: gail.schwartz.senate@gmail.com; edward.vigil.house@state.co.us; Minks, Erin (Mark Udall); brenda.felmlee@mail.house.gov; Bobicki, Charlotte (Bennet); rosalie@amigo.net; Mikey Trujillo
Subject: Re: Public Comment GTCC
Attachments: Public Comment GTCC.doc

Please accept this as a formal public comment from Conejos County Clean Water, Inc. ("CCCW") related to the Draft Environmental Impact Statement (DEIS) for the Disposal of Greater-Than Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste.

—
Andrea Guajardo
Conejos County Clean Water, Inc.
Board Member
www.conejoscountycleanwater.org

—
Andrea Guajardo
Conejos County Clean Water, Inc.
Board Member
www.conejoscountycleanwater.org

Conejos County Clean Water, Inc., Commenter ID No. E1 (cont'd)



Arnold Edelman
Document Manager
DOE GTCC EIS
Cloverleaf Bld., EM-43, 1000
Independence Avenue, SW.
Washington, DC20585
Email: gtccels@anl.gov

June 27, 2011

To Whom It May Concern:

Please accept this as a formal public comment from Conejos County Clean Water, Inc. ("CCCW") related to the Draft Environmental Impact Statement (DEIS) for the Disposal of Greater-Than Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste. CCCW is a 501(c)(3) non-profit citizens' group, based in Antonito, Colorado, that is incorporated under the laws in the State of Colorado.

Background of CCCW and relationship to the Affected Environment

In June of 2010, concerned citizens incorporated into a Colorado non-profit organization, called CCCW. CCCW incorporated to promote awareness around health and environmental issues that affect residents in Conejos County. In particular, to build awareness surrounding the transfer from truck to rail of radioactive, hazardous and toxic waste from Los Alamos National Laboratory (LANL) within 250 feet of the Rio San Antonio (River), a headwaters tributary to the Rio Grande (River).

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January 2016

Conejos County Clean Water, Inc., Commenter ID No. E1 (cont'd)

CCCW is comprised of ranchers, teachers, small business owners, and concerned citizens. CCCW has a thirteen board member steering committee, and 402 general members.

The San Luis Valley (SLV) in south central Colorado is one of the largest sub-alpine Valleys in the world, encompassing over 8,100 square miles. Hemmed in on the west by the San Juan Mountains, and on the east by the Sangre de Cristo Mountains, the SLV ranges in elevation from 7,000 to over 14,000 feet, and contains the headwaters of the Rio Grande River. The Rio Grande River rises in the San Juan Mountains to the west of the SLV, flows south into New Mexico and Texas and empties into the Gulf of Mexico.

The SLV has many unique biological features, including areas identified as Natural Heritage areas, and is home to six endemic insect species.

The SLV is 122 miles long and 74 miles wide. This largely agrarian and ranching community is a relatively stable population. Many of the residents are eighth-generation. The oldest parish in Colorado, Nuestra Señora de Guadalupe, Our Lady of Guadalupe, lies at the southern end of Conejos County. Conejos County is part of the Sangre de Cristo National Heritage Area. About sixty percent (60%) of Conejos County's population is minority, and pride in the Hispanic heritage is evident in everything from the names of the rivers, mountains, and towns, to the local Spanish/English radio station. The median household income is less than half the national average at \$24,744, and 38 percent of the children live in poverty (US Census 2000).

The SLV is known for its potatoes and alfalfa, and also grows barley, lettuce, wheat, peas, and spring grains. It has been a farm and ranching community for over 150

Conejos County Clean Water, Inc., Commenter ID No. E1 (cont'd)

years, and many of the residents work in agriculture, following in the footsteps of their parents and grandparents. Many of the farmers and ranchers still practice traditional methods. It is the highest irrigated mountain plateau in the world, with about 7000 high-capacity wells – over half of which are irrigation wells.

The SLV contains over 5 million acres, of which 3.1 million acres – about 59 percent – are publicly owned (Forest Service, BLM, Fish & Wildlife Service, National Park Service, or state). Conejos County contains over 825,000 acres, of which 528,000 acres – about 64 percent – are publicly owned (Forest Service, BLM, Fish & Wildlife Service, National Park Service, or state). This creates an important relationship between the public and private sectors in dealing with air and water quality issues in the SLV and Conejos County.

There are 18 incorporated towns in the SLV, many of which are located along the Rio Grande or its many tributaries. Six counties lie within this large geographical boundary. They are Alamosa, Rio Grande, Saguache, Mineral, Costilla, and Conejos. There are 21 villages and five incorporated towns in Conejos County. Conejos County is among the poorest counties in the country, and unemployment levels run above the state and national averages (Conejos County 10.5%; as of 2008-not including the chronically unemployed).

Conejos County is a populated area within the SLV where the proposed actions in the DEIS for the Disposal of GTCC Low-Level Radioactive Waste and GTCC-Like Waste could potentially be impacted by waste transportation.

Draft DEIS Document

The Department of Energy (DOE) has released a DEIS for the Disposal of GTCC Low-Level Radioactive Waste and GTCC-Like Waste. Current regulations say that GTCC wastes should be disposed in a geologic repository. The only such site considered is the Waste Isolation Pilot Plant (WIPP), east of Carlsbad. Some other sites – including WIPP – Vicinity and LANL – are being considered for near-surface burial in “enhanced trenches,” vaults, or intermediate-depth boreholes. Other sites are Nevada Test Site, Hanford (WA), Idaho National Laboratory, and the Savannah River Site (SC). The DEIS also states that some non-DOE sites might be considered, but no such site is identified.

CCCW understands from the DEIS that GTCC waste is dangerous to humans and the environment for hundreds of years and is not generally acceptable for near-surface disposal. Low-level radioactive waste has four classes – A, B, C, and more highly radioactive GTCC. The DEIS discusses three types of GTCC:

- Activated metals from decommissioning the 104 commercial reactors and any new plants. The DEIS states that activated metals are 2,000 cubic meters by volume and 160,000,000 curies of radioactivity.
- Seal sources are radioactive materials enclosed in metal containers that are used to find oil and gas, test equipment and structures, and diagnose and treat illnesses. The DEIS states that sealed sources are about 2,900 cubic meters by volume and 2,000,000 curies of radioactivity.

Conejos County Clean Water, Inc., Commenter ID No. E1 (cont'd)

- Other waste includes radioactivity contaminated equipment and trash. The DEIS states that other waste is about 6,700 cubic meters by volume and 1,300,000 curies of radioactivity.

CCCW understands the DEIS also includes DOE "GTCC-like" waste – about 2,800 cubic meters by volume and 1,000,000 curies of radioactivity.

Many of Conejos County members speak Spanish only or Spanish as their first language, and it would be helpful to provide project information to them in the regional colloquial Spanish. We respectfully request public meetings in Conejos County with a local Conejos County Spanish translator should the proposed action in the DEIS impact our environment via transportation or transfer of GTCC waste from truck to rail or rail to truck. The document was very large and expensive to print out. CCCW would like to respectfully request that a summary document be created; comparative tables summarizing proposal and impacts for SLV only be created, and both documents be available for the public to review and understand at public meetings. Of our 402 members only 70 have access to email and Internet, so CCCW would like to respectfully request that project documents be placed in libraries and post offices in Conejos County.

Purpose and Need

WIPP's mission is limited by law to 175,564 cubic meters of transuranic waste from nuclear weapons. CCCW understands that is less than 5,000,000 curies of radioactivity. GTCC waste would be 30 times more radioactivity than planned for WIPP and would eliminate the ban on commercial waste. WIPP would then be the only.....

E1-1 DOE's goal with regard to its public participation process is to be able to disseminate the information to the public so that input from the interested public can be obtained to inform the Final EIS. To this end, nine public hearings at venues accessible to the interested public for the various sites evaluated in the EIS were conducted. Notices were placed in various local newspapers to announce the public hearings before and during the scheduled hearings. Should the preferred alternative have expected significant impacts on Conejos County, follow-on NEPA project documentation would be made available in a local library or post office. DOE notes the comment on the request for a Spanish translator.

E1-2 Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 10-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in minimal environmental impacts for all resource areas evaluated, including human health and transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero because there would be no releases to the accessible environment and therefore no radiation doses and LCFs during the first 10,000 years following closure of the WIPP repository. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

E1-1

E1-2

Conejos County Clean Water, Inc., Commenter ID No. E1 (cont'd)

geologic disposal site and all GTCC waste would be transported through the SLV, Conejos County and New Mexico for many decades and buried at WIPP for an infinite time.

LANL buries its low-level radioactive waste in unlined trenches, pits and shafts at Area G. The final determination by DOE and the New Mexico Environment Department (NMED) of what happens to the hazardous and radioactive wastes at Area G has not yet been made and is a highly controversial issue. A decision to transport and bury GTCC waste would predetermine that other waste (which contain much less radioactivity) also could be buried there, posing a threat to groundwater for generations to come.

Public Health

CCCW would like to request that any GTCC waste disposal adequately address the health impacts from exposure to radioactive, hazardous and toxic waste, including materials incidents, and transportation.

Array of Alternatives

The DEIS rejects the alternative that many people from around the country advocated for at DOE's GTCC scoping meetings in 2007. That alternative is "Hardened On-Site Storage" (HOSS) in which GTCC waste and irradiated spent fuel would remain at commercial nuclear power plants in long-term storage so that they can be monitored and are protected from aircraft crashes or terrorist attacks. Keeping the waste in HOSS would reduce the risk of accidents or a terrorist attack during transport. While HOSS is not a permanent solution, it would be more protective to human health and the environment than any of DOE's current dumping practices and the alternatives

E1-2
(Cont.)

E1-3

E1-4

E1-5

E1-3

The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500-1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500-1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INL, LANL, NNSS, SRS, and the WIPP Vicinity, for which two reference locations - one within and one outside the WIPP Land Withdrawal Boundary - were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.

DOE also conducted a generic evaluation of commercial disposal facilities on nonfederal lands in the EIS to order to provide, to the extent possible, information regarding the potential long-term performance of other (nonfederal) locations for siting a GTCC waste land disposal facility.

Final siting of a disposal facility for GTCC LLRW and GTCC-like wastes would involve further NEPA review as needed and be in accordance with applicable laws and regulations and would involve local stakeholder involvement and consent.

E1-4

All relevant potential exposure pathways were considered in the analyses presented in the EIS. These analyses addressed a range of reasonable scenarios and estimated the potential impacts on all environmental resources consistent with NEPA requirements. The assessment of impacts from accidents occurring hundreds to thousands of years into the future was considered too speculative to include because of the large uncertainty associated with estimating future land use and population patterns. For the human health assessment, the focus was on the groundwater pathway, since this is the most likely manner in which someone could be exposed to the radioactive contaminants in the GTCC LLRW and GTCC-like wastes in the distant future. As discussed in Section 2.7.4.2, the hypothetical resident farmer scenario was only used to provide estimates for comparing the various sites evaluated; however, this scenario may not be consistent with the reasonably foreseeable future scenario at some of the sites evaluated. Site-specific NEPA reviews would be conducted as needed. This information could include sensitive subpopulations and specific pathways of exposure for American Indians. In a similar fashion, additional cumulative impacts analyses would be conducted by using additional site-specific information when the location selected for a GTCC LLRW and GTCC-like waste disposal facility was determined.

E1-5

The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

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January 2016

presented in the DEIS. HOSS would be a safe way of storing wastes until a scientifically sound, publicly acceptable solution is found. Part of that future solution, of course, should be drastically minimizing the generation of those wastes. DOE's reason for rejecting HOSS is that it is "not a permanent disposal facility."

But the DEIS also does not include consideration of any geologic disposal facility, except WIPP, even though for almost 30 years federal law (Nuclear Waste Policy Act of 1982) has required development of one or more other repositories. The Nuclear Regulatory Commission has determined that spent nuclear fuel can stay at commercial reactors for up to 100 years. So GTCC could also remain at those sites for at least that time period.

Recommendations

"GTCC-like" waste is not subject to NRC requirements for geologic disposal. DOE should issue a supplement to its 1997 Final Waste Management Environmental Impact Statement to look at the reasonable alternatives for "GTCC-like" waste and other wastes for which long-term storage and disposal is not determined.

CCCW would like to request that a representative from the Town of Antonito and the Conejos County Board of Commissioners be added as cooperating agency officials for further NEPA analysis for GTCC waste should the transportation impact Conejos County. Thank you for your careful consideration of CCCW's comments. Please keep us informed of any upcoming public meetings in the SLV and Conejos County. We can be reached via email at info@conejoscountycleanwater.org.

E1-5 (Cont.)

E1-6

E1-7

E1-8

E1-6

The EIS considered the range of reasonable alternatives for disposal of the inventory of GTCC LLRW and GTCC-like wastes identified for inclusion in these analyses. The Secretary of Energy has determined that a permanent repository for high-level waste and spent nuclear fuel at the Yucca Mountain site is not a workable option and will not be developed. Therefore, DOE concluded that co-disposal at a Yucca Mountain repository is not a reasonable alternative and has eliminated it from evaluation in this EIS, as described in Section 2.6 of the EIS. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

Treatment of the wastes prior to disposal was considered to be outside the scope of the EIS. Such treatment would be done prior to receipt of the GTCC LLRW and GTCC-like wastes at the disposal site. The waste characteristics and physical form would have to meet the waste acceptance criteria determined before implementation.

E1-7

DOE recognizes that including GTCC-like wastes within the scope of this EIS along with GTCC LLRW may complicate the implementation of GTCC LLRW disposal alternative(s). However, DOE determined that the most efficient approach was to address both types of waste, which have many similar physical and radioactive characteristics, in a single NEPA process. DOE's intent is to facilitate the overall process for addressing the disposal needs of both waste types. Issues associated with potential regulatory changes or NRC licensing would be addressed as necessary to enable implementation.

DOE explained in the WM PEIS (DOE, 1997, *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste*, DOE/EIS-0200-F, Office of Environmental Management, Washington, D.C.) that additional analyses would be prepared to implement DOE's programmatic decisions. The GTCC EIS analyzes the potential environmental impacts associated with the disposal of GTCC LLRW and GTCC-like (DOE) wastes. Since the WM PEIS relates only to DOE waste, the inclusion of commercial waste in the WM PEIS is premature until the GTCC EIS is finalized and a ROD is issued. Depending on the outcome of this ROD, DOE will evaluate whether additional programmatic or site-specific NEPA reviews or updates to previous decisions are needed, as appropriate. Any additional NEPA reviews or considerations will be conducted with full opportunity for public input, consistent with Council on Environmental Quality and DOE NEPA requirements.

E1-8

DOE welcomes input from the representatives of Conejos County Board of Commissioners regarding the alternatives discussed in the Final GTCC EIS. Once a final decision is made in a ROD, DOE will coordinate with the Western Governors' Association and other State Regional Groups, as appropriate, to develop specific plans and notification strategies that will ensure safe, secure transportation in accordance with DOE M 460.2-1A, Radioactive Material Practices Manual. The Manual establishes a standardized process and framework for interacting with State, Tribal, and local authorities.

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January 2016

Conejos County Clean Water, Inc., Commenter ID No. E1 (cont'd)

Respectfully submitted,

Mary Alice Trujillo, Chair

Andrea Guajardo, Board Member

Cc:

Gall Schwartz – State Senator

Ed Vigil – State Representative

Erin Mlnks – Representative for U.S. Senator Mark Udall

Brenda Felmlee – Representative for U.S. Congressman Scott Tipton

Charlotte Bobicki – Representative for U.S. Senator Michael Bennet

John Sandoval – Conejos County Commissioner

Mike Trujillo – Antonito Town Mayor

Conejos County Clean Water Inc.
P.O. Box 153
Antonito, CO 81120
www.conejoscountycleanwater.org



L303

Conference of Radiation Control Program Directors, Inc.

Office of Executive Director ♦ 1030 Burlington Lane, Suite 48 ♦ Frankfort, KY 40601
Phone: 502/227-4543 ♦ Fax: 502/227-7862 ♦ Web Site: www.crcpd.org

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*r.mcburney@crcpd.org

June 3, 2011

Ines Triay, Ph.D.,
Assistant Secretary for Environment Management
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Dr. Triay:

On behalf of the Conference of Radiation Control Program Directors, Inc. (CRCPD), please find enclosed a resolution relating to the disposal of radioactive sources. As noted in the enclosed document, the resolution was adopted by the voting members of CRCPD. It directs the CRCPD Board of Directors to identify specific avenues and allocate resources and responsibilities to specific CRCPD parties in order to publicize these disposal issues, and to use the best efforts of the CRCPD and its member entities to facilitate and inform related activities. This resolution was approved by the CRCPD on April 22, 2010.

On behalf of the Board of Directors of CRCPD, we greatly appreciate the effort of the U.S. Department of Energy in identifying disused radioactive sources that pose a security threat and working with other federal agencies, CRCPD and the private sector to address disposal issues. We also offer our continued support of the Federal process of developing a Greater-than-Class C waste disposal facility.

Thank you for your consideration of this resolution and the information that has been provided. If you have any questions or if you need additional information regarding the resolution, do not hesitate to contact me at (502) 227-4543 or by e-mail at r.mcburney@crcpd.org.

Sincerely,

Ruth E. McBurney

Ruth E. McBurney, CHP
Executive Director

Enclosure

cc: Arnie Edelman, DOE
Jamie Joyce, DOE

A Partnership Dedicated to Radiation Protection

J-149

January 2016

Conference of Radiation Control Program Directors, Inc.,
Commenter ID No. L303 (cont'd)



CONFERENCE OF RADIATION CONTROL PROGRAM DIRECTORS, INC.

RESOLUTION

Relating to: Disposal of Radioactive Sources

WHEREAS: Despite the best efforts of many individuals and organizations, options for disposal of orphan, unwanted or disused radioactive sealed sources (sources) or other discrete radioactive material are severely limited in most parts of the country; and

~~WHEREAS: The potential loss of control of sources or discrete radioactive material may endanger the nation's security; and~~

WHEREAS: The withdrawal of disposal access and limitations on inter-Compact transfer of sources or discrete radioactive material has eliminated disposal options for most of the country; and

WHEREAS: Options for packaging of Type B (higher activity) quantities of material for transportation, necessary for disposition under any of the available disposal options, are severely limited despite the temporary accommodation by the U.S. Department of Transportation; and

WHEREAS: Recent events highlight the vulnerability of the U.S. medical community to interruptions in the supply of short half-life medical isotopes for which there is currently no domestic source of production; and

WHEREAS: State licensing programs may understandably be reluctant to license new sources or new production facilities in the absence of practical disposal options; and

~~WHEREAS: State and Federal programs have had to resort to complicated ad hoc arrangements to ensure the safe and secure disposition of large numbers of unwanted or disused radioactive sources; and~~

WHEREAS: The withdrawal of disposal access and limitations on inter-Compact transfer of unwanted or disused sources has frustrated the expectations of licensees who consigned their materials in good faith to disposal brokers who may not be able now to fulfill their contractual obligations; and

WM19

J-150

January 2016

**Conference of Radiation Control Program Directors, Inc.,
Commenter ID No. L303 (cont'd)**

L303-1 Comment noted.

WHEREAS: Despite the current development of some new disposal facilities, it is not clear that these new facilities will provide a comprehensive solution under the current regulatory climate; and

WHEREAS: Federal agencies are severely limited in their ability to offer disposal access beyond the narrow limits of their statutory charters; and

WHEREAS: The aforementioned limitations and absences have the potential to threaten vital medical care, and academic pursuit and industrial innovation as well as the security of the United States.

NOW, THEREFORE, BE IT RESOLVED:

That the Conference of Radiation Control Program Directors (CRCPD) Board of Directors will identify specific avenues and allocate resources and responsibilities to specific CRCPD parties to publicize these issues and that the best efforts of the CRCPD and its member entities be used to facilitate and inform activities to include but not be limited to:

- Continuing the CRCPD effort to examine the scope and nature of the disposal dilemma faced by users, owners, and regulators of sources and discrete radioactive material while building on data accumulated by the Global Threat Reduction Initiative Off-site Source Recovery Project and CRCPD Source Collection and Threat Reduction Program;
- Examining and identifying existing statutory or regulatory limitations on disposal of sources and discrete radioactive material to provide additional disposal options;
- Encouraging the continued support of the Federal process of developing a Greater-than-Class C waste disposal facility; and
- Identifying current storage requirements and options and "recommending best practices" for safe, secure, long-term storage prior to eventual disposal of sources and discrete radioactive material.

L303-1

Approved by the CRCPD Membership April 22, 2016.

Adela Salame-Alfio
Adela Salame-Alfio, Ph.D.
CRCPD Chairperson

WM20

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MR. BROWN: Thank you. Debbie Parker, and Rick McLeod will be next.

MS. DEBBIE PARKER: Thank you for giving me this opportunity to speak. My name is Debbie Parker and I am the legislative director for Conservation Voters of South Carolina. We serve as a non partisan political voice of South Carolina's conservation community and we coordinate with over 40 organizations to promote a healthy, clean future for our state. Our coalition represents over 45,000 citizens in South Carolina. We deeply appreciate the important role that Savannah River Site has played in our nation's defense. Our own organization has developed strong and positive

1 relationships with our state's military community in
 2 support of efforts to reduce our country's dependence
 3 on foreign oil and promote its national security. As
 4 you may know, the conservation community in South
 5 Carolina has played a constructive role in discussions
 6 about the future of nuclear energy in our state. We
 7 know that meeting our country's future energy needs
 8 will take a balanced approach and that we need to look
 9 openly and objectively at all of our energy options.
 10 However our community has also worked hard to establish
 11 consensus on nuclear waste as South Carolina has
 12 already carried more than its fair share of the
 13 national nuclear waste burden. In 2000 our community
 14 helped negotiate the Atlantic Compact which closed the
 15 Barnwell Nuclear Waste Site to all states but South
 16 Carolina and Connecticut and New Jersey. Efforts to
 17 undo the Atlantic Compact in 2007 led to a spirited and
 18 successful defense of the Compact. In short, South
 19 Carolina has spoken firmly and finally on the issue of
 20 importing nuclear waste to our state. We therefore
 21 strongly oppose any effort to consider SRS as a
 22 possible repository of greater-than-class C and
 23 GTCC-like waste. First there is the obvious geologic
 24 environmental unsuitability of the site. SRS has sandy
 25 soils and a wet climate making it highly unsuitable for
 26 any kind of nuclear waste disposal near the surface.

T8-1

T8-2

T8-1

The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500-1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500-1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INL, LANL, NNSS, SRS, and the WIPP Vicinity, for which two reference locations – one within and one outside the WIPP Land Withdrawal Boundary – were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.

DOE also conducted a generic evaluation of commercial disposal facilities on nonfederal lands in the EIS to order to provide, to the extent possible, information regarding the potential long-term performance of other (nonfederal) locations for siting a GTCC waste land disposal facility.

Final siting of a disposal facility for GTCC LLRW and GTCC-like wastes would involve further NEPA review as needed and be in accordance with applicable laws and regulations and would involve local stakeholder involvement and consent.

T8-2

The site-specific environmental factors identified by commenters, such as sandy soils and a wet climate at SRS, were evaluated in the EIS as appropriate. See Table E-11 in Appendix E for the site-specific parameters used in the analysis for SRS. The results of the evaluation were taken into consideration in identifying the preferred alternative presented in the Final EIS.

Conservation Voters of South Carolina, Commenter ID No. T8 (cont'd)

23

1 Two obvious and possible storage options being
2 considered for GCC waste, surface vaults and trenches
3 are especially incompatible for SRS. Second, any
4 proposal to bring GCC waste to SRS actually violates
5 the current stated of mission of the site which is to
6 reduce the concentration and longevity of high-level
7 waste currently onsite. The Department of Energy's own
8 Office of Environmental Management, which is heading
9 the SRS cleanup effort, has stated that footprint
10 reduction is a major goal and our nation's taxpayers
11 have devoted nearly \$1.6 billion in Recovery Act Funds
12 toward that goal. Opening SRS to GCC waste runs
13 exactly counter to this effort. And finally, bringing
14 GCC waste to SRS makes little sense considering how far
15 behind the facility is in meeting its waste reduction
16 mission. In its comments opposing GCC at Savannah
17 River Site back in 2007 our South Carolina Department
18 of Health and Environmental Control observed
19 approximately 36 million gallons of high-level mixed
20 wastes are stored in aging tanks with leak sites while
21 there is no currently no operating treatment facility
22 for the majority of that volume. A substantial volume
23 of transuranic waste remains in storage at SRS awaiting
24 appropriate disposition. Radioactive contamination
25 remains in many areas slated for future cleanup
26 decisions. Disposal of greater-than-class C and

T8-3

T8-3

DOE is performing environmental restoration activities at SRS. The ongoing cleanup efforts will continue.

