

# *Oak Ridge Waste Disposition Update*

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**Oak Ridge Site Specific Advisory Board  
9 January 2008**

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Director, Office of Disposal Operations  
Office of Environmental Management (EM), US DOE*



**EM Environmental Management**

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# *Discussion topics*

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- DOE's *Greater-Than-Class C (GTCC) Low-Level Waste (LLW) Disposal EIS*
- EM budget, planning and project management efforts
- EM waste disposition planning tools
- Oak Ridge waste disposition details and updates



# *Greater-Than-Class C (GTCC) LLW Disposal*

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- EM initiated efforts to develop an Environmental Impact Statement for GTCC LLW Disposal
  - Notice of Intent published in July 2007; public scoping in August/September 2007
- DOE is evaluating disposal alternatives for 2,600 m<sup>3</sup> of commercially generated GTCC, as well as 3,000 m<sup>3</sup> of DOE “GTCC-like wastes”
- Efforts underway to define Tribal Consultation process
- The Energy Policy Act of 2005 requires DOE to report to Congress on alternatives evaluated in EIS and await their action



# *GTCC EIS Process*

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DOE is in the early stages of preparing a Draft EIS:

- Notice of Intent Issued 7/23/07
- Public Scoping Period Completed 7/23/07 – 9/21/07
- Draft EIS ← (current stage of EIS) - 2008
- Public Comment on Draft EIS
- Final EIS - 2009
- Report to Congress on Disposal Alternatives
- Record of Decision (following Congressional action on the Report to Congress on disposal alternatives)



# *GTCC Public Scoping*

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- DOE conducted 9 public scoping meetings
- Approximately 250 comments submitted on the proposed scope of the EIS
  - Comments will be fully considered in preparation of Draft EIS

*Some of the comments received include:*

## Alternatives

- Consider Hardened On-Site Storage (HOSS)
- Do not consider DOE sites with existing contamination
- “No more waste in our backyard”
- Do not consider alternative methods of disposal (i.e., enhanced near surface and intermediate depth borehole)
- Consider waste treatment and recycling



# *GTCC Public Scoping*

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## Waste Inventories

- Include Class B/C waste
- Include GNEP waste
- Request more detailed descriptions of waste inventories

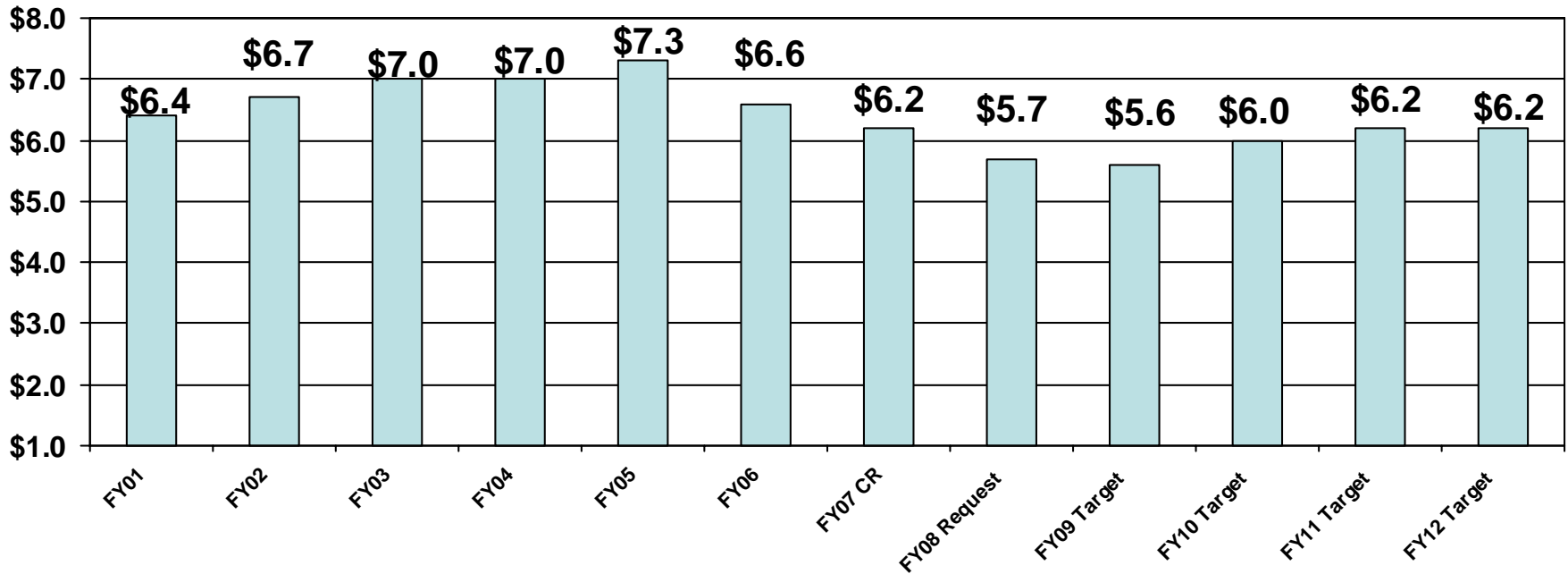
## Other

- Segmentation concerns with other ongoing EISs (e.g., GNEP)
- Prepare Programmatic EIS followed by tiered site-specific EISs