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January 2016

Final GTCC EIS

Appendix J: Comment Response Document

Conservation Voters of South Carolina, Commenter ID No. T8 (cont'd)

24

1 GTCC-like waste is in appropriate at SRS given the
2 current cleanup backlog. Thus the conservation voters
3 of South Carolina has two immediate suggestions. As
4 you know, during DOE's group of meetings in 2007 many
5 Americans offered hardened on-site storage as the best
6 storage alternative. All long-term solution is
7 formulated. With hardened on-site storage GCC waste
8 and irradiated spent fuel remains at commercial nuclear
9 power plants in long-term storage so that it can be
10 monitored and detected. While HOSS is not a permanent
11 solution it provides a safe way of storing waste until
12 a scientifically sound solution is found. Second, we
13 recommend that DOE not proceed with the final EIS for
14 greater-than-class C waste but rather develop a new
15 Draft EIS that includes HOSS facilities as the best
16 non-solution for GTCC waste and then seek a permanent
17 geologic disposal site for GTCC waste disposal that
18 reflects our best science, not politics. Thank you.

T8-4

T8-4

The use of HOSS and other approaches for long-term storage of GTCC LLRW and GTCC-like wastes are outside the scope of this EIS because they do not meet the purpose and need for agency action. Consistent with Congressional direction in Section 631 of the Energy Policy Act of 2005 (P.L. 109-58), DOE plans to complete an EIS and a ROD for a permanent disposal facility for this waste, not for long-term storage options. The GTCC EIS evaluates the range of reasonable disposal alternatives and, as also required under NEPA, a No Action Alternative. Under the No Action Alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue in accordance with current requirements.

Council of State Governments, Commenter ID No. W540

Abplanalp, Jennifer Marie

From: gtcciswebmaster@anl.gov
Sent: Monday, June 27, 2011 3:20 PM
To: mail_gtccisarchives; gtcciswebmaster@anl.gov; gtccis@anl.gov
Subject: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10540
Attachments: MidwestComments_Final_GTCC10540.pdf

Thank you for your comment, Lisa Janairo.

The comment tracking number that has been assigned to your comment is GTCC10540. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 27, 2011 03:19:54PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10540

First Name: Lisa
Middle Initial: R
Last Name: Janairo
Organization: The Council of State Governments
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Email: ljana1ro@css.org
Privacy Preference: Don't withhold name or address from public record
Attachment: MidwestComments_Final.pdf

Questions about submitting comments over the Web? Contact us at: gtcciswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

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January 2016



Sharing capital ideas

The Council of State Governments

Midwestern Office

June 27, 2011

Arnold Edelman, EIS Document Manager
Office of Environmental Management
U.S. Department of Energy
Cloverleaf Building, EM-43
1000 Independence Avenue, SW
Washington, DC 20585

Re: Disposal of GTCC Low-Level Radioactive Waste and GTCC-Like Waste

Dear Mr. Edelman:

On behalf of the Council of State Governments' Midwestern Radioactive Materials Transportation Committee, we are writing to submit comments on the U.S. Department of Energy's (DOE) draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D). The committee includes gubernatorial and legislative appointees from the 12 Midwestern states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. Our comments reflect the input of the committee members; individual Midwestern states may provide additional comments separately.

We appreciate the opportunity to provide comments on DOE's preliminary and evolving plans for disposing of GTCC low-level radioactive waste and GTCC-like waste. If you have any questions regarding our comments, please contact Lisa Janairo at CSGMidwest at 920.458.5910.

Sincerely,

Paul Schmidt
Co-Chair, CSG Midwestern Radioactive
Materials Transportation Committee

Tim Ruryon
Co-Chair, CSG Midwestern Radioactive
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Enclosure

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January 2016

Council of State Governments, Commenter ID No. W540 (cont'd)

The Council of State Governments
Midwestern Radioactive Materials Transportation Committee

Comments on the U.S. Department of Energy's Draft *Environmental Impact Statement (EIS) for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste* (DOE/EIS-0375-D) (February 2011)

General Comments

Transportation Planning: The draft EIS does not provide details regarding the requirements that would apply to shipments of GTCC low-level radioactive waste (LLRW) and GTCC-like waste to one or more facilities for disposal. The Midwestern states expect shipments to follow the recommended practices in the region's *Planning Guide for Shipments of Radioactive Material through the Midwestern States*.

In addition, the states are concerned that DOE's "Radioactive Material Transportation Practices Manual" (DOE-M-460.2-1A) does not explicitly reference shipments of GTCC low-level radioactive waste. Much of the "GTCC-like" material is actually transuranic (TRU) waste and should be shipped according to the TRU waste transportation plan that the Carlsbad Field Office has developed. Other GTCC LLRW and GTCC-like waste shipments – many of which will be HRCQ shipments – should meet a higher standard than the manual's requirements for LLW shipments. At a minimum, the large number of shipments anticipated would point to a need for DOE to prepare a transportation plan and informational fact sheets; provide long-term planning information to affected states (e.g., through the Prospective Shipment Report); coordinate with states on mode and route selection; and assist states with training and conducting exercises.

Rail Shipments: Shipping by rail would have clear benefits stemming from the significant reduction in shipment numbers (a reduction by nearly two thirds, regardless of the alternative). The advantage of rail in terms of fewer shipments will have to be compared to the disadvantages of some sites not having rail access, rail operations being less flexible than is the case for truck shipments, and there being fewer options available for routing. Above all, as stated in the *Midwest's Planning Guide*, "safety must be the primary consideration in evaluating and, ultimately, selecting a mode." Regardless of the mode, the affected states should be consulted in the route-selection process.

The analysis assumes GTCC LLRW and GTCC-like waste would travel in a single car in general freight. Did DOE consider the use of dedicated trains from generator sites that have large inventories of waste? If so, the draft EIS should address the results of that analysis. If DOE did not consider the use of dedicated trains, it should do so. In the region's *Planning Guide*, the Midwestern states have expressed a preference for rail shipments to take place using dedicated trains instead of general freight service.

Generator Locations: It would be helpful to provide maps showing the locations of the major inventories of GTCC LLRW and GTCC-like waste in the U.S. The draft EIS does provide a map of nuclear power plant locations and a map of possible sites for locating disposal facilities. Facilities such as West Valley, Los Alamos, the Missouri University Research Reactor, and others should also be shown on the maps. In addition, is DOE anticipating consolidation of sealed sources or treatment of activated metals from nuclear power plants? Because sources will originate in "various states," there may be transportation efficiencies from consolidating sources at a few sites before shipping to the final disposal facility. Treatment of activated metals (e.g., recycling) may reduce the inventory of such material requiring disposal.

W540-1 Until a specific disposal site and waste acceptance criteria are determined, the final packaging and other shipment requirements (e.g., routing) will not be known. As project planning becomes better defined, DOE will be consulting with local and state transportation stakeholders.

W540-2 The transportation rail analysis, with the consideration of single railcar shipments, in the GTCC EIS bounds the impacts should the GTCC LLRW and GTCC-like waste be shipped via dedicated rail. While physical injuries and fatalities from potential accidents may be lower using dedicated train shipments (because most rail accidents involve only the lead locomotive), radiological impacts to workers and the public would remain about the same.

As the preferred alternative is implemented, DOE will take into consideration the use of dedicated trains for larger waste generators as appropriate.

W540-3 Due to the nature of a very diverse generator pool, it is not useful to identify all the major generators on a map. It is not practical to plan or locate consolidation locations at this time until the waste inventories (particularly those for sealed sources) are better defined. Efficiencies will be studied as the preferred alternative is implemented during follow-on project specific analysis. Treatment of activated metals, other than long-term storage, is not reasonable because of their highly radioactive nature, especially those from shutdown nuclear reactors.

W540-1

W540-2

W540-3

CSG Midwestern Radioactive Materials Transportation Committee
 Comments on DOE's draft EIS on Disposal of GTCC LLRW and GTCC-Like Waste
 June 27, 2011

Shipment Numbers: The draft EIS mentions the use of the TRUPACT II, RH-72B, and 10-160B containers for shipments. Is the TRUPACT III an option for shipping large waste boxes containing GTCC LLRW or GTCC-like waste? If so, DOE should assess the impacts of using this new high-capacity container.

Transportation Support Systems: In an attempt to perform a preliminary analysis of possible shipping routes, the committee learned that DOE's TRAGIS routing system is offline as a result of the recent cyber attack involving the servers at Oak Ridge National Laboratory. There is no estimated date for restoring the system, which is the primary tool state agencies, carriers, and DOE personnel use for analyzing shipping routes. It is vital for DOE to maintain support systems such as TRAGIS, for pre-shipment routing analyses, and TRANSCOM, for tracking shipments while en route. These systems, like all information technology, are important assets that DOE should continually maintain and upgrade, when needed, for the benefit of the GTCC program, all other programs that ship or plan to ship radioactive waste and material, and transportation stakeholders.

Preferred Alternative: In the Draft EIS, DOE should identify a preferred alternative. If no such preferred alternative will be identified, DOE should seek public comment on a revised draft EIS or a supplemental EIS when the department is ready to identify a preferred alternative and justify the choice.

Disposal Options: Of the disposal options DOE considers in the draft EIS, the WIPP site appears to have a clear advantage in that it is an existing, operating disposal facility. WIPP also has a well-tested transportation program that the Midwestern states, among others, point to as a model for other large-scale shipping programs. Sites like Savannah River Site or the Barnwell commercial disposal facility do not compare favorably with expanding WIPP, given the high humidity, high ground water, and added costs of constructing new trench or vault disposal facilities.

Specific Comments

Page	Lines	Comment
S-1	17-19	The description of stakeholders in the draft GTCC EIS should include transportation stakeholders - i.e., those that will be affected by shipments of GTCC LLRW or GTCC-like waste traveling to one or more facilities for disposal.
S-1	21-22	The reference to "state agencies" should be revised to say "state agencies and elected officials."
S-16	9-12	These lines list the activities that must be completed before a disposal facility is operational. It would be helpful to provide more detail on what is included in "other actions necessary." Also, what is the expected timeframe for obtaining an NRC license for a disposal facility and what steps will be necessary to complete that action?
S-45	Table S-3	The Midwestern states agree that there will be a need for "further evaluation and analysis to optimize the waste shipment configuration...to minimize to the extent possible the number of shipments and potential transportation impacts."

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W540-4

W540-5

W540-6

W540-7

W540-8

W540-9

W540-10

W540-11

W540-4 The transportation analysis as presented in the EIS is conservative in that consideration of the TRUPACT III could reduce impacts. However, while this package is now a viable option for transport of the GTCC LLRW and GTCC-like wastes, consideration of its use as an option did not influence the identification of the preferred alternative in the EIS. Any of the conceptual land disposal designs could be modified to accommodate the larger package, but its use at WIPP would require further study.

W540-5 DOE is aware of the importance of systems such as TRAGIS to the radiological transportation community. The TRAGIS system is currently back on-line for use.

W540-6 A preferred alternative is not required to be included in a Draft EIS. The Council on Environmental Quality regulations in 40 CFR 1502.14(e) specify that the section on alternatives in an EIS shall identify the agency's preferred alternative or alternatives, if one or more exists, in the Draft EIS and identify such alternative(s) in the Final EIS unless another law prohibits the expression of such a preference; that is, a preferred alternative shall be identified in the Draft EIS if one exists. If no preferred alternative has been identified at the Draft EIS stage, a preferred alternative need not be included. By the time the Final EIS is filed, 40 CFR 1502.14(e) presumes the existence of a preferred alternative and requires its identification in the Final EIS unless another law prohibits the expression of such a preference.

DOE did not have a preferred alternative at the time of issuance of the Draft EIS because of the complex nature of the proposed action and the potential implications for disposal of GTCC LLRW and GTCC-like wastes. To seek public input on how to identify a preferred alternative for inclusion in the Final EIS, the Draft EIS presented considerations for developing a preferred alternative in the Summary (in Section S.6) and in Section 2.9. As required by 40 CFR 1502.14(e), the Final EIS contains a preferred alternative for the disposal of GTCC LLRW and GTCC-like wastes (see Section 2.10). In developing the preferred alternative, DOE took into consideration public comments on the Draft EIS, public EIS scoping comments, and other factors identified in Sections S.6 and 2.9 of the EIS.

The publication by the EPA of a NOA of the Final EIS in the Federal Register initiated a 30-day public availability or "waiting" period. While the availability period is not a formal public comment period, the public can comment on the Final EIS, including the preferred alternative, prior to final agency action. Comments received will be addressed by DOE in a ROD. As required by the Energy Policy Act of 2005, DOE must submit a Report to Congress that includes the alternatives considered in the EIS and await Congressional action before making a final decision regarding which alternative(s) to implement. The Report to Congress will be made available to the public on the GTCC EIS website (<http://www.gtccis.anl.gov/>).

W540-7 DOE agrees that WIPP is an existing, operating geologic, disposal facility and has a well-defined transportation program.

W540-8 Text was added to the description of stakeholders to include those affected by the transportation of GTCC LLRW and GTCC-like wastes.

W540-9 The additional text is not necessary. Elected officials are included as "representatives of Congress, federal agencies, American Indian tribes, state agencies, and local governments."

W540-10 Specific actions necessary will be defined once a facility location and methods have been selected in a ROD and site-specific NEPA review, as appropriate, is conducted.

W540-11 Comment noted.

Final GTCC EIS

Appendix J: Comment Response Document

Council of State Governments, Commenter ID No. W540 (cont'd)

CSG Midwestern Radioactive Materials Transportation Committee
 Comments on DOE's draft EIS on Disposal of GTCC LLRW and GTCC-Like Waste
 June 27, 2011

- S-56 19-23 According to the Draft EIS, "Many of the sealed sources recovered by the DOE GTRI/OSRP for national security or public health and safety purposes meet the criteria for disposal at existing DOE facilities (when GTRI/OSRP recovers sealed sources, DOE typically takes ownership of the sources and may dispose of them at DOE facilities if they meet waste acceptance criteria for such facilities and manages them as DOE LLRW or TRU waste)." It would be helpful to explain why these sources are in need of a new GTCC disposal facility if DOE already has the ability to dispose of them at existing facilities.
- S-85 35-38 Is there an existing railcar that can be used to transport six loaded TRUPACT II containers?
- B-26 4-6 The TRUPACT III cask is now available and its possible use should be considered in the Draft EIS.
- B-30 Footnote b It is understood why, for the purpose of analyzing impacts, "rail shipments are assumed to consist of one railcar as part of a general freight train." For the actual shipping campaigns, however, DOE should consider the use of dedicated trains, especially from generator sites that possess large inventories of GTCC LLRW or GTCC-like waste.
- C-33 30-31 This sentence states that "DOT has no railroad routing regulations specific to the transportation of radioactive materials." This statement is not entirely accurate. While there are no specific routing guidelines similar to 49 CFR Part 397, PHMSA regulations in 49 CFR 820(c) require each rail carrier annually to "analyze the safety and security risks for the transportation route(s)" it uses to transport shipments of HRCQ quantities of radioactive material, among other commodities. Carriers are then required to use these analyses to "select the practicable route posing the least overall safety and security risk." Carriers are to consider 27 factors when performing these safety and security risks analyses.
- C-33 36-38 It would be helpful to show the "representative routes" on a map, as has been done in other DOE environmental impact statements (e.g., the EIS for a geologic repository for spent fuel and high-level waste at Yucca Mountain).
- C-46 17-18 It would be helpful to provide a table in this section identifying the "generator sites and some disposal sites [that] do not have direct rail access."

- W540-12
- W540-13
- W540-14
- W540-15
- W540-16
- W540-17
- W540-18

- W540-12 Sealed sources recovered by DOE GMS/OSRP that meet the criteria for disposal at existing DOE facilities are not included in the GTCC LLRW inventory nor are they subject to the decisions being made under this EIS since they have a disposal pathway.
- W540-13 With modifications for securing them to a flatcar, a large number of flatcars exist that could be used to transport 6 TRUPACT II containers. The maximum gross weight of 6 fully-loaded TRUPACT II containers is 115,500 lb (19,250 lbs each). Six of the containers set side-by-side would span 47 ft, although some spacing between containers would be required for handling and mounting. Many commercial railcars with lengths ranging from about 53 ft to 89 ft have load limits ranging from about 140,000 to over 200,000 lbs, well in excess of that needed for the containers.
- W540-14 The transportation analysis as presented in the EIS is conservative in that consideration of the TRUPACT III could reduce impacts. However, while this package is now a viable option for transport of the GTCC LLRW and GTCC-like wastes, consideration of its use as an option did not influence the identification of the preferred alternative in the EIS. Any of the conceptual land disposal designs could be modified to accommodate the larger package, but its use at WIPP would require further study.
- W540-15 For the rail option, the use of dedicated trains, if sufficient waste is available for transport at the same time, could reduce transportation risks and costs by minimizing transit times. The current rail analysis therefore bounds what might be expected if dedicated trains were used. Once an alternative is selected in a ROD for this EIS for implementation, site-specific NEPA reviews would be conducted as needed, including the potential use of dedicated trains and the potential for multiple railcar accidents if applicable.
- W540-16 The text was revised to include a reference to the regulations in 49 CFR 172.820(c) regarding the transportation of an HRCQ of material by rail.
- W540-17 The routes used in the analysis are considered representative routes (as discussed in Appendix C, Section C.9.4.1.1, because the actual routes used would be determined in the future. For each disposal site, the routes most affected would be the interstate highways that are in closest proximity to the site. Also, most routes from sealed source locations are unknown at this time.
- W540-18 In addition to the 104 nuclear utilities, there are potentially hundreds of other generators that are yet to be specifically identified by name. Each chapter provided a discussion of rail access for each of the sites considered in our evaluation.

Decommissioning Plant Coalition, Commenter ID No. W524

Abplanalp, Jennifer Marie

From: gtcciswebmaster@anl.gov
Sent: Monday, June 27, 2011 8:36 AM
To: mail_gtccisarchives; gtcciswebmaster@anl.gov; gtccis@anl.gov
Subject: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10524
Attachments: DOEIS_GTCC10524.pdf

Thank you for your comment, Michael Callahan.

The comment tracking number that has been assigned to your comment is GTCC10524. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 27, 2011 08:35:53AM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10524

First Name: Michael
Middle Initial: S
Last Name: Callahan
Organization: Decommissioning Plant Coalition
Address: 712 North Carolina Ave., S.E.
City: Washington
State: DC
Zip: 20003
Country: USA
Email: mike_callahan@govstrat.com
Privacy Preference: Don't withhold name or address from public record
Attachment: DOEIS.pdf

Comment Submitted:
Comments are attached.

Questions about submitting comments over the Web? Contact us at: gtcciswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

J-161

January 2016

Decommissioning Plant Coalition, Commenter ID No. W524 (cont'd)

717 North Carolina Avenue, SE
Washington, DC 20003



Phone: 202.546.4258
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June 27, 2011

Arnold Edelman, EIS Document Manager
Office of Environmental Management
U.S. Department of Energy
Cloverleaf Building, EM-43
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Edelman:

On behalf of the Decommissioning Plant Coalition¹ (DPC), I am providing comments on the U.S. Department of Energy's (DOE) *Draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D)*, hereinafter noted as the "draft EIS."

The draft EIS was prepared to aid in the evaluation of the potential environmental impacts associated with the proposed development, operation, and long-term management of a disposal facility or facilities for the identified waste stream, which the document defines as those low level radioactive waste (LLRW) materials with radionuclide concentrations exceeding the limits for Class C LLRW established by the U.S. Nuclear Regulatory Commission (NRC). The draft EIS notes that this material is generated by activities licensed by the NRC or Agreement States and cannot be disposed of in currently licensed commercial LLRW disposal facilities.

¹ The Decommissioning Plant Coalition was established in 2001 to highlight issues unique to nuclear power plants that have undergone or are undergoing decommissioning. The DPC is focused on addressing the needs of reactors at single-unit sites that are undergoing or have completed decommissioning activities. Members and participants of the Decommissioning Plant Coalition include the Connecticut Yankee (CT), LaCrosse (WI), Maine Yankee (ME), Rancho Seco (CA), Yankee Rowe (MA), and Big Rock (MI) facilities.

The DPC represents several single-unit decommissioned nuclear power reactor sites now operating as Independent Spent Fuel Storage Installation (ISFSI) sites under NRC licenses that are storing GTCC material required to be removed for disposal by the US DOE under their respective spent nuclear fuel contracts. The DPC provides the following comments on the Draft GTCC EIS.

The draft EIS Summary document indicates that while some GTCC wastes are currently in storage and available for disposal, many such wastes will not be generated for several decades. We certainly hope that this statement by DOE does not suggest that the Department believes there is no imperative for the federal government to define a near-term path forward for the removal and disposal of the GTCC material that is currently stored at decommissioned reactor sites. The GTCC LLRW waste stored at our sites is addressed under our spent fuel contracts with DOE and the Department is obligated to remove this material together with the spent nuclear fuel (SNF) stored at the sites. This position has been repeatedly affirmed in several U.S. Court decisions involving DPC member spent nuclear fuel and high-level radioactive waste contract lawsuits against the government.

The draft EIS also states that excess or unwanted radioactive sealed sources represent a national security concern, so their disposal is a high priority. We do not disagree and believe that there should be no schedule conflict or competition associated with the removal schedule for decommissioned reactor site GTCC LLRW with radioactive sealed sources. The DPC has long held that the GTCC LLRW and SNF stored at our sites should be promptly removed on a priority basis under the contracts we entered into with the Department and that further delay in the removal of this material only exacerbates the liability of the federal government and taxpayers and the adverse economic impact on ratepayers. Further delay in addressing the removal of the GTCC LLRW and SNF at our sites undermines the confidences that our stakeholders have that DOE can accomplish its management obligations under the Nuclear Waste Policy Act. Accordingly, the Department of Energy should integrate the removal of the stored GTCC LLRW with its program to remove the stored SNF at our decommissioned reactor sites and do so on an expedited basis.

While the draft EIS correctly notes that the GTCC LLRW resulting from the reactors that have already been decommissioned is currently being stored at the former reactor sites, it does not specifically cite the fact that this existing inventory of GTCC LLRW is currently, or soon will be, completely stored in dual-purpose canister systems licensed by the NRC for both storage and transportation. For completeness and accuracy, the draft EIS should specifically mention the decommissioned reactor ISFSI sites with dual-purpose canister systems containing GTCC LLRW. Specifically for the DPC facilities, the GTCC LLRW is stored at Maine Yankee in four (4) NAC UMS system canisters; Connecticut Yankee in three (3) NAC MPC system canisters; Yankee Rowe in one (1) NAC MPC system canister; Rancho Seco in one NUHOMS system canister; and Big Rock Point in one Fuel Solutions system W-150 canister. Accordingly, there is an existing volume of GTCC LLRW stored at decommissioned nuclear power reactor ISFSI sites that should be specifically addressed in the GTCC EIS as completely packaged, in

W524-1 DOE agrees that as a result of several court decisions, GTCC LLRW from decommissioned reactors is considered high-level waste for the purposes of the standard contract. Based on this determination, on July 23, 2012, DOE issued a survey (see Federal Register, Vol. 77, No. 141, page 43067) soliciting comments on the proposed reinstatement of the Nuclear Fuel Data Survey. This survey will collect both package and projected GTCC inventory information for activated metals and process waste. Based on information collected from the survey, DOE will be able to make a better-informed decision on the disposition of GTCC LLRW and GTCC-like wastes, subject to the standard contract.

W524-2 Additional information concerning dual purpose canister storage systems has been included in Section 3.2.1.

W524-1

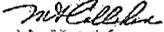
W524-2

Decommissioning Plant Coalition, Commenter ID No. W524 (cont'd)

dual-purpose canisters licensed by the NRC for transportation and accordingly available for expedited DOB removal and disposal.

We appreciate your consideration of our comments; please do not hesitate to contact me with any questions or should you desire any additional information.

Sincerely,



Michael S. Callahan
On behalf of the Decommissioning Plant Coalition

W524-2
(Cont.)



**DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA**

Ms Deborah Stockdale
99 CES/CEA
4349 Duffer Dr., Suite 1601
Nellis AFB, NV 89191-7007

MAY 17 2011

Nevada State Clearinghouse
Department of Administration
209 East Musser Street, Room 200
Carson City, NV 89701-4298

Mesdames, Gentlemen,

Thank you for including Nellis Air Force Base (AFB) in the Draft Environmental Impact Statement process for a Facility for Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste at the Nevada National Security Site (formerly known as the Nevada Test Site). Nellis AFB has reviewed the Department of Energy (DOE) Draft Environmental Impact Statement (DEIS), Nevada SAI #E2011-109, and offers the following comment:

The disposal area is near R-4806W and there are ground parties that use that area for training. How will they be affected? Will overflight of aircraft be allowed for the disposal site?

Nellis AFB appreciates the DOE's efforts to address these issues. Should the DOE have any questions or require further assistance, my Action officer for this issue is Mr. Tod Oppenbom, (702) 652-9366.

Sincerely,

DEBORAH STOCKDALE
Chief, Asset Management Flight

Honor the Warfighter

L307-1 Construction and operation of a disposal facility for GTCC LLRW and GTCC-like wastes will be conducted in accordance with current procedures and agreements in existence at the respective sites. Any changes to these procedures and agreements will be developed in coordination among the agencies participating in the current agreement.

L307-1

J-165

January 2016

Eddy County Commissioner, Commenter ID No. T22

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So with that, by way of introduction, I would first like to call on Roxanne Lara to make our initial presentation, and she will be followed by Jack Volpato.

MS. LARA: Thank you. Good evening. My name is Roxanne Lara, and I stand here wearing a couple of different hats; one as an elected official from the community I serve as an Eddy County commissioner; and number two, as a business owner from living and working in my hometown of Carlsbad.

I want to welcome you to Carlsbad, since I get to speak first, and let you know that the local government, specifically the County of Eddy, is in support of this location being a future site to receive GTCC waste. I am very excited that you're here either doing the EIS and looking at WIPP or WIPP-adjacent properties for that waste.

The local government supports it, but so does the

T22-1

Based on the GTCC EIS evaluation and WIPP's exemplary operating record, DOE believes that the WIPP repository would be a safe location for the disposal of GTCC LLRW and GTCC-like wastes, some of which include long-lived radionuclides. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require modification to existing law. In addition, it would be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit.

The State of New Mexico has indicated a willingness to accept GTCC LLRW and GTCC-like wastes for disposal at WIPP. Twenty-eight New Mexico State Senators signed a proclamation made in the Fiftieth Legislature, First Session, 2011, stating: "Be it resolved that we, the undersigned, support the opportunity for other potential missions in southeast New Mexico to adequately address the disposal of defense high-level waste, commercial high-level waste, Greater Than Class C LLRW and surplus plutonium waste, as well as the interim storage of spent nuclear fuel." In response to the Draft GTCC EIS, Secretary David Martin, Secretary of the New Mexico Environment Department, sent a letter to DOE on June 27, 2011, stating that "the Department encourages DOE to support the WIPP or WIPP Vicinity proposed locations as the preferred alternatives addressed in the Draft EIS. The geologic repository is the favored alternative being more effective for the enduring time frames for this waste type." In addition, the Governor of New Mexico, in a letter to DOE Secretary Steven Chu on September 1, 2011, stated that the State of New Mexico encourages DOE to support the proposed location of WIPP as the preferred alternative for the disposal of GTCC LLRW and GTCC-like wastes.

T22-1

See response to T22-1.

T22-2

T22-1
(Cont.)

T22-2

Eddy County Commissioner, Commenter ID No. T22 (cont'd)

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1 community and so do the businesses in this community. And
 2 I'm excited to share that because I'm out there on a
 3 day-to-day basis, and I hear these comments from people.
 4 The reason that the community is so supportive is
 5 because of the impressive track record that WIPP has had
 6 in our community over the past 12 years of receiving
 7 waste, and most of the people here know those numbers,
 8 and from the presentation we just heard, so I wanted to
 9 express that. Thank you.

10 MR. BROWN: Thanks very much.
 11 Jack Volpato is next, and he will be followed by
 12 John Heaton.

13 MR. VOLPATO: Good evening. I'm Jack Volpato,
 14 Eddy County Commissioner, a long-time resident of Eddy
 15 County, also a local business owner.

16 To think about any other place to store
 17 greater-than-Class C, I think is a problem because we
 18 already have everything you need here to store it. We
 19 have land, we have existing infrastructure, we have a
 20 highly technical workforce already in place. We also
 21 have -- that would also decrease cost if it is stored
 22 here.

23 Community willingness and understanding of WIPP,
 24 you won't find a better community that understands nuclear
 25 waste disposal and is accepting of it. You won't get a

Eddy County Commissioner, Commenter ID No. T22 (cont'd)

6

1 lot of disgruntled people protesting this. This is a
2 community that truly understands the risks and understands
3 the benefits of locating this here.

4 Basically, the WIPP -- the waste stream,
5 everybody understands it. It's no different than what is
6 being stored here -- similar radioactivity. We already
7 have a deep geologic repository that is being used. And
8 we are starting to run out of a waste stream for the TRU
9 Waste. It makes logical sense and reasonable sense to
10 just continue the mission at WIPP with using
11 Greater-Than-Class C to augment the mission at WIPP.

12 We have an unparalleled safety record, as George
13 mentioned. We've never had an accident in
14 transportation. We have an emergency response system
15 parallel to none. We wrote the book on these things, and
16 there's no sense in trying to locate this anywhere else
17 than right here. There's no reason to reinvent the wheel,
18 so to speak.

19 You know, the alternatives, just looking on the
20 slides, it was very simple to me that we're the safest
21 alternative listed there as far as public exposure and
22 exposure to humankind. A deep geologic repository is the
23 way to go.

24 That's all. Thank you.

J-168

January 2016



June 27, 2011

CD11-0180

Arnold Edelman, EIS Document Manager
Office of Environmental Management
U.S. Department of Energy
Cloverleaf Building, EM-43
1000 Independence Avenue, NW
Washington, D.C. 20585

Subject: Comments on Draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D)

Dear Mr. Edelman:

EnergySolutions has reviewed the subject draft environmental impact statement (EIS). Our comments are attached for your consideration.

We appreciate the opportunity to comment on the draft EIS. Questions regarding these comments may be directed to me at (240) 565-6148 or temagette@energysolutions.com.

Sincerely,

Thomas E. Magette, P.E.
Senior Vice President
Nuclear Regulatory Strategy

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J-169

January 2016

COMMENTS ON GTCC EIS

General Comments

1. One of the four action alternatives is for disposal of waste in a geologic repository. The other three alternatives involve the use of intermediate-depth borehole, enhanced near-surface trench, and above-grade vault facilities. Numerous other countries utilize or consider mined cavities for intermediate level waste disposal. For completeness the mined cavity alternative should be included.
2. The EIS should evaluate the impact for potential use of the GTCC repository for disposal of B and C sources with no available home to support safeguard concerns. We recognize that legislation is needed to include such sources in a GTCC repository; however it is in the public interest to facilitate disposal of stranded B and C sources. The EIS could provide useful information to Congress as it deliberates whether to include such sources. Under NEPA an EIS is an appropriate vehicle to develop legislative proposals. Presumably any site that is suitable for GTCC sources would be suitable for class B and C sealed sources. Having this analysis in the EIS would be an efficient use of government resources and provide useful information for Congress since "a common approach and/or facility could be used." (Line 6, page S-10). Since DOE is including GTCC-like sources while recognizing that legislation will be needed, DOE should also include B and C sources with the same caveat that legislation will be needed.
3. While NRC requirements for GTCC waste are unknown, it is likely to require a risk-informed, performance-based approach requiring at a minimum that the 10 CFR Part 61 performance objectives be met. Consequently, the EIS should evaluate the likelihood of each candidate site meeting the performance objectives.
4. It is not clear what the basis is for using the four NRC regions as a reference point (S-4). Nor is it clear what potential site "coincides" with region 1. Given the sizes of the four regions and the differences within in each region, the EIS should describe the characteristics for each regional site. For example, since both LANL and NNSS are both in Region 4, the site differences that account for the differing impacts should be specified. (See table S-4)
5. Although the GTCC Draft EIS Summary (page S-3) states clearly that GTCC LLRW that is designated as a federal responsibility under section 3(b)(1)(D) of the Low-level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA) is to be disposed of in a facility licensed by the NRC, DOE in Volume 2 implies that this statutory provision only applies if the facility is a non-DOE facility (see §13.3.2.2-page 13-9). As a result, DOE states at page 13-10 that "legislation may be needed to clarify whether a GTCC LLRW disposal facility owned or operated by or on behalf of DOE must be licensed by NRC and if so, to authorize NRC to license such a facility."

The Atomic Energy Act (AEA) has long been viewed as not requiring NRC licensing for DOE facilities except those facilities listed in section 202 of the ERA (see for example 10 CFR 40.11). However, the source of licensing a GTCC disposal facility is not the AEA, it is

L78-1

L78-2

L78-3

L78-4

L78-5

- L78-1 DOE does not believe it is reasonable to dispose of GTCC waste in a new mined cavity (other than the existing WIPP facility) because of the potential cost and time it would take to develop such an alternative in comparison to the relatively small amount of waste. WIPP was the only mined cavity that was considered because it is already constructed.
- L78-2 Class B and C wastes are not GTCC LLRW and are out of scope for the GTCC EIS.
- L78-3 The NRC served as a commenting agency on the GTCC EIS and therefore did not actively participate in the preparation of the GTCC EIS. Issues associated with potential regulatory changes or NRC licensing would be addressed as necessary to enable implementation.
- L78-4 The sites representative of the four NRC regions are discussed in more detail in Sections 1.4.3 and 1.4.3.8 with site characteristics used in the long-term human health analysis presented in Appendix E, Section E.4.
- L78-5 The LLRWPA (P.L. 99-240) assigns DOE responsibility for the disposal of GTCC LLRW generated by NRC and Agreement State licensees. The LLRWPA (P.L. 99-240) specifies that GTCC LLRW, designated a federal responsibility under section 3(b)(1)(D) that results from activities licensed by the NRC, is to be disposed of in an NRC-licensed facility that has been determined to be adequate to protect public health and safety. However, unless specifically provided by law, the NRC does not have authority to license and regulate facilities operated by or on behalf of DOE. Further, the LLRWPA does not limit DOE to using only non-DOE facilities or sites for GTCC LLRW disposal. Accordingly, if DOE selects a facility operated by or on behalf of DOE for disposal of GTCC LLRW for which it is responsible under section 3(b)(1)(D), clarification from Congress would be needed to determine NRC's role in licensing such a facility and related issues. In addition clarification from Congress may be needed on NRC's role if DOE selects a commercial GTCC LLRW disposal facility licensed by an Agreement State rather than by NRC.

EnergySolutions, Commenter ID No. L78 (cont'd)

the LLRWPA. Section 202, which addresses licensing of DOE by NRC under the AEA, has no application to the question of licensing DOE for a GTCC facility. Consequently, it is not clear why DOE is questioning the requirement to have NRC license its GTCC disposal facility wherever it might be located.

We believe it would be good public policy to have the NRC regulate the disposal by DOE of GTCC waste. Part 61 provides that generally GTCC waste is not suitable for near surface disposal. Absent the approval of the Commission, GTCC waste requires geologic disposal. NRC oversight of GTCC disposal would add to public confidence. Disposals under section 3116 are a good example where NRC oversight of DOE has proven beneficial. In addition, NRC licensing will build on the efforts to have common federal standards for the disposal of LLW in the United States.

Specific Comments

S.2-3-Page S-10; Line 32 – DOE should clarify whether Group 1 includes the waste that would arise out of the current fleet of plants being renewed for an additional 40 years.

S.2-3-Page S-13; Lines 1-20 – DOE should list the proposed actions or planned facilities not yet in operation that are included in Group 2 so that the readers can understand the sources for the GTCC waste that DOE is forecasting. Also DOE should clarify why waste from West Valley, an old facility, is included in Group 2 rather than Group 1.

S.2.5-Page S-18; Line 19 – The designs for the land disposal facilities that are evaluated in this EIS are conceptual and generic in nature to enable comparison of the performance of the sites with regard to the disposal methods considered in this EIS. It is difficult to follow the comparisons presented, and one logical disposal method (mined cavity) is not included. DOE has included options that clearly would fail (e.g., 820 mrem/yr, 2,100 mrem/yr and 2,300 mrem/yr) any reasonable safety standard. The EIS should clearly note that such options will not meet NRC performance objectives.

S.2.5.1-Page S-20; Line 5 – The long-term impacts are analyzed up to 10,000 years. Impacts should be analyzed up to the peak dose consistent with NRC standards and DOE guidance.

S.2-7-Page S-37; Lines 19-27 – DOE rejected the Oak Ridge Reservation (ORR) site as unsuitable because of concern about high concentrations of long-lived radionuclides with high mobility rates. The EIS does not adequately address why the same concern would not result in the disqualification of the Savannah River Site (SRS).

S.3-Page S-38; Lines 17-19 – Although it is part of the proposed action, DOE did not consider the impact of decommissioning the sites. While we appreciate the difficulty of such an analysis given the long time-frames involved, it is important to consider decommissioning in the EIS. Some sites and designs may be better suited for decommissioning and such impacts are relevant in choosing the appropriate site. That lesson was learned from cleaning up the DOE complex and West Valley. Based on similar lessons learned, NRC requires the consideration of decommissioning as part of licensing new plants (10 CFR 20.1406).

L78-6 The Summary has been revised to clarify the discussion on potential sources of waste. More complete and detailed information on the Group 1 and Group 2 wastes is given in Section 1.4.1 and Appendix B of the GTCC EIS.

L78-7 The EIS analysis is used to assess the viability of an alternative as well as its relative performance compared to the other alternatives. Exclusion of a reasonable alternative from the EIS without first evaluating the site is contrary to a thorough NEPA analysis. All alternatives are retained in the Final EIS because such evaluations are needed to support selection of the preferred alternative. In addition, as discussed in Section 1.4.2, the conceptual disposal facility designs analyzed in the EIS could be modified to perform better in specific locations. Thus, poor performance in the EIS analysis does not necessarily exclude an alternative from consideration. Once an alternative is selected for implementation, the facility will be designed to meet applicable requirements.

Regarding the use of mined cavities, DOE does not believe it is reasonable to dispose of GTCC LLRW and GTCC like waste in a new mined cavity (other than the existing WIPP facility) because of the potential cost and time it would take to develop such an alternative in comparison to the relatively small amount of waste. With regard to existing mines, no specific mine has been identified as having the proper characteristics for disposal of GTCC LLRW and GTCC-like wastes.

L78-5 (Cont.)

L78-6

L78-8 Estimated radiation doses and LCFs were calculated for each site and disposal concept for 10,000 years, and if the peak impact did not occur during this time frame, the analysis was extended out to 100,000 years. See Appendix E, Section E.1 of the GTCC EIS for further details.

L78-7

L78-9 Disposal of radioactive waste at ORR is currently limited to only CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) waste. Based on reviews conducted by the Low-Level Waste Disposal Facility Federal Review Group, DOE determined the site is not appropriate for disposal of LLRW containing high concentrations of long-lived radionuclides (such as those found in GTCC LLRW and GTCC-like wastes), especially those with high mobility in the subsurface environment. For this reason, DOE concluded that the ORR is not a reasonable disposal site alternative and eliminated it from detailed evaluation.

L78-8

L78-9

L78-10 The EIS notes that the decommissioning of a GTCC waste disposal facility is part of the proposed action, but because the facility would not be closed and decommissioned until far into the future (after 2083), the impact analysis for the decommissioning phase would be conducted at that time. It is not possible at this time to evaluate with any degree of confidence the environmental impacts from decommissioning a facility that has not yet been selected.

L78-10

The GTCC waste disposal facility would be designed to facilitate future decommissioning consistent with applicable law, guidance, and policies. Site-specific NEPA reviews would be conducted as needed in the future as part of the decommissioning plan.

EnergySolutions, Commenter ID No. L78 (cont'd)

S-3- Page S-39 – It is not clear whether the No Action evaluation considered the potential for theft or diversion over the 10,000-year storage period. If not, this consideration should be included in the analysis of the No Action alternative.

S-3- Page S-42 – DOE should specify the scenarios that were considered to calculate the intruder dose. There is little information provided to allow public comment on DOE's analysis of intrusion. The factors discussed in S-6.3.1 should be considered for each potential site and how the packaging, barriers, and controls are impacted over the 10,000-year performance period to protect against the inadvertent intruder.

S-3-Page S-45 – DOE should include an explanation of why there are fewer rail and truck shipments for Alternative 2 since the same waste is being shipped to each alternative site. Total rail and truck miles should be listed as that is a more important factor than the number of shipments. In addition, the EIS should explain why Alternative 2 only considers CH waste and why the other alternatives consider primarily RH waste.

L78-11

L78-12

L78-13

L78-11 The No Action Alternative is evaluated in Chapter 3 of the EIS, and under this alternative, current practices for storing GTCC LLRW and GTCC-like wastes would continue. These practices are described in Sections 3.2 (GTCC LLRW) and 3.3 (GTCC-like wastes) in the Final EIS. It was necessary to make a number of simplifying assumptions to address the long-term impacts of this alternative, and these are described in Section 3.5. As part of this assessment, it was assumed that these wastes would remain in long-term storage indefinitely, including wastes from the West Valley Site as discussed in Section 3.5.3, and that no maintenance of either the storage facility or waste packages would occur after 100 years. These results indicate that very high radiation doses and cancer risks could occur under this alternative in the long term.

The No Action Alternative is evaluated in sufficient detail in the EIS as required by NEPA. Comparatively high potential radiation doses and cancer risks could occur should this alternative be selected. While a more detailed analysis could reduce the uncertainties associated with estimating these doses and risks, the conclusion of comparatively high impacts would not change for this alternative.

Impacts from accidents or theft/intrusion were not performed for the No Action Alternative because of the large number of potential locations, and in many cases (sealed sources), the current locations of the waste are not known. In general, these impacts would be comparable to those in the accident consequence analyses conducted for facilities and transportation but possibly occur at a higher frequency because of a lower overall level of security.

L78-12 On the basis of the depth of waste disposal, DOE believes that the only reasonable potential for intrusion is from a future drilling event, such as drilling for a well. The likelihood of inadvertent intrusion from a drilling event would be very low for a GTCC waste trench disposal facility because of (1) the narrow width of the trench, (2) the use of intruder barriers, (3) the remoteness of the sites, (4) DOE's commitment to long-term institutional control, (5) site conditions such as the general lack of easily accessible resources and the great depth to groundwater, and (6) waste form stability. On the basis of these considerations, DOE did not include a quantitative analysis of inadvertent human intruder in the EIS as discussed in Section 5.5. Site-specific NEPA reviews would be conducted as needed.

Potential inadvertent human intrusion into WIPP is addressed in the documentation supporting its current operations. Inclusion of GTCC LLRW and GTCC-like wastes with the wastes already planned for disposal in this repository would not be expected to change the results associated with this hypothetical intrusion event.

L78-13 As discussed in Table S-3, "The number of estimated shipments to the WIPP repository is larger than the number associated with the other three action alternatives, primarily due to the assumption that activated metals and remote-handled wastes with higher external dose rates would be packaged in shielded canisters for disposal at WIPP prior to being loaded onto the transport vehicles." Appendix B, Section B.5.2 has more information on the assumptions used for packaging waste for disposal at WIPP.

Abplanalp, Jennifer Marie

From: gtccelswebmaster@anl.gov
Sent: Thursday, June 16, 2011 9:57 AM
To: gtccelswebmaster@anl.gov
Subject: Receipt: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10217

Thank you for your comment, Camille Euritt.

The comment tracking number that has been assigned to your comment is GTCC10217. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 16, 2011 09:56:28AM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10217

First Name: Camille
Last Name: Euritt
Organization: The Evergreen State College
Address: 311 W. Annie
City: Austin
State: TX
Zip: 78704
Country: USA
Email: eurcam07@evergreen.edu
Privacy Preference: Don't withhold name or address from public record

Comment Submitted:

Highly radioactive wastes, which include GTCC and remotehandled Plutonium TRU, belong in a deep geologic repository, in geologically stable formations below the depth of usable groundwater. Radioactive and chemical wastes, especially long lived and extremely radioactive wastes, do not belong in shallow landfills or boreholes along the Columbia River.

Questions about submitting comments over the Web? Contact us at: gtccelswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

W217-1 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

W217-1

Haddad Drugan LLC, Commenter ID No. W392

Abplanalp, Jennifer Marie

From: gtcciswebmaster@anl.gov
Sent: Thursday, June 23, 2011 5:50 PM
To: gtcciswebmaster@anl.gov
Subject: Receipt: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10392

Thank you for your comment, Laura Haddad.

The comment tracking number that has been assigned to your comment is GTCC10392. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 23, 2011 05:49:25PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10392

First Name: Laura
Last Name: Haddad
Organization: Haddad Drugan LLC
Address: 2803 S. Bayview Street
City: Seattle
State: WA
Zip: 98144
Country: USA
Email: laurahaddad@earthlink.net
Privacy Preference: Don't withhold name or address from public record

Comment Submitted:

Please do not consider adding more waste to Hanford before a solid plan for cleaning up what is there is established AND implemented. The water of the Columbia River is too degraded already, and putting at greater risk of contamination is unconscionable. That risk doesn't even take into account the risks at stake in transporting the radioactive material on public roadways. Please, put the effort into CLEANING.

Questions about submitting comments over the Web? Contact us at: gtcciswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

W392-1

W392-2

W392-1 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup effort will continue.

W392-2 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

If DOE decides to implement its preferred alternative for the TC&WM EIS, GTCC LLRW and GTCC-like wastes would not be shipped through the Columbia River Gorge for disposal at the Hanford Site until the waste treatment plant is operational. However, regardless of where the GTCC waste disposal facility is ultimately located, a relatively small amount of GTCC LLRW and GTCC-like wastes may be transported through the Columbia River Gorge on their way to the disposal facility. The waste would be generated within the states of Oregon and Washington and would include actinide sealed sources and Cs-137 irradiators from local medical institutions, research facilities, universities, and other NRC and Agreement State licensees.

The transportation of radioactive waste will meet or exceed DOT and NRC regulatory requirements that promote the protection of human health and the environment. These regulations include requirements for radioactive materials packaging, marking, labeling, placarding, shipping papers, and highway routing. The waste shipments would be on preferred routes, which are interstate highways or alternative routes designated by a state routing agency in accordance with DOT regulations (49 CFR Part 397, Subpart D). The GTCC LLRW and GTCC-like wastes would be shipped in approved waste packages and transportation casks. The robust nature of these casks limits the potential release of radioactive and chemically hazardous material under the severest of accident conditions. It is unlikely that the transportation of GTCC LLRW and GTCC-like wastes to any of the alternative sites evaluated in the EIS would cause an additional fatality as a result of radiation from either incident-free transportation or postulated transportation accidents.

The EIS evaluated the transportation impacts from the shipments that would be required to dispose of all of the GTCC LLRW and GTCC-like wastes at the various disposal sites. The EIS addressed the collective population risks during routine conditions and accidents, the radiological risks to the highest exposed individuals during routine conditions, and the consequences to individuals and populations as a result of transportation accidents, including those that could release radioactive or hazardous chemical materials. About 12,600 shipments would be required to transport all of the GTCC LLRW and GTCC-like wastes to the Hanford Site for disposal. This would result in about 50 million km (30 million mi) of highway travel, with no expected LCFs. One fatality directly related to an accident might occur (see Section 6.2.9.1).

DOE's standard operating procedure for transportation of radioactive waste is developed and continually revised to ensure that the utmost protection of public health and the environment is achieved and that the risk of a traffic accident is minimized. For example, DOE has established a comprehensive emergency management program (Transportation Emergency Preparedness Program or TEPP) that provides detailed, hazard specific planning and preparedness measures to minimize the health impacts from accidents involving loss of control over radioactive material or toxic chemicals. DOE's TEPP was established to ensure that its contractors and state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving DOE shipments of radioactive materials.

If an accident that involved a release of radioactive material to the environment occurred, it would be remediated promptly in accordance with these procedures. These measures would help DOE minimize and mitigate any impacts on the environment.

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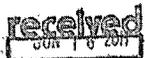
January 2016

Final GTCC EIS

Appendix J: Comment Response Document

HANFORD ADVISORY BOARD

A Site Specific Advisory Board, Chaired under the Federal Advisory Committee Act



June 3, 2011

Attention:
US Dept of Energy
US Environmental
Protection Agency
Washington State
Dept of Ecology

Inés Triay
Assistant Secretary for Environmental Management
EM-1/Forestral Building
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585

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Susan Lockbard

VICE CHAIR:
Bob Soyama

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Harold Hancock

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Theresa Carpenter
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University
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Arnold Edelman
Greater-Than-Class C Low-Level Radioactive Waste EIS
Office of Technical and Regulatory Support (EM-43)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0119

Re: Draft Greater Than Class C Waste Environmental Impact Statement

Dear Ms. Triay and Mr. Edelman,

Background

The draft Greater-than-Class C (GTCC) Environmental Impact Statement (EIS) responds to a need from the Office of the Secretary of Energy, as required by the Low Level Radioactive Waste Policy Amendments Act of 1985, to find a solution for disposal of GTCC wastes from the commercial sector and GTCC-like Low-Level Wastes from the U.S. Department of Energy (DOE) system, and for the civilian industry. By law, GTCC wastes must be disposed in a deep geological repository, or in such other DOE facility as approved by the Nuclear Regulatory Commission. The only operating deep geological repository in the U.S. is the Waste Isolation Pilot Plant (WIPP), which is constrained to accept only defense-originated Transuranic wastes (TRU). Were the GTCC and GTCC-like waste to be disposed of at Hanford, it would be in addition to the 62,000 m³ and 20,000 m³ limits for off-site waste established in the Hanford Solid Waste EIS Record of Decision (ROD).

The alternatives considered in the draft GTCC EIS are: no action, deep geological waste disposal in WIPP, or disposal elsewhere in above-grade vaults, in shallow landfill trenches, or in somewhat deeper large diameter boreholes (30-40 meters deep). Near-surface disposal of long-lived radioactive wastes is considerably less protective of human health and the environment than deep geological disposal and poses higher risks. Hanford remains one of

L280-1

DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

L280-1

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Hanford Advisory Board, Commenter ID No. L280 (cont'd)

the leading disposal location alternatives in the draft GTCC EIS as one of six federal sites being considered for the disposal of GTCC and GTCC-like waste.

The Hanford Advisory Board (Board) has consistently advised against the disposal of additional off-site wastes, including GTCC waste, at Hanford¹. The Board has provided previous advice¹ that concluded that modeling in the draft Tank Closure and Waste Management (TC&WM) EIS clearly showed that Hanford is not suitable for disposal of additional waste. Hanford is not suitable because it is at or over acceptable limits for several radionuclides, including technetium-99, iodine-129, and a number of uranium isotopes². The Board believes the estimated peak annual risk to human health and the environment from trench and vault GTCC disposal, in combination with the risk already coming from Hanford, is unacceptably high (48 and 49 mrem/year, respectively).² The borehole disposal risk estimates seem to be too low for a similar type of disposal (4.8 mrem/year).² For uranium, the Board believes that the peak estimated groundwater dose for vaults and trenches (approximately 600 mrem/year)² and for boreholes (approximately 200 mrem/year)² is unacceptably high.

As the draft TC&WM EIS illuminates, under current proposals for disposing of existing Hanford wastes, groundwater standards at Hanford will be exceeded for thousands of years². Acceptance of additional wastes from offsite would greatly increase and compound those already identified impacts.

The Board submits this advice as its comments on the draft GTCC EIS, in addition to being formal advice to DOE.

Advice:

- The Board advises DOE remove Hanford from the list of alternative locations for GTCC disposal.
- The Board reiterates prior Board advice that no additional off-site waste, including GTCC or GTCC-like waste, should be disposed at Hanford².
- The Board advises DOE to recognize that the additional risk from disposing GTCC and GTCC-like waste, in combination with waste already at Hanford, exceeds risk levels acceptable for human health and the environment.
- The Board advises that a subsequent 2022 decision to import any off-site wastes to Hanford should require a new National Environmental Policy Act (NEPA) analysis and EIS, with a full NEPA public involvement process.

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L280-1
(Cont.)

L280-2

L280-3

L280-4

L280-5

L280-6

L280-2 DOE has considered cumulative impacts at the Hanford Site in this GTCC EIS. The disposal of GTCC LLRW and GTCC-like waste at the Hanford Site could result in environmental impacts that may warrant mitigation for Tc-99 and I-129 through limiting receipt of these waste streams (see Table 6.2.4.2 and Figure 6.2.4.1 in this EIS).

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

L280-3 The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500-1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500-1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INL, LANL, NNSS, SRS, and the WIPP Vicinity, for which two reference locations – one within and one outside the WIPP Land Withdrawal Boundary – were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.

DOE also conducted a generic evaluation of commercial disposal facilities on nonfederal lands in the EIS to order to provide, to the extent possible, information regarding the potential long-term performance of other (nonfederal) locations for siting a GTCC waste land disposal facility.

Final siting of a disposal facility for GTCC LLRW and GTCC-like wastes would involve further NEPA review as needed and be in accordance with applicable laws and regulations and would involve local stakeholder involvement and consent.

L280-4 Refer to the discussion in the second paragraph of the response to L280-2 regarding the importation of waste from other DOE sites.

L280-5 See response to L280-2.

L280-6 The scope of this EIS is adequate to inform decision-making for the disposal of GTCC LLRW and GTCC-like waste. Sufficient information is available to support the current decision-making process to identify (an) appropriate site(s) and method(s) to dispose of the limited amount of GTCC LLRW and GTCC-like waste identified in the EIS.

DOE believes that this EIS process is not premature and is in compliance with NEPA. On the basis of an assumed starting date of 2019 for disposal operations, more than half (about 6,700 m³ [240,000 ft³] of the total GTCC LLRW and GTCC-like waste inventory of 12,000 m³ [420,000 ft³]) is projected to be available for disposal between 2019 and 2030. An additional 2,000 m³ (71,000 ft³) would become available for disposal between 2031 and 2035. This information is presented in Figure 3.4.2-1. DOE believes this EIS is timely, especially given the length of time necessary to develop a GTCC waste disposal facility.

DOE developed this EIS to support a decision on selecting a disposal facility or facilities for GTCC LLRW and GTCC-like waste, to address legislative requirements, to address national security concerns (especially for sealed sources), and to protect public health and safety. The purpose and need for the proposed action, as discussed above, is stated in the EIS (Section 1.1). The scope of the EIS is focused on addressing the need for developing a disposal capability for the identified inventory of GTCC LLRW and GTCC-like wastes. DOE plans a tiered decision-making process, in which DOE would conduct further site-specific NEPA reviews before implementing an alternative ultimately selected on the basis of this EIS.

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- The Board advises that DOE include all Remote-Handled TRU, GTCC and GTCC-like wastes in the analysis for an alternative deep geological disposal site (in the case where WIPP is found to be unavailable) documented in the GTCC EIS. The Board advises that any disposal alternative other than deep geological disposal for GTCC wastes will not be protective.
- The Board advises that the draft GTCC EIS should include the improved modeling analyses from the draft TC&WM EIS that describe both the impacts from existing Hanford wastes and imported wastes under DOE's proposed alternatives. The Board recommends that the GTCC EIS should include cumulative impacts from both of the pending draft TC&WM and GTCC EIS proposals to import and bury additional wastes at Hanford. The Board advises that DOE should be including the draft TC&WM EIS modeling for migration and doses, because it appears to be significantly more sophisticated than the modeling used in the GTCC EIS. The public should have the opportunity to review and comment on a revised draft EIS showing these cumulative impacts if DOE continues to consider Hanford for disposal.
- The Board advises DOE to analyze transportation impacts along the actual routes which waste would be transported, and that this information should be added into the draft EIS. DOE should consider the cumulative transportation-related impacts from waste from the pending TC&WM EIS and GTCC EIS proposals. The public should have the opportunity to review and comment on these impacts.
- The Board advises that DOE, as a part of the decision to dispose of the GTCC wastes, should include examination of appropriate treatment methods for immobilizing long-lived radionuclides, such as technetium-99 and iodine-129, prior to waste disposition in any proposed disposal facility.

Sincerely,

Susan Leckband, Chair
Hanford Advisory Board

This advice represents Board consensus for this specific topic. It should not be taken out of context to extrapolate Board agreement on other subject matters.

cc: Matt McCormick, Manger, U. S. Department of Energy, Richland Operations
Scott Samuelson, Manager, U. S. Department of Energy, Office of River Protection

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Subject: Great Basin Class C Waste
Adopted: June 3, 2011
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L280-7 See response to L280-1.

L280-8 A more sophisticated modeling approach would not provide any appreciable difference in the overall modeling results for the GTCC EIS. The specific locations that would be used at each potential site for development of a disposal facility for GTCC LLRW and GTCC-like wastes are not known at this time. The use of "reference locations" was used in the EIS to allow for a quantitative assessment of the impacts that could occur at each site. While some parameters could change within a short distance, most would not. For consistency across potential disposal sites, the RESRAD-OFFSITE computer code was used to model the migration of radionuclides from the GTCC LLRW and GTCC-like wastes placed into the conceptual disposal facility designs for the three land disposal methods (not all three methods were evaluated for each site). Site-specific information provided by technical staff from various sites that were evaluated was used in these modeling analyses to the extent it was available, and conservative assumptions were used to fill any remaining data gaps. While the computer model was largely developed to support environmental restoration activities, it has a number of features that make it a good choice for use in this EIS.

The RESRAD-OFFSITE code, like all codes, has limitations. This code was selected for the GTCC EIS analysis because of its manageable number of input parameters, its comprehensive transport analysis for radionuclides in the unsaturated zones and saturated zone, and its flexibility in accepting radionuclide release rates calculated outside the RESRAD-OFFSITE framework. Furthermore, the RESRAD-OFFSITE code has been benchmarked with other computer codes. The results obtained from the code are considered to be technically sound estimates.

The analysis presented in the EIS is adequate for the comparison of the disposal alternatives evaluated. Fate and transport parameters utilized in the estimations were based on site-specific (e.g., specific to the reference location to the extent available) information and, as such, are considered reasonable for the purpose of the comparison made in the EIS. However, DOE recognizes that additional project and site-specific information and modeling could be used to inform the implementation of a disposal facility at a given location. This additional information is expected to reduce the uncertainty associated with these types of evaluations to the extent possible. Site-specific information would be evaluated in any site-specific NEPA review that would be conducted based on a ROD for this EIS.

DOE has considered cumulative impacts at the Hanford Site in this GTCC EIS. The disposal of GTCC LLRW and GTCC-like waste at the Hanford Site could result in environmental impacts that may warrant mitigation for Tc-99 and I-129 through limiting receipt of these waste streams (see Table 6.2.4.2 and Figure 6.2.4.1 in this EIS).

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

L280-9 The primary radiological transportation risk to the public for any alternative is from the low level of radiation emanating from the transport vehicle. As discussed in Section 5.3.9.1, the collective population risk is a measure of the total risk posed to society as a whole. A comparison of the collective population risk provides a meaningful evaluation of the relative risks between disposal locations, as provided in Tables 2.7.5 and 2.7.6. The magnitude of the collective population risk is primarily determined by the number of routes, the length of each route, the number of shipments along each route, the external dose rate of each shipment, and the population density along a given route. The primary differences between alternatives from the standpoint of transportation are the lengths of the routes as determined by the location of the disposal sites (destination of the shipments). Thus, higher collective population risks are associated with alternatives that require transportation over longer distances. All alternatives

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Hanford Advisory Board, Commenter ID No. L280 (cont'd)

Stacy Charbonneau, Co-Deputy Designated Official, U.S. Department of Energy,
Office of River Protection
Nick Ceto, Co-Deputy Designated Official, U.S. Department of Energy, Richland
Operations Office
Dennis Faulk, U. S. Environmental Protection Agency
Jane Hedges, Washington State Department of Ecology
Catherine Brennan, U.S. Department of Energy, Headquarters
The Oregon and Washington Delegations

¹Draft Environmental Impact Statement for the Disposal of Greater-than-Class C Low-Level Waste and GTCC-Like Waste (DOE/EIS-0375-D; Volume 1, Section 6.5, Settlement Agreements and Consent Orders for the Hanford Site, p. 6-111, lines 37-39, speaking about the Final Hanford Site Solid Waste Program Environmental Impact Statement, Richland WA (HSW EIS), January 2004.

²HAB Advice #229 -- Tank Closure and Waste Management EIS, #157 -- Final Hanford Solid Waste EIS, #153 -- Need for Site-Wide Cumulative Impact Analyses Relative to Hanford Solid Waste EIS and Decisions to Add Waste from Offsite, #142 -- Offsite TRU Waste, #136 - Draft Hanford Solid Waste EIS, #133 -- Draft Hanford Solid Waste EIS, #94 -- Hanford Cleanup Priorities, and #84 -- FY2000 Budget Advice.

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Subject: Great than Class C Waste
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involve routes that have similar characteristics, with no significant differences for comparison among alternatives, requiring transportation through a range of rural and urban areas. In addition, the routes used in the analysis are considered representative routes (as discussed in Appendix C, Section C.9.4.1.1, because the actual routes used would be determined in the future. For each disposal site, the routes most affected would be the interstate highways that are in closest proximity to the site.

L280-10 DOE believes that the analyses presented in the EIS are sufficient to compare the potential cumulative impacts of GTCC LLRW and GTCC-like waste disposal for the sites that were evaluated. While up to 12,600 truck shipments were assessed for transport of the GTCC LLRW and GTCC-like wastes to a proposed disposal facility, these shipments would be spread out over a 60 year time period, with the result that only about one to two shipments a day might be expected at the facility in addition to current traffic. Additional cumulative impact analyses would be conducted in site-specific NEPA reviews, if needed, for the alternative selected in a ROD. Such follow-on analyses would be based on additional site-specific information.

L280-11 Information on waste forms and waste packages and containers is provided in the EIS to allow for a comparative analysis of alternatives for transportation and waste disposal. Treatment of the wastes prior to disposal is outside the scope of the EIS. Such treatment is assumed to be addressed prior to receipt of the waste at the GTCC LLRW and GTCC-like waste disposal facility. DOE agrees that it is important to immobilize long-lived radionuclides such as Tc-99 and I-129 prior to disposal. Solidification techniques (e.g., use of grout) are expected to immobilize certain wastes in the GTCC LLRW and GTCC-like waste inventory. If needed, the actual stabilization methods used will depend, in part, on the waste stream, packaging, and final disposal facility design. DOE considers the assumptions used for waste form stability (see Appendix B) to be reasonable for purposes of the comparative analysis provided in the EIS.

The waste characteristics and physical form would have to meet the disposal facility waste acceptance criteria. It is expected that these waste acceptance criteria would identify requirements (such as allowable concentrations) for individual radionuclides, including Tc-99 and I-129. The specific waste forms and packages used to dispose of GTCC LLRW and GTCC-like wastes would be determined in the future as part of the waste acceptance criteria and packaging requirements developed. See the discussion in Section B.5 and C.9.4.2 of the EIS for more information on packaging requirements. All GTCC LLRW and GTCC-like wastes would be packaged and transported in accordance with all applicable federal and state requirements, and waste disposal activities would be conducted in accordance with appropriate requirements.

HEAL Utah, Commenter ID No. E61

Picel, Mary H.

From: Matt Pacenza <matt@healutah.org>
Sent: Friday, June 24, 2011 6:03 PM
To: gtcccis@anl.gov
Subject: GTCC EIS comments from HEAL Utah
Attachments: HEAL Utah Comments on DOE GTCC EIS.docx

Matt Pacenza
Policy Director
HEAL Utah
matt@healutah.org
(801) 864-0264 (cell)

**HEAL Utah has recently moved to ArtSpace Commons. Our new address
is: 824 South 400 West, Suite B111, Salt Lake City, Utah 84101.

HEAL Utah, Commenter ID No. E61 (cont'd)



June 23, 2011

To Whom It May Concern:

Below are our comments on the DOE's Draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D).

As always, we appreciate the opportunity to offer input in this important rulemaking process. We are hopeful that the Department will strongly take into account the perspectives of impacted communities, like Utah, which for decades have borne the brunt of nuclear weapons testing and nuclear waste disposal in the United States. It is critical that we are treated as full stakeholders, not just as peripheral parties whose input can ultimately be ignored.

Recommendation: The DOE should include depleted uranium in its analysis of how to dispose of GTCC-like wastes. This should include existing DU at DOE sites and DU anticipated from the centrifuge enrichment plant in New Mexico and the one planned for Idaho.

We believe that the depleted uranium fits squarely within the DOE's definition of GTCC. Allow us to quote from several sections of the draft EIS:

- "GTCC LLRW refers to LLRW that has radionuclide concentrations that exceed the limits for Class C LLRW given in 10 CFR 61.55. GTCC-like waste refers to radioactive waste that is owned or generated by DOE and has characteristics sufficiently similar to those of GTCC LLRW such that a common disposal approach may be appropriate."
- "The concentrations of radionuclides in Classes A, B, and C LLRW limit the length of time that these wastes are generally considered to be hazardous to about 500 to 1,000 years. 10 CFR 61.7(b) notes that near-surface disposal site characteristics for these wastes should be considered in terms of the indefinite future and under 10 CFR 61.7(a)(2), evaluated for a time frame of at least 500 years. Radioactive decay and the slow migration of radionuclides from the disposal units should reduce the hazard from the radionuclides to safe levels at that time."

- E61-1 All comments, both written and those received during the public hearing are considered equally in our review.
- E61-2 Depleted uranium (DU) is not included in the GTCC LLRW waste inventory because this material is not GTCC LLRW.

E61-1

E61-2

HEAL Utah, Commenter ID No. E61 (cont'd)

"GTCC LLRW is waste that is not generally acceptable for near-surface disposal and for which the waste form and disposal methods must be different and, in general, more stringent than those specified for Class C LLRW."

We believe depleted uranium meets each of the above criteria for the following reasons:

1. Depleted uranium "has radionuclide concentrations that exceed the limits for Class C LLRW given in 10 CFR 61.55." Here, we quote our colleagues from the Institute for Energy and Environmental Research (IEER), who note "For instance, its long-lived alpha-emitting specific activity is well over 100 nanocuries per gram, which is the threshold for GTCC in 10 CFR 61.55." Other research, from the Oak Ridge National Laboratory, says that depleted uranium will be as dangerous as Class C in about 200,000 years and will eventually be more than three times more dangerous than Class C waste.⁴
2. Depleted uranium is certainly "owned or generated by DOE." In addition to the 3,577 metric tons, (5,408 drums) of Savannah River Site material currently in temporary storage at EnergySolutions' Clive Facility, "The vast majority of DU from the three gaseous diffusion plants was generated by the DOE and is owned by it" according to our IEER colleagues.
3. As already noted, depleted uranium certainly remains hazardous for more than "500 to 1,000 years" and its hazard is certainly not reduced "to safe levels at that time." In fact, it doesn't even reach its peak radioactivity for up to 2 million years.
4. Lastly, depleted uranium is certainly "not generally acceptable for near-surface disposal." With EnergySolutions proposing to dispose of up to 700,000 tons of depleted uranium at its near-surface Clive facility just 85 miles west of Salt Lake, we are certainly deeply familiar with this issue and the science around it. Robust intrusion scenarios, which require licensees to model what would happen if future humans seek to engage in agriculture, mining or settlement near or at a closed site, suggest that it would be far too easy for future generations to come into direct contact with depleted uranium stored near the surface. In addition, models of climatic conditions over tens of thousands of years - necessary for protecting public health and the environment from material which remains radioactive for hundreds of thousands of years - suggest that the earth's surface and near surface are subject to dramatic change over such periods: Precipitation and temperatures change. Dry areas become flooded. Glaciers grow and shrink. It is very likely that under such conditions many if not most near-surface sites would be destroyed, resulting in the widespread dispersal of radioactivity across the landscape.

E61-2
(Cont.)

⁴ EVALUATION OF THE ACCEPTABILITY OF POTENTIAL DEPLETED URANIUM HEXAFLUORIDE CONVERSION PRODUCTS AT THE ENVIRO CARE DISPOSAL SITE. Prepared by the OAK RIDGE NATIONAL LABORATORY. Allen G. Croff, J. Robert Hightower, and Nancy L. Ranek. December, 2000.

HEAL Utah, Commenter ID No. E61 (cont'd)

We believe the above analysis makes a strong case that depleted uranium should be considered as GTCC. We urge the Department to re-do its draft EIS, incorporating depleted uranium. We also believe that depleted uranium is appropriate only for deep geologic disposal. Finally, we believe that the DOE - which owns and created much of this material - has a responsibility to ensure that depleted uranium is disposed of safely, rather than standing by and allowing it to be dumped in inadequate near-surface facilities such as EnergySolutions' Clive site in Utah.

Again, we appreciate your attention to our comments.

Sincerely,

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824 South 400 West
Suite B111
Salt Lake City, Utah 84101

E61-2
(Cont.)

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2 MR. BROWN: Gerry is next, and Ellen Leatham
3 will follow Gerry.

4 MR. POLLET: He will get a PowerPoint on the
5 projector. While he's doing that, Gerry Pollet with
6 Heart of America Northwest, a citizens watchdog group
7 for Hanford cleanup.

8 I want to thank you all for being here tonight.
9 The only way we're going to stop the Department of
10 Energy's repeated efforts to try to use Hanford as a
11 radioactive waste dump again --

12 (PowerPoint presentation projected on large screen.)

13 MR. POLLET: -- the only way we stop Hanford
14 from being used as a national radioactive waste dump
15 once again is by your being here, speaking up
16 tonight. And so even if you haven't signed up, at
17 the end, speak, say something from your heart, and
18 then take 20 minutes every month in the next couple
19 of months -- until we've stopped this -- to write a
20 letter to the editor, thank your Senators, write your
21 Congressman, thank the mayor, write another letter to
22 the editor, and come out to hearings next fall.

23 If the Energy Department chooses Hanford, it
24 will send 12,000 truckloads of highly radioactive
25 waste to Hanford. They will be coming through our

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1 communities, and they are extremely radioactive.
 2 This is on top of the Energy Department's other
 3 proposal, which it insists it is sticking with, to
 4 use Hanford as a national radioactive waste dump for
 5 another three million cubic feet of radioactive waste
 6 with 17,000 truckloads of waste. We urge you tonight
 7 to tell them, you cannot be credible in your claims
 8 that you want to clean up Hanford when you refuse to
 9 withdraw your decision to use Hanford as a national
 10 waste dump from 2004, and you keep trying to add more
 11 waste on top of the incredible levels of
 12 contamination that exist today.

13 There are 40 miles of unlined ditches at Hanford
 14 like this (indicating), 40 miles into which
 15 radioactive and chemical wastes were dumped. And
 16 instead of trying to remove those wastes, the Energy
 17 Department says, let's just put dirt on top of them
 18 and let's add another massive quantity of radioactive
 19 waste to the soil. The amount of radioactive waste
 20 they would propose to add tonight is nearly as much
 21 as in all the high-level waste tanks that we're
 22 spending billions of dollars to empty. But the
 23 Energy Department refuses to look at this logical
 24 alternative of deep geologic disposal in the granite
 25 shield of North America. Instead, it limits its

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T132-1

T132-1

The EIS considered the range of reasonable alternatives for the disposal of the GTCC waste inventory, including disposal in a deep geologic repository. DOE did not evaluate developing a geologic repository, such as in the granite shield, exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

DOE recognizes that disposal of GTCC LLRW and GTCC-like wastes in the WIPP geologic repository would require modification to existing law. In addition, it may be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with the EPA, and the WIPP Hazardous Waste Facility Permit.

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1 search to cheap surface disposal. And the one
2 repository it already owns, in New Mexico, but where
3 it is illegal to add this waste.

4 Three years ago the Energy Department did
5 another EIS, had hearings right here, and said, if we
6 use Hanford for spent nuclear fuel, because the casks
7 cannot stop the radiation from going through, over
8 800 adults along the truck routes will die of cancer,
9 even if there is no accident and no terrorist attack.
10 Those high-level waste trucks are no hotter than the
11 greater-than-class C waste, same levels of radiation.

12 If they move these wastes, people die. Don't
13 believe it when they say no one dies, because they've
14 refused to include in this impact statement anything
15 about the specific truck routes they'll use or how
16 they've calculated this or why they say no one dies
17 now, but three years ago, 800 people would die.

18 AUDIENCE MEMBER: Adults.

19 MR. POLLET: Eight hundred adults. They said,
20 we can't study children, we can't model them. But
21 we're more concerned about the children because they
22 are more susceptible to get cancer from a given dose
23 of radioactive. If there was an accident at the
24 intersection of 205 and 84, over 300 square miles of
25 Portland would have to be evacuated. And the U.S.

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T132-1
(Cont)

T132-2

T132-2 The primary radiological transportation risk to the public for any alternative is from the low level of radiation emanating from the transport vehicle. As discussed in Section 5.3.9.1, the collective population risk is a measure of the total risk posed to society as a whole. A comparison of the collective population risk provides a meaningful evaluation of the relative risks between disposal locations, as provided in Tables 2.7 5 and 2.7 6. The magnitude of the collective population risk is primarily determined by the number of routes, the length of each route, the number of shipments along each route, the external dose rate of each shipment, and the population density along a given route. The primary differences between alternatives from the standpoint of transportation are the lengths of the routes as determined by the location of the disposal sites (destination of the shipments). Thus, higher collective population risks are associated with alternatives that require transportation over longer distances. All alternatives involve routes that have similar characteristics, with no significant differences for comparison among alternatives, requiring transportation through a range of rural and urban areas. In addition, the routes used in the analysis are considered representative routes (as discussed in Appendix C, Section C.9.4.1.1, because the actual routes used would be determined in the future. For each disposal site, the routes most affected would be the interstate highways that are in closest proximity to the site.

A number of commenters indicated they believed shipping offsite waste would result in 800 LCFs. This value for transportation risk does not exist in this GTCC EIS. DOE believes that the value of approximately 800 LCFs, cited in the public comments, is from the results provided in the *Draft Global Nuclear Energy Partnership Programmatic Environmental Impact Statement* (GNEP PEIS) regarding transportation of spent nuclear fuel (SNF) and HLW. This value represents the maximum impacts associated with 50 years of transportation activities supporting the operations of all existing U.S. commercial light-water reactors if they all were replaced with high-temperature, gas-cooled reactors. The GNEP PEIS was canceled by DOE on June 29, 2009 (74 FR 31017).

The GNEP PEIS involved many more shipments than those for disposal of GTCC LLRW and GTCC-like wastes. Because of this, the resulting estimated impacts for that program (now terminated) were much greater than those given in this EIS (i.e., 1,730,000 vs. 12,600 truck shipments). The same types of analyses were done in both the GNEP PEIS and this EIS, but no LCFs are expected to result from transportation of the GTCC LLRW or GTCC-like wastes to the potential disposal sites considered in the GTCC EIS due to the much lower shipment numbers.

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1 government would likely do the same as the Japanese
2 government has just done: Raise the radiation limits
3 instead of trying to clean up what cannot be cleaned
4 up.

5 If that waste is added to Hanford, the
6 groundwater will be contaminated, the river will be
7 contaminated, and the three Native American tribes
8 with treaty rights to live along and fish the
9 Columbia River and live in that area and use the
10 groundwater will suffer cancer rates, from using the
11 groundwater for their children, of between two and
12 four percent.

13 The Department of Energy proposes tonight to use
14 a landfill right next door to the other landfill that
15 they want to use as a national radioactive waste
16 dump, right next door to the other landfill that's
17 leaking unlined trenches used for commercial
18 radioactive wastes. Those two trenches alone --

19 MR. BROWN: Just about a minute left.

20 MR. POLLET: Those two landfills alone add 70
21 millirems of radiation per year to a child drinking
22 the groundwater. We're trying to clean up Hanford to
23 meet a standard that no one gets any more than 15
24 millirems of radioactive a year. That's the EPA
25 standard. At that level, eight adults out of 10,000

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T132-3

T132-4

T132-5

T132-3 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

Disposition of the GTCC LLRW and GTCC-like wastes will be handled in a manner that is protective of human health and the environment and in compliance with applicable requirements and regulations. Doses to workers and the public will be minimized to the extent practical. The methodology used to estimate the radiological human health impacts in the EIS is based on standard practices that are subject to revision as our understanding of the effects of radiation on humans evolves. The same methodology is used in the evaluation of all alternatives; thus, any modification of this methodology would not affect the comparisons among alternatives and the identification of the preferred alternative. All relevant potential exposure pathways were considered in the analyses presented in the EIS. Site-specific NEPA reviews would be conducted as needed. This information could include sensitive subpopulations and specific pathways of exposure for American Indians.

T132-4 DOE has considered cumulative impacts at the Hanford Site in this GTCC EIS. The disposal of GTCC LLRW and GTCC-like waste at the Hanford Site could result in environmental impacts that may warrant mitigation for Tc-99 and I-129 through limiting receipt of these waste streams (see Table 6.2.4.2 and Figure 6.2.4.1 in this EIS).

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

T132-5 Disposition of the GTCC LLRW and GTCC-like wastes will be handled in a manner that is protective of human health and the environment and in compliance with applicable requirements and regulations. Doses to workers and the public will be minimized to the extent practical. The methodology used to estimate the radiological human health impacts in the EIS is based on standard practices that are subject to revision as our understanding of the effects of radiation on humans evolves (e.g., effects on children vs. adults). The same methodology is used in the evaluation of all alternatives; thus, any modification of this methodology would not affect the comparisons among alternatives and the identification of the preferred alternative.

T132-6 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.

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1 who drink the groundwater every day die of cancer.
2 Children are believed to be ten times more
3 susceptible to die of cancer from the same dose.

4 They're saying if we use GTC -- Hanford as a
5 national radioactive waste dump for GTCC waste, we're
6 tripling above the allowable dose we're trying to
7 clean up Hanford. And then you add in the commercial
8 leaking radioactive waste dump, and we're more than
9 quadrupling it.

10 That's not cleaning up. You can't clean up
11 until you stop dumping more. And unless the Energy
12 Department says, We're committed to cleaning up and
13 we withdraw our 2004 decision to use Hanford as a
14 national waste dump and we withdraw this scheme,
15 you'll have no credibility whatsoever in saying that
16 you're committed to cleaning up Hanford.

17 Please speak up, not just tonight. Keep it
18 going. In the fall, there will be hearings --
19 probably in Vancouver. So come across the river --
20 over the Hanford Hazardous Waste Permit. That's how
21 we can stop this, using the state of Washington's
22 authority to say no more until you've shown you can
23 clean up. So be there, join us on Facebook, come to
24 our Web site, stay involved. Thank you all for
25 getting here tonight.

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T132-5
(Cont.)

T132-6

J-187

January 2016

Heart of America Northwest, Commenter ID No. W554

Abplanalp, Jennifer Marie

From: gtcciswebmaster@anl.gov
Sent: Monday, June 27, 2011 7:40 PM
To: gtcciswebmaster@anl.gov
Subject: Receipt: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10554

Thank you for your comment, Kevin Carlson.

The comment tracking number that has been assigned to your comment is GTCC10554. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 27, 2011 07:40:21PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10554

First Name: Kevin
Middle Initial: J
Last Name: Carlson
Address: 2233 NE 56th St, #105
City: Seattle
State: WA
Zip: 98105
Country: USA
Email: kevin@hoanw.org
Privacy Preference: Don't withhold name or address from public record

Comment Submitted:

Hanford is not a suitable site for the storage of additional radioactive waste. The site is currently not in compliance with environmental laws and should be taken off the table regarding any additional waste shipments. It is also unacceptable that the DOE is considering burying the GTCC waste in trenches and boreholes. Waste this highly radioactive belongs in a deep geological repository which is suitable for long term storage, not in shallow holes or trenches above the groundwater near a major river.

Questions about submitting comments over the Web? Contact us at: gtcciswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

W554-1 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

W554-2 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

W554-1

W554-2

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Final GTCC EIS

Appendix J: Comment Response Document

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12 MR. BROWN: Thanks very much.

13 Sean's brief statement caught me by surprise. So

14 I didn't get to our speaker after Ron, but it's Jerry

15 Pollet, who I think is always ready to speak. So Jerry is

16 next, and Amy Harwood will follow Jerry.

17 MR. POLLET: Thank you. My name is Jerry Pollet,

18 P-o-l-l-e-t, representing Heart of America Northwest and

19 Heart of America Northwest Research Center, with 16,000

20 members across Washington and Oregon, and we have been

21 leading the citizen efforts to advocate for the cleanup of

22 Hanford since 1987.

23 I want to start our comments by thanking

24 Mr. Arnie Edelman for taking the step that many of us in

25 the -- on the Hanford Advisory Board and public community

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T14-1

DOE's goal with regard to its public participation process is to be able to disseminate the information to the public so that input from the interested public can be obtained to inform the Final EIS. To this end, nine public hearings at venues accessible to the interested public for the various disposal sites evaluated in the EIS were conducted. Notices were placed in various local newspapers to announce the public hearings before and during the scheduled hearings. In that spirit, the existing list for a related EIS was also used to disseminate information to the Hanford community with regard to the Final EIS.

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1 working for improving public notices for DOE headquarter's
2 Environmental Impact Statements when he used the existing
3 site lists and the lists from the prior related
4 Environmental Impact Statement to put out notice for this
5 hearing and the Portland hearing on Thursday night.

6 For several years, the advisory board and citizen
7 groups have urged that when DOE headquarters does a NEPA
8 EIS instead of the site, it should use the site's cleanup
9 lists because the public believes that, when they sign up
10 on one list with the Department of Energy, they will get
11 all notices about all related issues and not be told that,
12 well, that EIS is in a different administrative drawer out
13 of a different office; and, therefore, you didn't get
14 notice of it. So thank you very much for doing that.
15 That was the good news.

16 MR. BROWN: Sorry. Your time is up.

17 MR. POLLET: Great. Okay. So let's start where
18 the state left off on cumulative impacts. We are very
19 disturbed at the lack of coordination between the Hanford
20 Tank Closure/Waste Management Environmental Impact
21 Statement and the Greater-Than-Class C EIS.

22 A year ago at this time, in providing the
23 Department of Energy comments on the Tank Closure and
24 Waste Management EIS, hundreds of people noted that the
25 Department had a currently pending proposal to dispose of

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T14-1
(Cont.)

T14-2

T14-2

DOE has considered cumulative impacts at the Hanford Site in this GTCC EIS. The disposal of GTCC LLRW and GTCC-like waste at the Hanford Site could result in environmental impacts that may warrant mitigation for Tc-99 and I-129 through limiting receipt of these waste streams (see Table 6.2.4.2 and Figure 6.2.4.1 in this EIS).

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

The GTCC EIS evaluates the transportation impacts from the shipments that would be required to dispose of the entire inventory of GTCC LLRW and GTCC-like wastes at the Hanford Site and all the other sites being evaluated. The EIS evaluates collective population risks during routine conditions and accidents, radiological risks to the highest exposed individuals during routine conditions, and consequences to individuals and populations as a result of transportation accidents, including the release of radioactive or hazardous chemical materials. For the truck option, it is estimated that about 12,600 shipments resulting in about 50 million km (30 million mi) of travel would be required. This transport of GTCC LLRW and GTCC-like wastes would not result in any LCFs, although one fatality directly related to an accident might occur (see Section 6.2.9.1).

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1 3 million cubic feet of low-level and mixed radioactive
 2 chemical wastes at Hanford and another proposal in a
 3 different EIS that was coming out this year to dispose of
 4 highly radioactive Greater-Than-Class C and
 5 Greater-Than-Class C-Like Wastes, which we just call,
 6 really, radioactive waste; and that the public deserved to
 7 see all of the cumulative impacts, all of the risks -- for
 8 instance, all the truck route risks -- in one document and
 9 comment on them at one time.

T14-2
(Cont.)

10 It will not do for the Department of Energy to
 11 say, Well, we'll combine them in a final EIS, but you
 12 won't ever get to see them to comment on them. No?
 13 Because you didn't listen, you're going to need to come
 14 back out to the public and disclose all the impacts at one
 15 time.

16 Let's talk about the impacts at Hanford to the
 17 groundwater and the future generations, both Native
 18 Americans who have treaty rights to live along and fish
 19 the Columbia River and live on the site and use the
 20 groundwater and others who will be using the groundwater
 21 over the next 10,000 years.

22 In the Tank Closure/Waste Management EIS, the
 23 Department of Energy estimates that iodine will be --
 24 radioactive iodine will be 50 times the drinking water
 25 standard at the edge of the Central Plateau Core Zone,

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1 essentially the same location where the
2 Greater-Than-Class C EIS says, We hypothesize that someone
3 will be using the groundwater, and that's the place where
4 we're considering what the radioactive dose will be.

5 So iodine, 50 times the drinking water standard;
6 plutonium-239, 175 times the drinking water standard;
7 chromium, 25 times the drinking water standard.

8 For these extremely radioactive wastes that the
9 Department of Energy wants to bury at the edge of the
10 200 East Area, if they use Hanford, they estimate that the
11 dose for using landfill trenches will be 48 millirem per
12 year, just from the extremely radioactive GTCC wastes in
13 tonight's impact statement. That works out to be, using
14 the "Biological Effects of Ionizing Radiation" BEIR-7
15 report from 2005, which the Department of Energy should be
16 utilizing for dose and risk estimates, but it refuses to
17 do so -- it's the National Academy of Sciences' consensus
18 report, and DOE is supposed to be using it -- works out to
19 be a childhood fatal cancer rate of 2 percent.

20 That is genocidal. If the Department of Energy
21 says it's okay to put more waste here, and we view this
22 knowing -- we do this knowing that there are treaty rights
23 to live along and use the groundwater as recognized by
24 court decisions and 2 percent of the children will die,
25 it's genocidal.

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T14-3

Disposition of the GTCC LLRW and GTCC-like wastes will be handled in a manner that is protective of human health and the environment and in compliance with applicable requirements and regulations. Doses to workers and the public will be minimized to the extent practical. The methodology used to estimate the radiological human health impacts in the EIS is based on standard practices that are subject to revision as our understanding of the effects of radiation on humans evolves. The same methodology is used in the evaluation of all alternatives; thus, any modification of this methodology (e.g., the use of BEIR-7) would not affect the comparisons among alternatives and the identification of the preferred alternative.

T14-3

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1 But wait. That's only part of the picture
 2 because the so-called reference location for the GICC
 3 waste happens to be immediately adjacent to the other
 4 landfill that DOE has already built and is also proposing
 5 to put an additional 3 million cubic feet of radioactive
 6 and radioactive chemical wastes, some of which are quite
 7 radioactive and which will be highly mobile with the
 8 chemicals co-disposed.

9 But wait. Immediately to the west of that site
 10 upgradient is the commercial radioactive waste dump in the
 11 center of Hanford, leaking unlined soil trenches; and the
 12 State of Washington which operates that site estimates
 13 that, under its proposed plan to just put dirt over the
 14 top of it instead of removing Greater-Than-Class C and
 15 remote-handle transuranics and uranium wastes and chemical
 16 wastes, all of which are there in large quantities, that
 17 the Department of Ecology and Department of Health
 18 estimate that the groundwater dose from that burial ground
 19 alone is an additional 22 millirem.

20 So if we add up just two of the landfills, we get
 21 a dose of essentially 70 millirem to the child in the same
 22 location.

23 And the Department of Energy is totally
 24 misleading and not providing an analysis based on
 25 realistic science and disclosure when it says, But there

T14-4

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1 are no latent cancer fatalities. The number of latent
 2 cancer fatalities they present in their charts for the
 3 landfill trench at Hanford is .0003. And you have to read
 4 the footnote to see that that's per year. Over 10,000
 5 years, actually, some people are going to die from that.
 6 But then you have to say, How did they get that?
 7 Oh, they ignored the fact that there are treaty rights to
 8 live along; and that the Department of Energy has done
 9 studies and Battelle did a study and other people have
 10 done studies saying, in fact, there are likely to be
 11 thousands of people using the groundwater; and, in fact,
 12 any future residents will be using the groundwater because
 13 withdrawing water from the Columbia River is not allowed
 14 and will not be allowed, but anyone can put in a
 15 groundwater well in the State of Washington, without a
 16 permit, for a home and is likely to be able to do so a
 17 hundred years from now.
 18 And what's going to stop those people from
 19 putting in those groundwater wells, drinking that water,
 20 and having 2 to 4 percent of their children die? We are.
 21 That's what's going to stop it because we can't let you do
 22 this. You need to say, Hanford's mission is cleanup.
 23 And it was unacceptable to hear tonight and in
 24 reading the Notice of Intent and the Federal Register
 25 Notice and the EIS that the Department of Energy says it

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T14-5

T14-6

T14-7

T14-8

T14-5 The column heading for the LCF risk (Table 6.2.4-3) clearly states that it is the "Peak Annual LCF Risk from Entire Inventory." Since it is the peak annual LCF risk, it is inappropriate to multiply the risk of 0.00003 by 10,000 to get the risk over 10,000 years since the peak value is only valid for a much shorter period of time. See for example, the annual dose curves in Figures E-3 and E-4 in Appendix E. Thus, the potential for 3 LCFs over a 10,000 year period is not expected.

T14-6 All relevant potential exposure pathways were considered in the analyses presented in the EIS. These analyses addressed a range of reasonable scenarios and estimated the potential impacts on all environmental resources consistent with NEPA requirements. The assessment of impacts from accidents occurring hundreds to thousands of years into the future was considered too speculative to include because of the large uncertainty associated with estimating future land use and population patterns. For the human health assessment, the focus was on the groundwater pathway, since this is the most likely manner in which someone could be exposed to the radioactive contaminants in the GTCC LLRW and GTCC-like wastes in the distant future. Locations closer than the 100 m (330 ft.) evaluated would result in higher dose and cancer risk estimates. The 100 m (30 ft.) distance was used to be consistent with the minimum buffer zone distance surrounding a DOE LLRW disposal site identified in DOE Manual 435.1-1. As discussed in Section 2.7.4.2, the hypothetical resident farmer scenario was only used to provide estimates for comparing the various sites evaluated; however, this scenario may not be consistent with the reasonably foreseeable future scenario at some of the sites evaluated. Site-specific NEPA reviews would be conducted as needed. This information could include sensitive subpopulations and specific pathways of exposure for American Indians. In a similar fashion, additional cumulative impacts analyses would be conducted by using additional site-specific information when the location selected for a GTCC LLRW and GTCC-like waste disposal facility was determined.

T14-7 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.

T14-8 The disposal methods and sites evaluated in the EIS represent the range of reasonable alternatives for the disposal of GTCC LLRW and GTCC-like wastes. This range is consistent with NEPA implementing regulations in Parts 1500-1508 of Title 40 of the Code of Federal Regulations (40 CFR Parts 1500-1508). In this GTCC EIS, DOE analyzed a range of disposal methods (i.e., geologic repository, near-surface trench, intermediate-depth borehole, and above-grade vault) and federally owned sites (i.e., Hanford Site, INL, LANL, NNSS, SRS, and the WIPP Vicinity, for which two reference locations – one within and one outside the WIPP Land Withdrawal Boundary – were considered). DOE has determined that it was reasonable to analyze these six sites because they currently have operating radioactive waste disposal facilities, except for the WIPP Vicinity, which is near an operating geologic repository.

Final siting of a disposal facility for GTCC LLRW and GTCC-like wastes would involve further NEPA review as needed and be in accordance with applicable laws and regulations and would involve local stakeholder involvement and consent.

DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.

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15

1 chose Hanford as one of the sites to study because one of
2 its missions is disposal.

3 Every DOE official visits Hanford and says, Your
4 mission is just cleanup; but when it's convenient for us,
5 we're adding in disposal.

6 Hanford cannot be viewed as a disposal site. The
7 mission needs to be cleanup. Nowhere in your GTCC EIS is
8 there a single mention of the fact that the cleanup
9 standard, which DOE says it is striving to meet at
10 Hanford, set by EPA, is 15 millirem dose from all sources
11 for any individual at any time in the future.

12 15 millirem from all sources. Okay? That equals
13 eight fatal cancers in every 10,000 adults, and DOE says,
14 We're going to try to meet that. That's acceptable,
15 except then the Department of Energy comes along and says,
16 Now we're going to add highly radioactive waste and put it
17 above the groundwater, and the dose will be more than
18 three times what we say we're allowing from all sources.
19 After we spend, as the state just noted, tens and tens of
20 billions of dollars cleaning up Hanford, we'll be adding
21 something that increases the dose three times above what
22 we say we're cleaning up Hanford to do.

23 Highly radioactive wastes belong in a deep
24 underground geologic repository. They do not belong in
25 near-surface landfills, boreholes or trenches or vaults.

T14-8
(Cont.)

T14-9

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T14-9

DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

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1 In 1970, the old Atomic Energy Commission, which
2 was broken up to be the Department of Energy and Nuclear
3 Regulatory Commission, made a decision that all
4 transuranic wastes, long-lived wastes like plutonium,
5 would be disposed in a deep geologic repository. That's
6 where they belong.

7 There is a lot of that waste buried before 1970
8 sitting in Hanford soil. In fact, there is more of it
9 sitting in Hanford soil than the Department of Energy
10 plans to dispose in the WIPP repository. It needs a deep
11 geologic repository. And then we have no national deep
12 geologic repository for high-level nuclear wastes, spent
13 fuel.

14 So the logical thing for the Department of Energy
15 to be doing here, and what is required by the National
16 Environmental Policy Act, which says you must consider all
17 reasonable alternatives, is to say the most reasonable
18 alternative is that we are going to start over a national
19 search for a deep geologic repository; or, two, we will
20 look in the granite shield of North America, which the
21 National Academy and scientists have said is the preferred
22 location for keeping radioactive waste out of groundwater
23 for tens of thousands of years, and we will include both
24 the spent fuel, high-level nuclear waste, and these wastes
25 in that search for a repository.

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T14-9
Cont.

T14-10

T14-10 The EIS considered the range of reasonable alternatives for the disposal of the GTCC waste inventory, including disposal in a deep geologic repository. DOE did not evaluate developing a geologic repository, such as in the granite shield, exclusively for disposal of GTCC LLRW and GTCC-like wastes because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

J-196

January 2016

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17

1 That's where the waste belongs, not near the
2 surface, and that's what we urge you to do and to remove
3 Hanford from further consideration as a national
4 radioactive waste dump.

5 Thank you.

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Heart of America Northwest, Commenter ID No. W552

Abplanalp, Jennifer Marie

From: gtccseiswebmaster@anl.gov
Sent: Monday, June 27, 2011 7:07 PM
To: mail_gtccseisarchives; gtccseiswebmaster@anl.gov; gtccseis@anl.gov
Subject: Greater-Than-Class-C Low-Level Radioactive Waste EIS Comment GTCC10552
Attachments: GTCC_EIS_comments_of_Heart_of_America_NW_and_HoANWRC_submitted_6-27-11_GTCC10552.pdf

Thank you for your comment, Gerry Pollet.

The comment tracking number that has been assigned to your comment is GTCC10552. Please refer to the comment tracking number in all correspondence relating to this comment.

Comment Date: June 27, 2011 07:06:47PM CDT

Greater-Than-Class-C Low-Level Radioactive Waste EIS Draft Comment: GTCC10552

First Name: Gerry
Last Name: Pollet
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Privacy Preference: Don't withhold name or address from public record
Attachment: C:\fakepath\GTCC EIS comments of Heart of America NW and HoANWRC submitted 6-27-11.pdf

Comment Submitted:

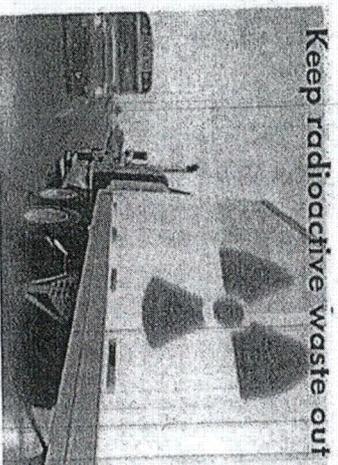
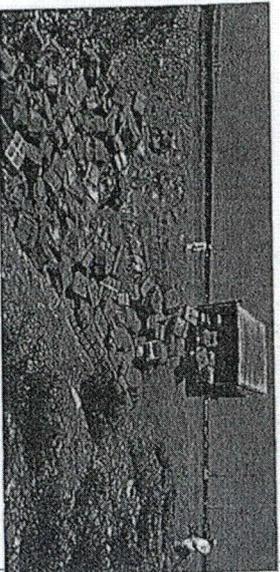
Attached are the formal comments of Heart of America Northwest and Heart of America Northwest Research Center in the form of a pdf version of a Powerpoint presentation to make it easier for USDOE officials to consider our comments and for the public (or other agencies' officials) to view and utilize our comments and supporting information. This submission is intended to supplement our oral comments provided at public hearings.

Please send responses to office@hoanw.org or contact:

Gerry Pollet, J.D.,
Executive Director,
Heart of America Northwest,
Heart of America Northwest Research Center "The Public's Voice for Hanford Cleanup"
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Questions about submitting comments over the Web? Contact us at: gtccseiswebmaster@anl.gov or call the Greater-Than-Class-C Low-Level Radioactive Waste EIS Webmaster at (630) 252-5705.

**Protect the Northwest
from plans to use
Hanford as a National
Radioactive Waste
Dump... &
Risks from Trucking
Wastes to Hanford**



Keep radioactive waste out

Presentation Comments
Submitted on USDOE's EIS
for Very Radioactive "GTCC"
Waste (GTCC EIS)*

by Heart of America
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* DOE/EIS-0375-D

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-1 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

If DOE decides to implement its preferred alternative for the TC&WM EIS, GTCC LLRW and GTCC-like wastes would not be shipped through the Columbia River Gorge for disposal at the Hanford Site until the waste treatment plant is operational. However, regardless of where the GTCC waste disposal facility is ultimately located, a relatively small amount of GTCC LLRW and GTCC-like wastes may be transported through the Columbia River Gorge on their way to the disposal facility. The waste would be generated within the states of Oregon and Washington and would include actinide sealed sources and Cs-137 irradiators from local medical institutions, research facilities, universities, and other NRC and Agreement State licensees.

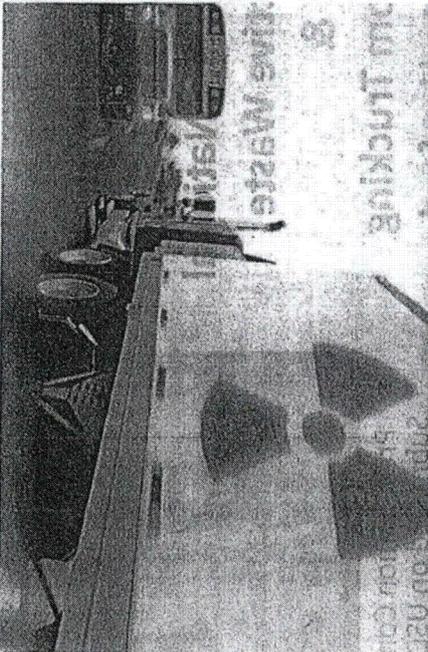
The transportation of radioactive waste will meet or exceed DOT and NRC regulatory requirements that promote the protection of human health and the environment. These regulations include requirements for radioactive materials packaging, marking, labeling, placarding, shipping papers, and highway routing. The waste shipments would be on preferred routes, which are interstate highways or alternative routes designated by a state routing agency in accordance with DOT regulations (49 CFR Part 397, Subpart D). The GTCC LLRW and GTCC-like wastes would be shipped in approved waste packages and transportation casks. The robust nature of these casks limits the potential release of radioactive and chemically hazardous material under the severest of accident conditions. It is unlikely that the transportation of GTCC LLRW and GTCC-like wastes to any of the alternative sites evaluated in the EIS would cause an additional fatality as a result of radiation from either incident-free transportation or postulated transportation accidents.

The EIS evaluated the transportation impacts from the shipments that would be required to dispose of all of the GTCC LLRW and GTCC-like wastes at the various disposal sites. The EIS addressed the collective population risks during routine conditions and accidents, the radiological risks to the highest exposed individuals during routine conditions, and the consequences to individuals and populations as a result of transportation accidents, including those that could release radioactive or hazardous chemical materials. About 12,600 shipments would be required to transport all of the GTCC LLRW and GTCC-like wastes to the Hanford Site for disposal. This would result in about 50 million km (30 million mi) of highway travel, with no expected LCFs. One fatality directly related to an accident might occur (see Section 6.2.9.1).

The EIS also evaluated the impact of intentional destructive acts that could occur during waste handling, transportation, and disposal (see Section 2.7.4.3 of the EIS). The potential for such destructive acts is low. DOE sites considered in the EIS are secured, and the packaging for the GTCC LLRW and GTCC-like wastes would be robust. The GTCC LLRW and GTCC-like wastes are not readily dispersible, and the impacts from any attempts to disperse these materials during transportation (such as the impacts from an explosive blast) would be greater than the impacts from any potential release of radioactivity. Impacts from severe natural phenomena, such as earthquakes and tornados, would not be expected to be significant, given that the GTCC LLRW and GTCC-like wastes are largely not dispersible and given the robust nature of the waste packages and containers.

USDOE fails to properly disclose the risks from 12,000 truckloads of extremely radioactive GTCC wastes.. plus 17,000 truckloads proposed to come to Hanford with mostly lower radiation levels in USDOE's draft TCWMEIS (Tank Closure & Waste Management EIS)

Keep radioactive waste out



W552-1

DOE's standard operating procedure for transportation of radioactive waste is developed and continually revised to ensure that the utmost protection of public health and the environment is achieved and that the risk of a traffic accident is minimized. For example, DOE has established a comprehensive emergency management program (Transportation Emergency Preparedness Program or TEPP) that provides detailed, hazard specific planning and preparedness measures to minimize the health impacts from accidents involving loss of control over radioactive material or toxic chemicals. DOE's TEPP was established to ensure that its contractors and state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving DOE shipments of radioactive materials.

If an accident that involved a release of radioactive material to the environment occurred, it would be remediated promptly in accordance with these procedures. These measures would help DOE minimize and mitigate any impacts on the environment.

Columbia River at Risk

- Hanford Reach of the Columbia flows through Hanford for over 50 miles, past nine full scale nuclear reactors, hundreds of liquid waste and burial sites.
- Hanford Reach National Monument, last natural salmon spawning grounds on River in US.
- Contaminants entering River along shore at levels >1,500 times Drinking Water Standard (e.g., Sr 90)



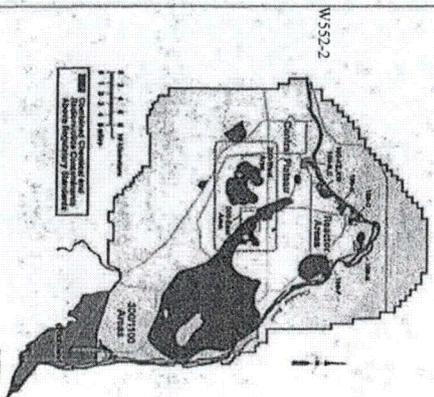
Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-2 This comment is outside the scope of this EIS. The scope of this EIS is to evaluate disposal alternatives to enable the selection of a safe alternative or alternatives for the disposal of GTCC LLRW and GTCC-like wastes.

USDOE Would Add GTCC Wastes On Top of All of These Hazards:

- 53 million gallons of waste in Hanford's High-Level Nuclear Waste Tanks; 35 million gallons remain in Single Shell Tanks.
- USDOE admits that over one million gallons of waste has leaked from tanks... Spreading faster towards the River than USDOE said was possible. Will anything be done?
 - USDOE & WA State agreed in 2010 to let USDOE take until 2040 to empty Single Shell Tanks.
- Over 200 square miles of contaminated groundwater (80+ sq. miles above Drinking Water Standards)... Contamination already entering River at levels >1,500 times Drinking Water Standard for Strontium....

Combined Distribution of All Contaminants in Groundwater on the Hanford Site



Heart of America Northwest, Commenter ID No. W552 (cont'd)

USDOE's Plans to Use Hanford as a
National Radioactive Waste Dump (again)

- 12,600 truckloads of EXTREMELY radioactive (GTCC) wastes proposed to be buried
 - This submittal is in addition to our comments at hearings May 17 and 19 in Pasco and Portland
- This would be on top of USDOE's 2004 decision to dump 3 million cubic feet of radioactive and chemical radioactive waste in adjoining landfill – 17,000 truckloads proposed in separate pending EIS (TCWMEIS) to be buried in an adjoining landfill (called "IDF").

W552-3 DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational. DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.

**USDOE Dumped Radioactive Waste in
Unlined Burial Grounds till mid 2004 –
now, USDOE objects to having to investigate what is in
the trenches and removing wastes**

W552-3



Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-4 As stated in the introduction to the EIS, GTCC-like waste has characteristics similar to those of GTCC low-level radioactive waste (LLRW) such that a common disposal approach may be appropriate.

What is "GTCC" Waste?:

- "Greater Than Class C"
- As radioactive or hotter at surface than High-Level Nuclear Waste
- But, not Fuel Rods, so USDOE calls it "low-level" waste
- Reactor innards, industrial sources
- Includes highly radioactive Plutonium wastes from USDOE sites, which USDOE tried to send to Hanford as "Remote Handled TRU" waste until blocked by Heart of America NW and WA lawsuit in 2003 – now, just changing the name to "GTCC-like"

W552-4

Heart of America Northwest, Commenter ID No. W552 (cont'd)

Heart of America Northwest, Commenter ID No. W552 (cont'd)

Nearly as much Radioactivity as in all of
Hanford's High-Level Nuclear Waste Tanks

- The amount of radioactivity in the GTCC wastes, which USDOE wants to bury, is nearly as much radioactivity as in all of the High-Level Nuclear Waste tanks at Hanford.
- 160 million Curies of highly radioactive wastes
- While USDOE says the volume is small, the radiation is incredibly high – and, 12,600 truckloads of waste or, 420,000 cubic feet, is NOT a small volume.

Why is USDOE looking to dispose of GTCC Waste now?

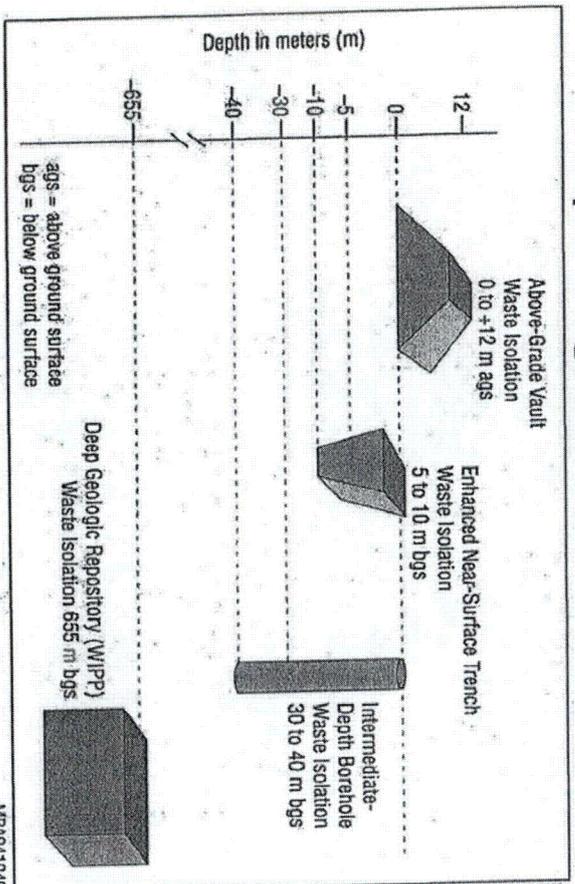
- Federal court said reactor innards had to be disposed in deep geologic repository as if High-Level Waste unless USDOE undertook process to decide otherwise. EIS required.
- Greatly increases reactor dismantlement, USDOE and industry costs if have to dispose in deep geologic repository – some states may block new reactors without disposal path.

Heart of America Northwest, Commenter ID No. W552 (cont'd)

How is USDOE Considering Disposing of GTCC Waste:

- Landfill Trenches
- Boreholes – down to about 130 feet and above groundwater if at Hanford
- Above ground soil covered “vaults”
- The underground salt mine used by USDOE to dispose of very long-lived Plutonium “Transuranic” wastes (TRU) in New Mexico, called “WIPP” near Carlsbad

How is USDOE Considering Disposing of GTCC Waste:



Where is USDOE Considering Disposing of GTCC Waste:

- Surface disposal sites considered in the EIS include these USDOE sites and a “generic” commercial site:
- Hanford
- Idaho National Lab
- Savannah River Site, South Carolina
- Nevada Test Site (now called Nevada National Security Site)
- Los Alamos National Lab, New Mexico
- Vicinity of WIPP underground site in NM

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-5 DOE agrees that use of a geologic repository would be a protective and safe method for the disposal of the entire inventory of GTCC LLRW and GTCC-like wastes. The GTCC EIS evaluation for the WIPP geologic repository alternative supports this statement. However, the degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

**Highly Radioactive and Long-Lived
Radioactive Wastes Belong in a Deep
Geologic Repository – But, USDOE is
Not Really Considering This**

- Very long lived – Plutonium 239 half life of 24,000 years
- Wastes are as radioactive as High-Level Waste
- For USDOE wastes, in 1970, the old Atomic Energy Commission (AEC) decided that all Transuranic wastes – i.e., Plutonium – should go to deep underground repository, not be disposed any longer in unlined trenches as was done at Hanford.

W552-5

Heart of America Northwest, Commenter ID No. W552 (cont'd)

Highly Radioactive and Long-Lived Radioactive Wastes Belong in a Deep Geologic Repository – But, USDOE is Not Really Considering This

- Scientists have agreed for decades that the best geologic formation for highly radioactive wastes is the Granite Shield of North America
- USDOE refused to consider such a site, after dropping Yucca Mt. Nevada (which was not suitable)
- The WIPP repository is in a salt formation in NM. It is barred by federal law from taking nondefense waste and this amount of very radioactive wastes. Heat is a problem. New Mexico and Congress unlikely to agree if USDOE selects WIPP.

W552-6

W552-7

W552-6 The EIS considered the range of reasonable alternatives for the disposal of the GTCC waste inventory, including disposal in a deep geologic repository. DOE did not evaluate developing a geologic repository exclusively for disposal of GTCC LLRW and GTCC-like wastes, such as in the granite shield, because DOE determined that such an alternative is not reasonable due to the time and cost associated with siting a deep geologic repository and the relatively small volume of GTCC LLRW and GTCC-like wastes identified in the GTCC EIS. DOE believes that the results presented in this EIS for the WIPP geologic repository alternative are indicative of the high degree of waste isolation that would be provided by disposal in a geologic repository. DOE has included analysis of generic commercial facilities in the event that a facility could become available in the future. In that case, before making a decision to use a commercial facility, DOE would conduct further NEPA reviews, as appropriate.

The degree of waste isolation provided by a geologic repository may not be necessary for all of the GTCC LLRW and GTCC-like wastes evaluated in the GTCC EIS. The GTCC EIS evaluation indicates that certain wastes (e.g., those containing short-lived radionuclides such as Cs-137 irradiators) could be safely disposed of in properly designed land disposal facilities at sites with suitable characteristics, such as low precipitation rates, high soil distribution coefficients, and sufficient depths to groundwater. Based on the GTCC EIS evaluation, land disposal facilities located in arid climates (e.g., NNSS and WIPP Vicinity) would isolate radionuclides for a sufficient period of time to allow for significant radioactive decay to occur.

While 10 CFR Part 61 identifies one NRC-approved method for GTCC LLRW disposal (disposal in a geologic repository), these regulations also indicate that other disposal methods could be approved. The GTCC EIS evaluates three land disposal methods (i.e., enhanced near-surface trench, intermediate-depth borehole, and above-grade vault). The GTCC EIS evaluation indicates that land disposal methods employed at sites with suitable characteristics would be viable and safe alternatives for the disposal of GTCC LLRW.

W552-7 Disposal of GTCC LLRW and GTCC-like wastes at WIPP or the WIPP Vicinity site is included in the range of reasonable alternatives and is evaluated in this EIS. DOE acknowledges that only defense-generated TRU waste is currently authorized for disposal at the WIPP geologic repository under the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and that legislation would be required to allow disposal of waste other than TRU waste generated by atomic energy defense activities at WIPP and/or for siting a new facility within the land withdrawal area. It would also be necessary to revise the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant, the WIPP compliance certification with EPA, and the WIPP Hazardous Waste Facility Permit. In addition, site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads) as well as the proposed packaging for disposal.

However, NEPA does not limit an EIS to proposing and evaluating alternatives that are currently authorized. Furthermore, the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant recognizes that the mission of WIPP may change and provides provisions to modify the agreement. For example, the Agreement states: "The parties to this Agreement recognize that future developments including changes to applicable laws (e.g., Public Law [P.L.] 96-164) may make it desirable or necessary for one or both parties to seek to modify this Agreement. Either party to this Agreement may request a review of the terms and conditions."

DOE acknowledges the TRU waste disposal limitations for WIPP specified in the WIPP LWA as amended (P.L. 102-579 as amended by P.L. 104-201) and in the Agreement for Consultation and Cooperation between Department of Energy and the State of New Mexico for the Waste Isolation Pilot Plant. Information on these limitations is provided in this EIS (see Section 4.1.1) and was considered in developing the preferred alternative. Based on the GTCC EIS evaluation, disposal of GTCC LLRW and GTCC-like wastes at WIPP would result in minimal environmental impacts for all resource areas evaluated, including human health and

transportation. Both the annual dose and the latent cancer fatality (LCF) risk would be zero because there would be no releases to the accessible environment and therefore no radiation doses and LCFs during the first 10,000 years following closure of the WIPP repository. DOE recognizes that the use of WIPP for the disposal of GTCC LLRW and GTCC-like wastes would require legislative changes and site-specific NEPA reviews would be conducted as needed, including further characterization of the waste (e.g., radionuclide inventory and heat loads), as well as the proposed packaging for disposal.

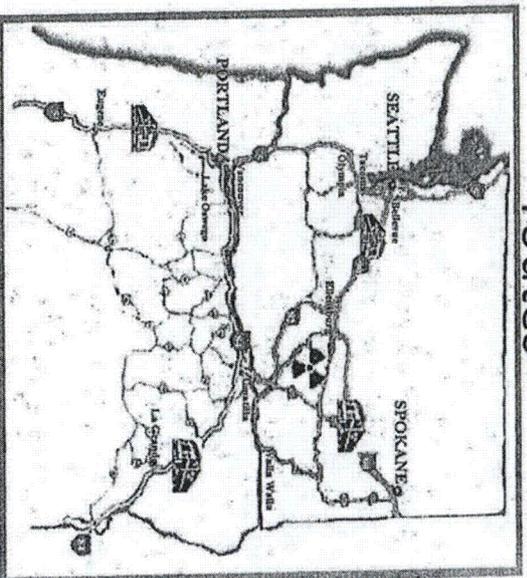
Why Worry About USDOE Choosing Hanford?

- USDOE would have to get Congress to change law to use WIPP repository in New Mexico, which has major political and technical obstacles.
- Surface disposal much cheaper – which is what is driving this in first place so industry has cheaper disposal path for reactor innards and other wastes
- USDOE insists it already made binding decisions in 2000 and 2004 to use Hanford and Nevada Test Site to split disposal of offsite radioactive wastes
 - USDOE refuses to withdraw 2004 decision to use Hanford to dispose of 3 million cubic feet of radioactive and chemical wastes, while claiming to do new analysis.

Why Worry About USDOE Choosing Hanford from its 6 sites or commercial site?

- USDOE acknowledges Savannah River groundwater too close to surface, and rain infiltration too high
- Los Alamos threatens the Rio Grande and USDOE facing State permit barring more disposal and ending unlined disposal
- At Idaho National Lab, USDOE admits Snake River aquifer would be threatened – water supply for much of ID; and, State won agreement to remove similar wastes from ground
- USDOE insists on keeping 2000 and 2004 decisions saying all offsite radioactive wastes would be split between Hanford and NTS – despite 2004 EIS for Hanford being invalid.
- Of 2 commercial radioactive waste landfills in US licensed for more than mild radioactive waste, one uses unlined, leaky trenches at Hanford adjacent to same site USDOE says it will use for GTCC and other offsite waste.

Even without an accident or terror attack, our communities are at risk from radiation exposure along the truck routes



Cancer Risk from Trucks Even Without an Accident or Terrorist Attack:

- USDOE estimated 816 fatal cancers in ADULTS along truck routes from routine exposure to Spent Fuel trucked to Hanford for storage/reprocessing under GNEP
 - USDOE ignored children and NAS data (BEIR VII) which would increase the estimated cancer risks. GTCC EIS fails to show real risks along actual truck routes or cancer estimate as in GNEP draft EIS.
- GTCC wastes are as radioactive as Spent Fuel, but USDOE failed to disclose that it is considering shipping GTCC and highly radioactive Plutonium to Hanford in the TCWMEIS.
- For 3 million cubic feet of offsite LLW and MW, TCWMEIS fails to disclose sources from new production to be disposed at Hanford. The TCWMEIS claims treatment for offsite waste that is not planned.
- GTCC EIS fails to disclose and consider the additional 17,000 truckloads which USDOE proposes to ship to Hanford in the TCWMEIS.

W552-8

W552-9

W552-10

W552-11

W552-8 The reference made to an estimate of 816 LCFs in the *Draft Global Nuclear Energy Partnership Programmatic Environmental Impact Statement* (GNEP PEIS, DOE/EIS 0396) is not relevant to the proposed action in the GTCC EIS. This value represents the maximum impacts associated with 50 years of transportation activities supporting the operations of all existing domestic commercial light-water reactors if all of them were replaced with high temperature, gas-cooled reactors. DOE cancelled the GNEP PEIS process on June 29, 2009 (74 FR 31017).

The GNEP PEIS involved many more shipments than those for disposal of GTCC LLRW and GTCC-like wastes. Because of this, the resulting estimated impacts for that program (now terminated) were much greater than those given in this EIS (i.e., 1,730,000 vs. 12,600 truck shipments). The same types of analyses were done in both the GNEP PEIS and this EIS, but no LCFs are expected to result from transportation of the GTCC LLRW or GTCC-like wastes to the potential disposal sites considered in the GTCC EIS due to the much lower shipment numbers (see Section 6.2.9.1).

W552-9 Disposition of the GTCC LLRW and GTCC-like wastes will be handled in a manner that is protective of human health and the environment and in compliance with applicable requirements and regulations. Doses to workers and the public will be minimized to the extent practical. The methodology used to estimate the radiological human health impacts in the EIS is based on standard practices that are subject to revision as our understanding of the effects of radiation on humans evolves. The same methodology is used in the evaluation of all alternatives; thus, any modification of this methodology (e.g., with a basis from BEIR VII and/or attempting to use risk factors for children) would not affect the comparisons among alternatives and the identification of the preferred alternative.

W552-10 The GTCC EIS evaluates the transportation impacts from the shipments that would be required to dispose of the entire inventory of GTCC LLRW and GTCC-like wastes at the Hanford Site and all the other sites being evaluated.

The GTCC EIS evaluates collective population risks during routine conditions and accidents, radiological risks to the highest exposed individuals during routine conditions, and consequences to individuals and populations as a result of transportation accidents, including the release of radioactive or hazardous chemical materials. For the truck option, it is estimated that about 12,600 shipments resulting in about 50 million km (30 million mi) of travel would be required. This transport of GTCC LLRW and GTCC-like wastes would not result in any LCFs, although one fatality directly related to an accident might occur (see Section 6.2.9.1).

In addition, Chapter 6 of the TC&WM EIS also has evaluated cumulative impacts addressing disposal of potential future wastes (including GTCC LLRW and GTCC-like waste) at the Hanford site.

W552-11 DOE has considered cumulative impacts at the Hanford Site in this GTCC EIS. The disposal of GTCC LLRW and GTCC-like waste at the Hanford Site could result in environmental impacts that may warrant mitigation for Tc-99 and I-129 through limiting receipt of these waste streams (see Table 6.2.4.2 and Figure 6.2.4.1 in this EIS).

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

W552-12 Calculation of the collective population risk (under routine and accident conditions) is provided in the EIS. While these estimates are conservative, the calculations used expected values where practical (e.g., external shipment dose rates) and provide a reasonable measure for comparison among alternatives, as summarized in Tables 2.7 5 and 2.7 6.

**Cancer Risk from Trucks Even Without
an Accident or Terrorist Attack continued:**

- Radiation doses one meter away from shipments of GTCC, Remote Handled TRU or other GTCC Like wastes are grossly understated in the GTCC EIS.
 - GTCC EIS calculates risk from dose = 2.5 mrem 1 meter from R-H cask truck (pg 5-45)
- This results in false presentation of total LCF (Latent Cancer Fatalities).
- The GTCC EIS estimate is based on 50 years of repeated exposure resulting in .5 to 1.0 mrem total dose for the most exposed individual – a truck inspector. Page 5-83

W552-12

Cancer Risk from Trucks Even Without an Accident or Terrorist Attack continued:

- Radiation doses one meter away from shipments of GTCC, Remote Handled TRU or other GTCC Like wastes are grossly understated in the GTCC EIS.
 - GTCC EIS calculates risk from dose = 2.5 mrem 1 meter from R-H cask truck (pg 5-45)
- This results in false presentation of total LCF (Latent Cancer Fatalities).
- “On a site-specific basis, if someone was living or working near the Hanford Site entrance and present for all 12,600 truck or 5,010 rail shipments projected, that individual’s estimated dose would be approximately 0.5 or 1.0 mrem, respectively. The individual’s associated lifetime LCF risk would then be 3 x 10⁻⁷ or 6 x 10⁻⁷ for truck or rail shipments, respectively.” Page 6-102

W552-12
(Cont.)

Heart of America Northwest, Commenter ID No. W552 (cont’d)

- This assertion is ridiculous: It ignores the likelihood that people may be repeatedly in traffic next to such shipments (600/Yr for 20 years), at stop lights with the shipments, that the population around and on what is now the Hanford site will grow significantly, the reality of routes through Portland and Spokane and driving off of interstate highways. E.g., 12 minutes of exposure at 3 meters = 2 mrem (Radiation Exposures From Spent Nuclear Fuel and High-Level Nuclear Waste Transportation to a Geologic Repository or Interim Storage Facility in Nevada, Nevada Nuclear Projects Office – GTCC and RH-TRU may exceed limits and averages for Spent Fuel trucks presented in NV report).

W552-13 The transportation of radioactive waste will meet or exceed DOT and NRC regulatory requirements that promote the protection of human health and the environment. These regulations include requirements for radioactive materials packaging, marking, labeling, placarding, shipping papers, and highway routing. The waste shipments would be on preferred routes, which are interstate highways or alternative routes designated by a state routing agency in accordance with DOT regulations (49 CFR Part 397, Subpart D). The GTCC LLRW and GTCC-like wastes would be shipped in approved waste packages and transportation casks. The robust nature of these casks limits the potential release of radioactive and chemically hazardous material under the severest of accident conditions. It is unlikely that the transportation of GTCC LLRW and GTCC-like wastes to any of the alternative sites evaluated in the EIS would cause an additional fatality as a result of radiation from either incident-free transportation or postulated transportation accidents.

The EIS evaluated the transportation impacts from the shipments that would be required to dispose of all of the GTCC LLRW and GTCC-like wastes at the various disposal sites. The EIS addressed the collective population risks during routine conditions and accidents, the radiological risks to the highest exposed individuals during routine conditions, and the consequences to individuals and populations as a result of transportation accidents, including those that could release radioactive or hazardous chemical materials. About 12,600 shipments would be required to transport all of the GTCC LLRW and GTCC-like wastes to the Hanford Site for disposal. This would result in about 50 million km (30 million mi) of highway travel, with no expected LCFs. One fatality directly related to an accident might occur (see Section 6.2.9.1).

Realistic Radiation Exposure and Cancer Risks from 12,000 truckloads of GTCC Waste:

Your distance from cask center:	6 m/20 ft	10 m/33 ft	15 m/49 ft	40 m/131 ft
Dose Rate(microrem/min.)	70	40	20	6
Maximum Dose,				
6 min. exposure(mrem)	0.4	0.2	0.1	0.04
2 min. exposure(mrem)	0.14	0.08	0.04	0.01
Maximum Annual Individual Dose (in mrem)				
600 trucks	84-240	48-120	24-60	6-24

Thus, even at 40 meters, your child and your annual radiation doses based on potential for being in traffic and routing past schools, off interstate and past homes (remember Lewis and Clark HS front door is under 25 meters from I-90 traffic in Spokane), may be 6 to 24 mrem/Year. 600 trucks is based on 12,000 truck total with extremely hot "Remote Handled" trucks forecast in GTCC EIS over 20 years – actual # may be higher).

Your total (nonfatal)cancer risk (for adult male) from annual exposures at 40 meters: 2.4 in every one thousand and 7.2 to 24 per thousand children.

(source for exposure and dose: Radiation Exposures From Spent Nuclear Fuel and High-Level Nuclear Waste Transportation to a Geologic Repository or Interim Storage Facility in Nevada, Nevada Nuclear Projects Office

W552-13

W552-14 The GTCC EIS provides a reasonable estimate of impacts to individuals potentially exposed to GTCC LLRW and GTCC-like waste shipments as directed by NEPA. The EIS provides, in Section 5.3.9.2, potential impacts for those individuals that could be expected to receive the highest exposures during transport of the waste. However, it is not claimed that these exposures represent maximum values.

Exposures to Occupants of Vehicles Trapped in Traffic Gridlock Near Highly Radioactive Waste Shipment Truck:

“Drivers and passengers of vehicles in traffic gridlock incidents could receive potentially significant radiation doses as a result of being trapped next to or near an undamaged truck cask for an extended period of time. Sandquist evaluated such events, and concluded that occupants of stopped vehicles in lanes adjacent to the cask vehicle could receive a maximum dose of 3 mrem, assuming a distance of 5 meters from the cask center and an exposure time of 30 minutes. In response to inquiries from the U.S. Nuclear Waste Technical Review Board(NWTRB), DOE personnel in 1990 prepared an analysis which concluded that the maximum dose from a gridlock incident could be as high as 40 mrem.” (Id. NV Nuclear Waste Projects Office, Halstead)

- USDOE ignores its own prior analyses and correspondences with the State of Nevada in GTCC EIS (and also TCWMEIS) in falsely projecting maximum public doses along truck routes to Hanford of .5 mrem.

W552-14

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-15 See response to W552-13.

**Exposures to Occupants of Vehicles Trapped in Traffic
Gridlock Near Highly Radioactive Waste Shipment Truck:**

- Reasonably foreseeable (not maximum) doses under likely scenarios with actual routes include being in traffic at lights or on interstate next to 1 truck per week for 6 minutes at 6 meters and adjacent in traffic at 5 meters once per month = 56.8 mrem/Year.
- This is a potential fatal cancer risk for adult males of 3.2 per thousand exposed annually; and, fatal cancer risks to children of up to 3.2%.
- *In good conscience, how can USDOE call these radiation exposures and risks "small"???*

W552-15

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-16 As stated in the introduction to the EIS, GTCC-like waste has characteristics similar to those of GTCC low-level radioactive waste (LLRW) such that a common disposal approach may be appropriate.

The primary radiological transportation risk to the public for any alternative is from the low level of radiation emanating from the transport vehicle. As discussed in Section 5.3.9.1, the collective population risk is a measure of the total risk posed to society as a whole. A comparison of the collective population risk provides a meaningful evaluation of the relative risks between disposal locations, as provided in Tables 2.7.5 and 2.7.6. The magnitude of the collective population risk is primarily determined by the number of routes, the length of each route, the number of shipments along each route, the external dose rate of each shipment, and the population density along a given route. The primary differences between alternatives from the standpoint of transportation are the lengths of the routes as determined by the location of the disposal sites (destination of the shipments). Thus, higher collective population risks are associated with alternatives that require transportation over longer distances. All alternatives involve routes that have similar characteristics, with no significant differences for comparison among alternatives, requiring transportation through a range of rural and urban areas. In addition, the routes used in the analysis are considered representative routes (as discussed in Appendix C, Section C.9.4.1.1, because the actual routes used would be determined in the future. For each disposal site, the routes most affected would be the interstate highways that are in closest proximity to the site.

Once an alternative is selected in a ROD for this EIS for implementation, site-specific NEPA reviews would be conducted as needed, including an assessment of specific routing. This process will include planning that involves transportation stakeholders.

USDOE ignores its legal duty – and prior Court decisions – to consider the impacts along the actual routes

USDOE plans to truck these wastes to Hanford:

- The US District Court for E WA previously enjoined USDOE from shipping RH-TRU to Hanford without an adequate Environmental Impact Statement (EIS) in an action brought by Heart of America Northwest and the State of Washington. See *Washington vs. Abraham*, 354 F.Supp.2d 1178 (2005). The RH-TRU wastes included wastes that USDOE has now re-designated at GTCC-like wastes. Use of conceptual, instead of actual truck routes, was found improper for USDOE to rely upon in making a decision to truck these wastes to Hanford prior to release of a Final EIS with actual truck routes and up to date route data. See Order in CT-03-5044 and 5018 at 22
- The Court's preliminary injunction was expanded because the Final HSW EIS was inadequate in that it failed to consider the new construction and census data surrounding the actual transportation routes to Hanford. *Bodman*, 2005 WL 1130294, at 19-20. USDOE must provide an updated route-specific environmental analysis, not one based on conceptual routes without consideration of actual exposures (e.g., traffic, routing through cities and past schools, or over the Blue Mts., Emigrant Pass or the Columbia Gorge in Oregon)..

W552-16

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-17 Information from the GTCC EIS on the disposal of GTCC LLRW and GTCC-like waste at the Hanford Site was reflected in the Final TC&WM EIS cumulative impacts analysis.

The GTCC EIS evaluates the transportation impacts from the shipments that would be required to dispose of the entire inventory of GTCC LLRW and GTCC-like wastes at the Hanford Site and all the other sites being evaluated. The EIS evaluates collective population risks during routine conditions and accidents, radiological risks to the highest exposed individuals during routine conditions, and consequences to individuals and populations as a result of transportation accidents, including the release of radioactive or hazardous chemical materials. For the truck option, it is estimated that about 12,600 shipments resulting in about 50 million km (30 million mi) of travel would be required. This transport of GTCC LLRW and GTCC-like wastes would not result in any LCFs, although one fatality directly related to an accident might occur (see Section 6.2.9.1).

**Cancer Risk from Trucks Even Without
an Accident or Terrorist Attack continued:**

- GTCC EIS falsely presents total Latent Cancer Fatalities
- In the Hanford Solid Waste EIS (2004) USDOE estimated 9-10 fatal cancers in adults due to routine exposure from projected truck shipments to Hanford, mostly due to a small number of RH-TRU shipments, which USDOE has now included in GTCC EIS as GTCC like waste. Yet, USDOE, in GTCC EIS, fails to acknowledge the prior estimate of fatal cancers from the same wastes over the same routes. Final Hanford Solid Waste Disposal EIS, USDOE, Feb. 2004, page S.35- "...9 to 10 ECFs were estimated for the Upper Bound waste volume."

W552-17

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-18 As stated in the EIS, Appendix C, Section C.9.4.4 - DOE used a complex-wide average of radionuclide profile of similar waste in developing the dose rate used in the EIS. DOE acknowledges that for specific shipments this dose rate may be lower than the actual. However, DOE believes this estimate is more realistic than a bounding estimate.

Cancer Risk from Trucks Even Without an Accident or Terrorist Attack continued:

- Radiation doses one meter away from shipments of GTCC, Remote Handled TRU or other GTCC Like wastes are grossly understated in the GTCC EIS. This results in false presentation of total LCF (Latent Cancer Fatalities). The GTCC EIS estimate is based on 50 years of repeated exposure resulting in .5 to 1.0 mrem total dose. Page 5-83
- GTCC EIS fails to base dose on limit of radiation dose allowed which is 10 mrem / hour 2 meters away from the cask — e.g., next lane in traffic. (This criticism applies to inspectors and parking lots, etc... where GTCC EIS says total dose it projects is .5 to 1 mrem. One inspection is likely to result in dose of 7.5 mrem, which is 7.5 to 15 times higher than GTCC EIS projects for lifetime dose to inspector. See Nevada Agency for Nuclear Projects
- GTCC EIS

W552-18

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-19 The GTCC EIS provides a reasonable estimate of impacts to individuals potentially exposed to GTCC LLRW and GTCC-like waste shipments as directed by NEPA. The EIS provides, in Section 5.3.9.2, potential impacts for those individuals that could be expected to receive the highest exposures during transport of the waste.

Cancer Risk from Trucks Even Without an Accident or Terrorist Attack continued:

- Lewis and Clark HS in Spokane and student exposure is approximately 15 meters from trucks in traffic on I-90. Scores of libraries, community centers and schools are within 15 meters of alternate routes which will be used when trucks are overweight or subject to detours from interstate – a realistic scenario as seen with very first RH-FRU truck USDOE sent through Oregon to Hanford in 2002.

- At 15 meters from truck for 6 minutes typical exposure for Spent Fuel – likely not as radioactive as most of 12,000 of the GTCC truckloads – radiation level for analysis should be .1

mrem. Radiation Exposures From Spent Nuclear Fuel and High-Level Nuclear Waste Transportation to a Geologic Repository or Interim Storage Facility in Nevada, Nevada Agency For Nuclear Projects, R.J. Halstead (<http://www.state.nv.us/nucwaste/trans/radexp.htm#notes>) citing Sandquist, G.M., et al., Exposures and Health Effects from Spent Fuel Transportation, RA-E-8339/12-1, Prepared for U.S. DOE, Office of Civilian Radioactive Waste Management, Salt Lake City: Rogers and Associates Engineering Corporation, November 29, 1985.

W552-19

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-20 The GTCC EIS provides a reasonable estimate of impacts to individuals potentially exposed to GTCC LLRW and GTCC-like waste shipments as directed by NEPA. The EIS provides, in Section 5.3.9.2, potential impacts for those individuals that could be expected to receive the highest exposures during transport of the waste. It is not expected that GTCC LLRW and GTCC-like shipments would be subjected to the same types of inspections as spent nuclear fuel.

Once an alternative is selected in a ROD for this EIS for implementation, site-specific NEPA reviews would be conducted as needed, including a more detailed transportation risk assessment. This process will include planning that involves transportation stakeholders.

Cancer Risk from Trucks Even Without an Accident or Terrorist Attack continued:

- "Inspections of truck casks entering Nevada will likely require 45 - 75 minutes, based on actual experience in other western states with the more rigorous inspection protocols developed by the Commercial Vehicle Safety Alliance(CVSA), and may also involve swipe sampling inside the personnel barrier to determine cask surface contamination levels. Rigorous mechanical and radiological safety inspections at Nevada ports of entry could very well result in an average dose of 10 mrem per person per truck cask arrival. An inspector who conducted two truck inspections per week could receive a cumulative annual dose ranging from 200 to 1,000 mrem. At one inspection per day, 5 days a week, an inspector could receive an annual dose of up to 2,500 mrem."

Radiation Exposures From Spent Nuclear Fuel and High-Level Nuclear Waste Transportation to a Geologic Repository at Interim Storage Facility in Nevada, Nevada Agency for Nuclear Projects, R.J. Halstead (<http://www.state.nv.us/nucwaste/trans/radexp-hrhmnotes>) citing Sandquist, G.M., et al, Exposures and Health Effects from Spent Fuel Transportation, RA-E-8339/12-1, Prepared for U.S. DOE, Office of Civilian Radioactive Waste Management, Salt Lake City, Rogers and Associates Engineering Corporation, November 29, 1985.

But, GTCC EIS uses unrealistically low dose and time

W552-20

W552-21 DOE agrees that some cancer fatalities could occur as the result of an accident or terrorist act. A generic accident consequence assessment was performed because there is no way to predict the exact location and conditions of an accident, as discussed in C.9.3.3 of the EIS. For all alternatives, potential accidents, even those at the same location, could have impacts that range from negligible to significant depending on the waste involved, the accident severity, and weather conditions. Such an analysis would not help distinguish between alternatives because all alternatives involve routes through or near major population centers.

The analysis of intentional destructive acts is given in Section 2.7.4.3 of the EIS. This analysis provides a perspective on the risks that the GTCC LLRW and GTCC-like wastes could pose should such an act occur. In general, the risk presented from an intentional destructive act is similar to that from a high-severity transportation accident. The accident consequence assessment (given in Section 5.3.9.3 of the Final EIS) presents the results for transportation accidents that fall into the highest severity category. The severe environment that occurs under such conditions can be considered to be similar to that which could be initially instigated by an act of sabotage. In highly populated areas, where the highest exposures would be anticipated, a rapid response would be expected, minimizing the amount of time available to fully breach a Type B package. Should such shipments be diverted and the radioactive material removed for dispersion, higher exposures could be achieved, and potential impacts could be significant. The economic impact could reach several billions of dollars. The extent of the impacts would depend on the exact location of the release, density of the surrounding population, local meteorology, and emergency response capabilities in the affected area. In addition, the final transportation routes will not be selected until a ROD for the EIS is issued and site-specific NEPA review is conducted as needed.

What if there is an accident or terrorist attack?

- HOA commissioned physicists to model impact of reasonably foreseeable accident with fire or terrorist attack on a truck at I-84 and I-205 in Portland, and on I-90 in Spokane. The report is based on truck with same wastes that USDOE proposes to ship as part of GTCC EIS (RH-TRU which USDOE had previously sought to ship to Hanford in 2003/2004). Uses NRC model. Incorporated in comments by reference and Viewable at <http://www.hoanw.org/uploads/hoanw/Hanford%20Pd%20Report%20RS.pdf>
- Result: Over a thousand cancer deaths, hundreds of square miles contaminated and require evacuation. Decontamination in a city on this scale has never been attempted.

W552-21

W552-22 Comment noted.

If there were an accident or terror attack on a truckload of extremely radioactive waste in a US city,

- US Government would likely do the same as Japan...
Raise "allowable" radiation dose rather than attempt to evacuate and cleanup
Dept of Homeland Security already did this for response to dirty bomb at end of Bush Admin.

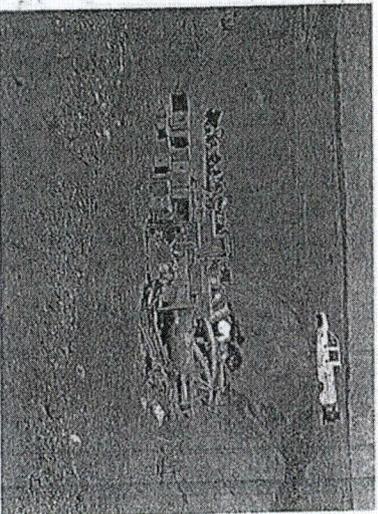
W552-22

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-23 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts will continue.

WA Voters Said Do Not Add More Waste to Hanford's Contamination, but USDOE blocked in court

- Initiative 297 2004 "Clean up contamination before adding more"
- Forced USDOE to Stop Dumping in Unlined Trenches, despite federal courts deciding I-297 pre-empted. Courts did say State could adopt standard of "Cleanup First" in state hazardous waste law or permit... Waiting to see if State permit will include



W552-23

Heart of America Northwest, Commenter ID No. W552 (cont'd)

Heart of America Northwest, Commenter ID No. W552 (cont'd)

What Are the Risks of Cancer and
Impacts to Water from Burying
Extremely Radioactive GTCC Wastes at
Hanford?

- The Groundwater will be contaminated
- The groundwater flows into the Columbia River
- People will be using the groundwater
- How can USDOE justify adding nearly as much radioactivity as in all of Hanford's High-Level Nuclear Waste tanks, which we are fighting with USDOE to remove and cleanup?

W552-23
(Cont.)

W552-24 Comment noted.

TCWMEIS – Tank Closure Waste Management Environmental Impact Statement

- TCWMEIS was required due to legal and scientific errors in the 2004 Hanford Site Solid Waste EIS, which USDOE sought to rely on to use Hanford as national waste dump
- “Preferred alternative” proposes to use Hanford as national mixed radioactive hazardous and low level waste dump – once vitrification plant is “operational”
 - But, USDOE could start importing and disposing waste sooner, including extremely radioactive GTCC waste with Plutonium. Impact analysis missing from this EIS for adding GTCC wastes.
- “Closure” of Hanford’s High-Level Waste Tank Farms – USDOE prefers leaving contamination in tank bottoms and in soil.

W552-24

Heart of America Northwest, Commenter ID No. W552 (cont'd)



Key Decisions USDOE Proposes to Issue Using TCWMEIS:

- Where to bury offsite waste at Hanford:
 - Fails to include an alternative of not using Hanford as a national radioactive and mixed radioactive hazardous waste dump!
 - Whether to use landfills in both 200 East and 200 West areas, or just 200 East
 - USDOE proposes to add approximately 3 million cubic feet of waste to Hanford's contamination and compliance problems... approximately 17,500 truckloads of waste
 - USDOE improperly left out of EIS a disclosure that it is also considering sending highly radioactive GTCC waste to be buried in Hanford landfill(s). Includes Plutonium.

W552-24
(Cont.)

Heart of America Northwest, Commenter ID No. W552 (cont'd)

USDOE proposes to bury GTCC wastes at Hanford adjacent to the leaky unlined commercial radioactive waste dump and to the lined landfill USDOE wants to use as national radioactive waste dump for 3 million cubic feet of other offsite waste, just South of East Area High-Level Waste Tank Farms

Heart of America Northwest, Commenter ID No. W552 (cont'd)

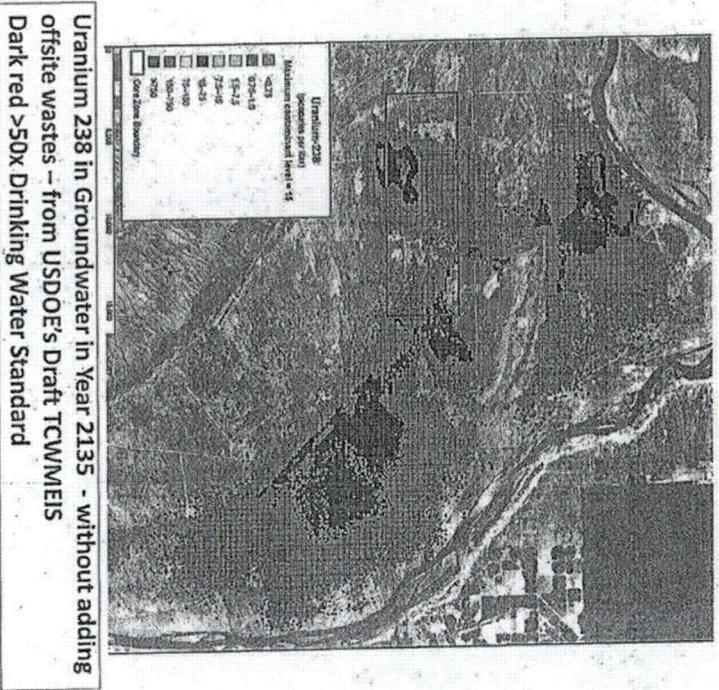


Figure 6-65: Alternative Combination 2 Spatial Distribution of Cumulative Groundwater Concentration for Uranium-238 During Calendar Year 2135

Heart of America Northwest, Commenter ID No. W552 (cont'd)

Uranium 238 in Year 3890 under Alt 2 in TCWMEIS – this contamination is without adding offsite LLW and extremely radioactive GTCC wastes. New plumes from tank leaks, residues and discharges will grow for thousands of years under USDOE’s plans to NOT cleanup tank leaks, waste discharge trenches and cribs, and to leave 1% in tanks.

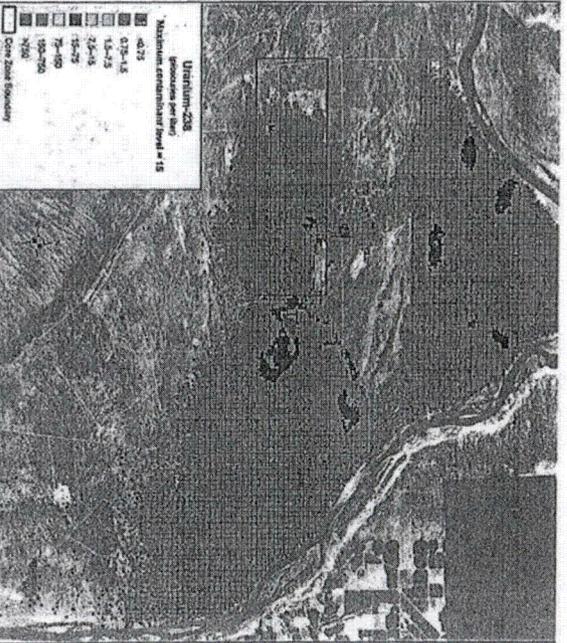


Figure 4-6. Alternative Containment 1 Small Striped of Containment Boundary Comparison for Uranium-238 During Closure Year 3890 - Description page 4-26

Cumulative Impacts Without Adding More Waste or Considering Tank Wastes

Maximum Peak Year Concentrations of the COPCs from Non-TC & WM EIS Sources at the Core Zone Boundary and the Columbia River Nearshore

- Table U-2 TCWMEIS

Plutonium 283 x standard at River

Contaminant	Max concentration Central Plateau Inner (year)	Max concentration River shore (year)	DW/Standard or benchmark
Pu (inc 239, 240)	2,660 (11,848)	4,250 (2983)	15 pCi/L
I-129	50.9 (4043)	9.1 (4540)	1. pCi/L
Chromium	2540 (2216)	16,100 (1978)	100

W552-25 See response to W552-11.

In the Draft TCWMEIS, USDOE Only
Considers Using
Hanford landfill(s) as national radioactive
waste dump - adding 3 million cubic feet of
radioactive and radioactive toxic waste
Mostly from new nuclear weapons production
What's missing from this choice?

W552-25

Alternative 2:
Landfills in 200 East and
200 West used as
national waste dump

Alternative 3:
IDF landfill in 200 East
used as national waste
dump

Heart of America Northwest, Commenter ID No. W552 (cont'd)

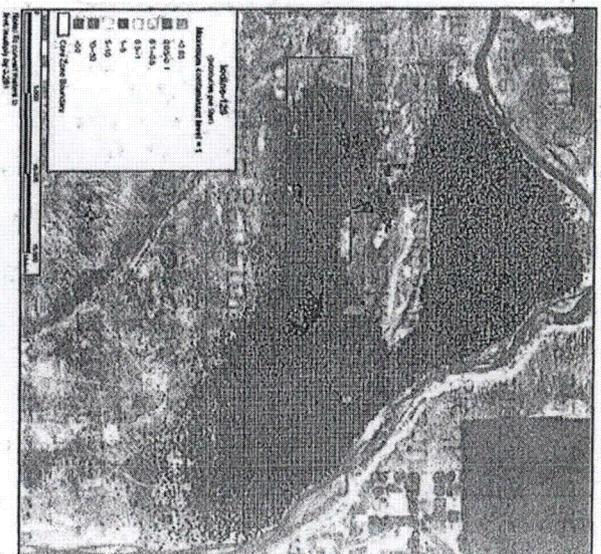
Using Hanford as a national radioactive waste dump for 3 million cubic feet of radioactive waste

- Increases cancer risk to future generations using the groundwater, from the one landfill, tenfold to 100 times WA State's cancer risk standard
 - Will include highly radioactive (Remote Handled) wastes and Transuranic wastes. (e.g., Plutonium) in concentrations just below the legal limit requiring deep geologic disposal
 - Appears to have left these wastes out of modeling impacts
- USDOE illegally left out of the EIS its separate pending plan to import and bury highly radioactive "GTCC" wastes – as hot as High-Level Nuclear Waste.

W552-25
(Cont.)

**Impacts of USDOE's Plans (Combo Alt 2) --
Radioactive Iodine 129**

- Iodine in Groundwater in Year 3890
- Tank residues and leaks are not cleaned up (landfill closure); 200 East IDF landfill only
- Darkest red is >50X DWS
- Table 6-45



Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-26 Disposition of the GTCC LLRW and GTCC-like wastes will be handled in a manner that is protective of human health and the environment and in compliance with applicable requirements and regulations. Doses to workers and the public will be minimized to the extent practical. The methodology used to estimate the radiological human health impacts in the EIS is based on standard practices that are subject to revision as our understanding of the effects of radiation on humans evolves (e.g., effects on children vs. adults). The same methodology is used in the evaluation of all alternatives; thus, any modification of this methodology would not affect the comparisons among alternatives and the identification of the preferred alternative.

What Happens if USDOE also buries GTCC wastes at Hanford?

- Adds nearly as much radioactivity to soil above groundwater as in all of Hanford's High-Level Nuclear Waste tanks!!!
- Groundwater will be used and flows to Columbia River
- USDOE's own GTCC EIS says burying in landfill trenches adds 48 mrem / year dose – USDOE calls all the projected radiation doses "small" (GTCC EIS page 6-86)
- the fatal cancer risk to children using the groundwater, including Native Americans exercising their Treaty rights to live and use the resources at Hanford, would be over 2%.

W552-26

W552-27 See response to W552-11.

The Significance of the TCWMEIS groundwater contamination maps and projected peak concentrations:

- The impacts from existing waste sources plus the IDF landfill to groundwater are shown in these maps and table from the TCWMEIS. USDOE fails to meet NEPA's requirements to disclose cumulative impacts and impacts of related proposals in the GTCC EIS.

W552-27

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-28 The RESRAD-OFFSITE code, like all codes, has limitations. This code was selected for the GTCC EIS analysis because of its manageable number of input parameters, its comprehensive transport analysis for radionuclides in the unsaturated zones and saturated zone, and its flexibility in accepting radionuclide release rates calculated outside the RESRAD-OFFSITE framework. Furthermore, the RESRAD-OFFSITE code has been benchmarked with other computer codes. The results obtained from the code are considered to be technically sound estimates.

DOE believes that the analyses presented in the EIS are sufficient to compare the potential cumulative impacts of GTCC LLRW and GTCC-like waste disposal for the sites that were evaluated. In particular, existing concentrations of various radionuclides in contaminated soil and groundwater at the candidate sites were taken into consideration in the selection of the preferred alternative. Additional cumulative impact analyses would be conducted in site-specific NEPA reviews, if needed, for the alternative selected in a ROD. Such follow-on analyses would be based on additional site-specific information.

W552-29 The summary tables presented in Section 2.7 tabulate the potential impacts for up to 10,000 years (potential impacts for peak years are given in Appendix E); the 660 mrem/year value stated in the comment is not a value that is presented in the EIS. The primary objective of the EIS is to compare the impacts between alternatives. Comparison of impacts against appropriate standards would be considered during the actual design and implementation of a disposal facility.

The Significance of the TCWMEIS groundwater contamination maps and projected peak concentrations continued...:

- Because it uses a discredited groundwater model, and not the more appropriate model from the TCWMEIS, the GTCC EIS wrongly projects peak Uranium contamination in groundwater at core zone boundary in over 22,000 years at 660 mrem/year. As TCWMEIS projections for nearby waste sites illustrates, the peak will likely occur thousands of years sooner, before 10,000 years.
- GTCC EIS then fails to present the risk from 660 mrem/year dose in summary tables of risk. (should be compared to cleanup standard of 15 mrem/year).

W552-28

W552-29

W552-30 The modeling with the RESRAD-OFFSITE code utilized a specific feature of the code. That is, the leach rates of radionuclides were calculated separately and entered as input values to the code for subsequent transport modeling through the unsaturated zones and the groundwater aquifer. In the process of calculating leach rates to input into the RESRAD-OFFSITE code, the influence of the waste forms was considered. For activated metals, a constant release fraction was assumed, reflecting that the imbedded radionuclides in the metal would not dissolve in water until the metal was corroded. For Other Wastes, the release rates were calculated by considering the retardation provided by grouting; therefore, measured Kd values of radionuclides in cementitious materials as available in published literature were used for the release calculations. For sealed sources, because the waste forms can vary greatly, the release rates were calculated by assuming the waste forms would behave like soils and would not provide extra protection against leaching. The consideration for releases from activated metals was similar to a dissolution mechanism. The consideration for releases from sealed sources was similar to a surface rinse mechanism. The consideration for releases from Other Waste was similar to a surface rinse mechanism, but with non-zero Kds for the waste form.

The integrity of waste packages, waste containers, and barrier materials over time was not specifically modeled in the RESRAD-OFFSITE code. Their performance over time depends on the engineering designs of the disposal facility. Compared with the analysis time frame that extends to 10,000 (or possibly up to 100,000) years into the future, the integrity periods of the waste packages, waste containers, and barrier materials are relatively short. Therefore, in the GTCC EIS, the integrity periods are evaluated as one single parameter, which is assumed to be 500 years in the analysis. To study the influence of this assumption, a sensitivity analysis was conducted. This approach provides a perspective on performance for the long term.

The RESRAD-OFFSITE computer code was used to model the migration of radionuclides from the GTCC LLRW and GTCC-like wastes placed into the conceptual disposal facility designs for the three land disposal methods. Site-specific information provided by technical staff from various sites that were evaluated was used in these modeling analyses to the extent it was available, and conservative assumptions were used to fill any remaining data gaps. While the computer model was largely developed to support environmental restoration activities, it has a number of features that make it a good choice for use in this EIS. The analysis presented in the EIS is adequate for the comparison of the disposal alternatives evaluated. Fate and transport parameters utilized in the estimations were based on site-specific (e.g., specific to the reference location to the extent available) information and, as such, are considered reasonable for the purpose of the comparison made in the EIS. However, DOE recognizes that additional project- and site-specific information, such as the actual depth to groundwater over the entire disposal area, could be used to inform the implementation of a disposal facility at a given location. This additional information is expected to reduce the uncertainty associated with these types of evaluations to the extent possible. Site-specific NEPA reviews would be conducted as needed based on a ROD for this EIS.

The RESRAD-OFFSITE code, like all codes, has limitations. This code was selected for the GTCC EIS analysis because of its manageable number of input parameters, its comprehensive transport analysis for radionuclides in the unsaturated zones and saturated zone, and its flexibility in accepting radionuclide release rates calculated outside the RESRAD-OFFSITE framework. Furthermore, the RESRAD-OFFSITE code has been benchmarked with other computer codes. The results obtained from the code are considered to be technically sound estimates.

The Significance of the TCWMEIS groundwater contamination maps and projected peak concentrations continued:

- The excerpts from TCWMEIS also illustrate how releases from adjacent and nearby sites are projected to have peak contamination at the Central Plateau Core Zone Boundary thousands of years earlier than in the GTCC EIS. This is because the TCWMEIS utilizes a more sophisticated groundwater model than GTCC EIS does, which USDOE spent tens of millions to develop and committed to use in all related NEPA and other documents.

W552-30

W552-31 DOE has considered cumulative impacts at the Hanford Site in this GTCC EIS. The disposal of GTCC LLRW and GTCC-like waste at the Hanford Site could result in environmental impacts that may warrant mitigation for Tc-99 and I-129 through limiting receipt of these waste streams (see Table 6.2.4.2 and Figure 6.2.4.1 in this EIS).

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

Disposition of the GTCC LLRW and GTCC-like wastes will be handled in a manner that is protective of human health and the environment and in compliance with applicable requirements and regulations. Doses to workers and the public will be minimized to the extent practical. The methodology used to estimate the radiological human health impacts in the EIS is based on standard practices that are subject to revision as our understanding of the effects of radiation on humans evolves. The same methodology is used in the evaluation of all alternatives; thus, any modification of this methodology (e.g., with a basis from BEIR VII and/or attempting to use risk factors for children) would not affect the comparisons among alternatives and the identification of the preferred alternative.

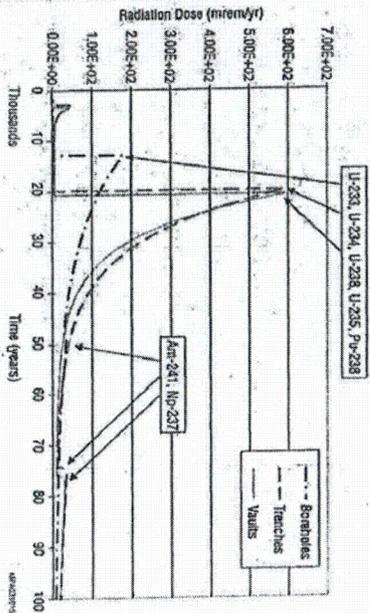
Uranium, Plutonium and other Transuranics (TRU) will contaminated groundwater with far higher risks than shown in Summary

FIGURE 6.2.4-2: Temporal Plot of Radiation Doses Associated with the Use of Contaminated Groundwater within 100,000 Years of Disposal for the Three Land Disposal Methods at the Hanford Site

USDOE claims maximum cancer risk is "small" and shows in Summary total dose from disposal via borehole, trench or vault at Hanford is = 49 mrem per year, primarily due to Tc 99 and Iodine.

This chart shows how those claims misrepresent USDOE's own data.

Uranium, Pu and other TRU wastes will result in doses (on top of the Tc99 and Iodine) of nearly 50 mrem/year in the first 5,000 years and then reach peaks at incredibly high levels of 600 mrem per year. This 600 mrem dose should be presented as posing a risk of fatal cancer in 3.42% of exposed adult males (SEE National Research Council, National Academy of Science, June, 2005, BEIR VII at page 500, Table 12-9)



W552-31

W552-32 The modeling with the RESRAD-OFFSITE code utilized a specific feature of the code. That is, the leach rates of radionuclides were calculated separately and entered as input values to the code for subsequent transport modeling through the unsaturated zones and the groundwater aquifer. In the process of calculating leach rates to input into the RESRAD-OFFSITE code, the influence of the waste forms was considered. For activated metals, a constant release fraction was assumed, reflecting that the imbedded radionuclides in the metal would not dissolve in water until the metal was corroded. For Other Wastes, the release rates were calculated by considering the retardation provided by grouting; therefore, measured Kd values of radionuclides in cementitious materials as available in published literature were used for the release calculations. For sealed sources, because the waste forms can vary greatly, the release rates were calculated by assuming the waste forms would behave like soils and would not provide extra protection against leaching. The consideration for releases from activated metals was similar to a dissolution mechanism. The consideration for releases from sealed sources was similar to a surface rinse mechanism. The consideration for releases from Other Waste was similar to a surface rinse mechanism, but with non-zero Kds for the waste form.

The integrity of waste packages, waste containers, and barrier materials over time was not specifically modeled in the RESRAD-OFFSITE code. Their performance over time depends on the engineering designs of the disposal facility. Compared with the analysis time frame that extends to 10,000 (or possibly up to 100,000) years into the future, the integrity periods of the waste packages, waste containers, and barrier materials are relatively short. Therefore, in the GTCC EIS, the integrity periods are evaluated as one single parameter, which is assumed to be 500 years in the analysis. To study the influence of this assumption, a sensitivity analysis was conducted. This approach provides a perspective on performance for the long term.

The RESRAD-OFFSITE code, like all codes, has limitations. This code was selected for the GTCC EIS analysis because of its manageable number of input parameters, its comprehensive transport analysis for radionuclides in the unsaturated zones and saturated zone, and its flexibility in accepting radionuclide release rates calculated outside the RESRAD-OFFSITE framework. Furthermore, the RESRAD-OFFSITE code has been benchmarked with other computer codes.

DOE has considered cumulative impacts at the Hanford Site in this GTCC EIS. The disposal of GTCC LLRW and GTCC-like waste at the Hanford Site could result in environmental impacts that may warrant mitigation for Tc-99 and I-129 through limiting receipt of these waste streams (see Table 6.2.4.2 and Figure 6.2.4.1 in this EIS).

DOE's ROD 78 FR 75913 dated December 13, 2013, stated that DOE has deferred a decision on importing waste from other DOE sites (with limited exceptions as described in the Settlement Agreement with the State of Washington Department of Ecology) for disposal at Hanford at least until WTP is operational.

The Significance of the TCWMEIS groundwater contamination maps and projected peak concentrations continued:

- Chapter 6 of the GTCC EIS projects peak Uranium, Plutonium and Transuranic Waste contamination levels around 600 mrem per year. The GTCC EIS fails to utilize these massively high doses in presenting projected Latent Cancer Fatalities (LCFs) by claiming they occur beyond 10,000 years. Yet, the first peak for these appears to be approximately 50 mrem per year in the next 5,000 years.
- As we present on other slides, TCWMEIS and other projections using more sophisticated groundwater models for Hanford project releases from adjacent landfills and facilities to reach groundwater and the people who will use the groundwater thousands of years sooner – long before 10,000 years. TCWMEIS also shows peak contamination of groundwater and dose for Plutonium, Uranium and other contaminants far above DWS levels within 10,000 years, yet, GTCC EIS fails to address these cumulative impacts.

W552-32

W552-33 See response to W552-11.

What Happens if USDOE also buries GTCC wastes at Hanford?

- USDOE misrepresents cancer risks
- 48 millirem dose just from GTCC waste to the people who will use groundwater
- PLUS the 22 millirem dose from the state's unlined leaking commercial radioactive waste dump just to the West of where USDOE proposes to put both GTCC and 3 million cubic feet of other offsite radioactive and hazardous chemical (mixed) radioactive wastes.
- PLUS the dose if USDOE leaves tank leaks in soil and if USDOE dumps the other waste next door

W552-33

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-34 All relevant potential exposure pathways were considered in the analyses presented in the EIS. These analyses addressed a range of reasonable scenarios and estimated the potential impacts on all environmental resources consistent with NEPA requirements. For the human health assessment, the focus was on the groundwater pathway, since this is the most likely manner in which someone could be exposed to the radioactive contaminants in the GTCC LLRW and GTCC-like wastes in the distant future. Locations closer than the 100 m (330 ft.) evaluated would result in higher dose and cancer risk estimates. The 100 m (30 ft.) distance was used to be consistent with the minimum buffer zone distance surrounding a DOE LLRW disposal site identified in DOE Manual 435.1-1. As discussed in Section 2.7.4.2, the hypothetical resident farmer scenario was only used to provide estimates for comparing the various sites evaluated; however, this scenario may not be consistent with the reasonably foreseeable future scenario at some of the sites evaluated. Site-specific NEPA reviews would be conducted as needed. This information could include sensitive subpopulations and specific pathways of exposure for American Indians. In a similar fashion, additional cumulative impacts analyses would be conducted by using additional site-specific information when the location selected for a GTCC LLRW and GTCC-like waste disposal facility was determined.

On the basis of the depth of waste disposal, DOE believes that the only reasonable potential for intrusion is from a future drilling event, such as drilling for a well. The likelihood of inadvertent intrusion from a drilling event would be very low for a GTCC waste trench disposal facility because of (1) the narrow width of the trench, (2) the use of intruder barriers, (3) the remoteness of the sites, (4) DOE's commitment to long-term institutional control, (5) site conditions such as the general lack of easily accessible resources and the great depth to groundwater, and (6) waste form stability. On the basis of these considerations, DOE did not include a quantitative analysis of inadvertent human intruder in the EIS. Site-specific NEPA reviews would be conducted as needed.

Cancer Risk

- USDOE is supposed to cleanup to limit dose from all sources to below 15 millirem and 4 millirem in groundwater.
 - Even that is too high = 8 fatal cancers in every 10,000 adults exposed (BEIR VII data)
- GTCC alone adds 48 millirem dose to thousands who may use the groundwater for drinking, irrigation, etc....
- Children are 3 to 10 x more likely to get cancer from the same dose as an adult male
- USDOE misrepresents risk - saying only .00003 latent cancer fatalities. (Table S-4) Fine print: per year. Should show total cancers. GTCC EIS fails to consider high number of people who will use water under reasonable maximum exposure scenarios (e.g., Treaty use) and risk of intrusion.

W552-34

W552-35 See response to W552-34.

W552-36 See response to W552-11.

Cancer Risk continued...

- USDOE misrepresents risk in GTCC EIS saying there will be only .00003 latent cancer fatalities. Fine print: per year.
- Fails to consider high number of people who will use water and risk of intrusion into trenches/vaults which will spread wastes:
 - reasonably foreseeable exposure scenarios include over 1,000 Tribal members per year exposed, heavy agricultural use or development with 1,000 households drawing groundwater (groundwater withdrawals for small subdivisions are unregulated and require no state permits -thus, institutional controls will not prevent use). Battelle / PNNL report forecast agricultural usage downgradient – relying on irrigation- after federal control ends
- Fails to consider cumulative impacts, e.g., from adjacent IDF and commercial radioactive waste landfills – both add contamination to the same groundwater.

W552-35

W552-36

W552-37 The GTCC EIS is not a CERCLA document. As in other DOE EISs concerning radiological impacts, collective population risks are presented as the number of potential latent cancer fatalities for the population that is exposed. The potential risks are developed in order for DOE to compare between alternatives in order to make an informed decision on disposal of GTCC LLRW and GTCC-like waste. Comparison of impacts against appropriate standards would be considered during the actual design and implementation of a disposal facility.

W552-38 DOE is performing environmental restoration activities at the Hanford Site. The ongoing cleanup efforts at these sites will continue.

Cancer Risk continued....

- USDOE should be presenting risk in GTCC EIS in same way as is done in Superfund cleanup decision documents: projecting how many cancers per 10,000 exposed.
- Superfund (CERCLA) standard is 1 additional fatal cancer for every 10,000 adults exposed, with Hanford cleanup levels set at 15 mrem.
- Use of trenches or vaults for GTCC is projected to result in doses of 48 and 44 mrem per year. That is > 3 x level for which USDOE is spending billions per year to cleanup Hanford. Adding GTCC waste creates new Superfund cleanup for next generation!

W552-37

W552-38

Heart of America Northwest, Commenter ID No. W552 (cont'd)

W552-39 See response to W552-26.

Cancer Risk continued

- USDOE fails to present cancer risks to CHILDREN in the GTCC EIS, repeating the same misrepresentation of risk as in prior USDOE EISes. See S-66: “The EIS presents a comparative analysis of the potential radiation doses and LCF risks to members of the general public (as represented by an adult receptor)”
- Unless children are not members of the general public, this statement is misleading and a failure to meet NEPA’s requirements to disclose risks to health.

W552-39

Heart of America Northwest, Commenter ID No. W552 (cont’d)

Heart of America Northwest, Commenter ID No. W552 (cont'd)

Cancer Risk continued

- The presentation of risks in summary documents and tables (e.g., Table S-3), which will be used by both decision makers and public, fail to note that the Latent Cancer Fatalities (LCF) presented are solely for adult males from projected exposures.
- The estimates are not made conservative by use of 2L/day drinking water – which is not a conservative level. Children are 3-10x more susceptible to cancer from same dose as an adult.

see <http://epa.gov/ncea/rf/cancer2003.html> "Draft Final Guidelines for Carcinogen Risk Assessment"¹

W552-39
(Cont.)