# EM Funding History & Projections

\$ in billions



FY09-12 subject to change



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# *EM Risk-Based Priorities*

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## **Highest Risk-Based Priorities**

- Minimum safety and essential services across EM cleanup sites
- Radioactive tank waste storage, treatment, and disposal (including technology development and deployment activities in support of high-level waste)
- Spent nuclear fuel storage, receipts and disposition
- Special nuclear material storage, processing, and disposition
- High priority groundwater remediation (selected Hanford, Paducah and Los Alamos plumes)
- Solid waste (transuranic and mixed/low-level waste) treatment, storage, and disposal

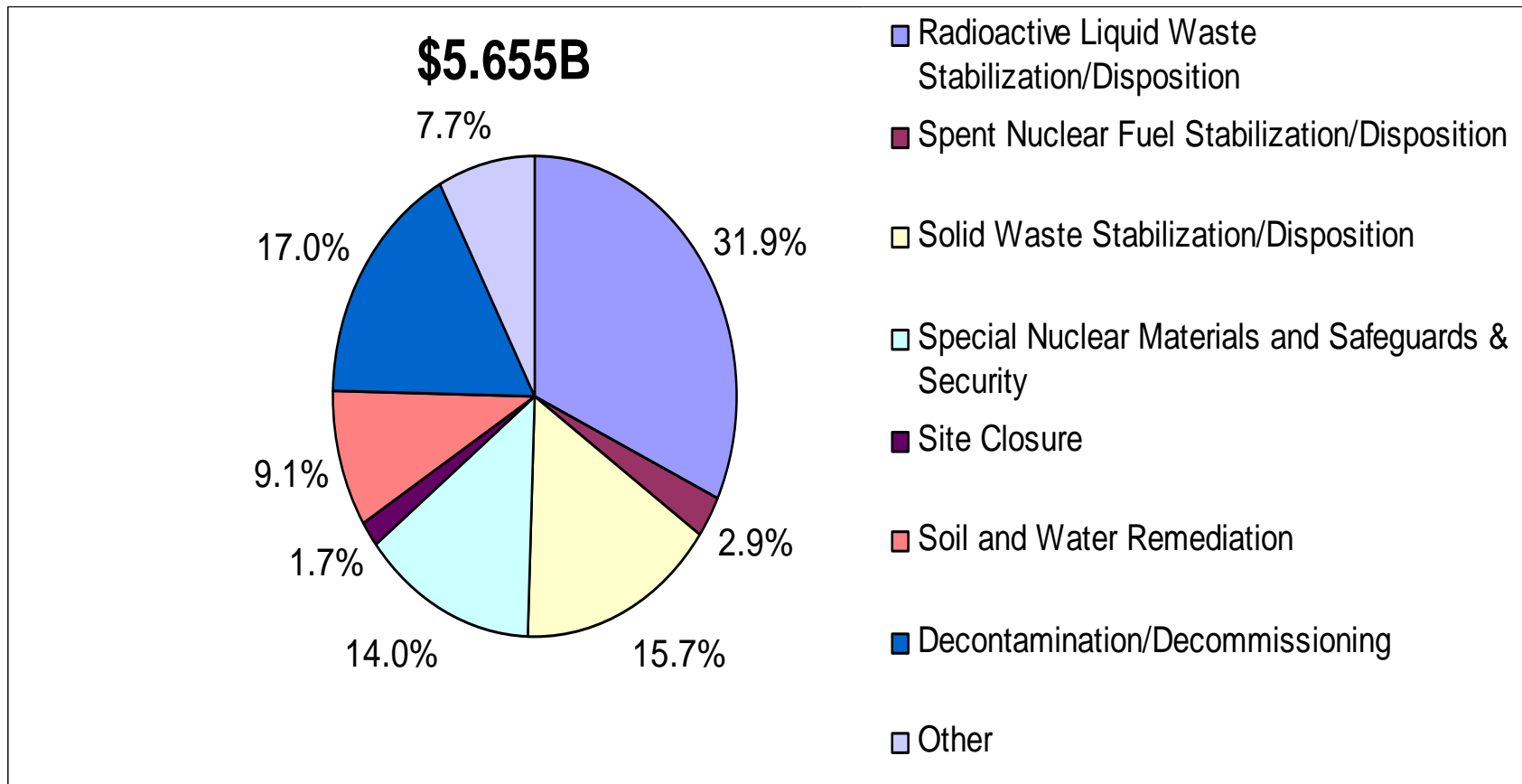
## **Lower Risk-Based Priorities**

- Soil and groundwater remediation
- Nuclear facility D&D
- Non-nuclear facility D&D





# FY 2008 Budget Request Composition



FY 2008 Omnibus Appropriation provides \$5.695B for EM activities.

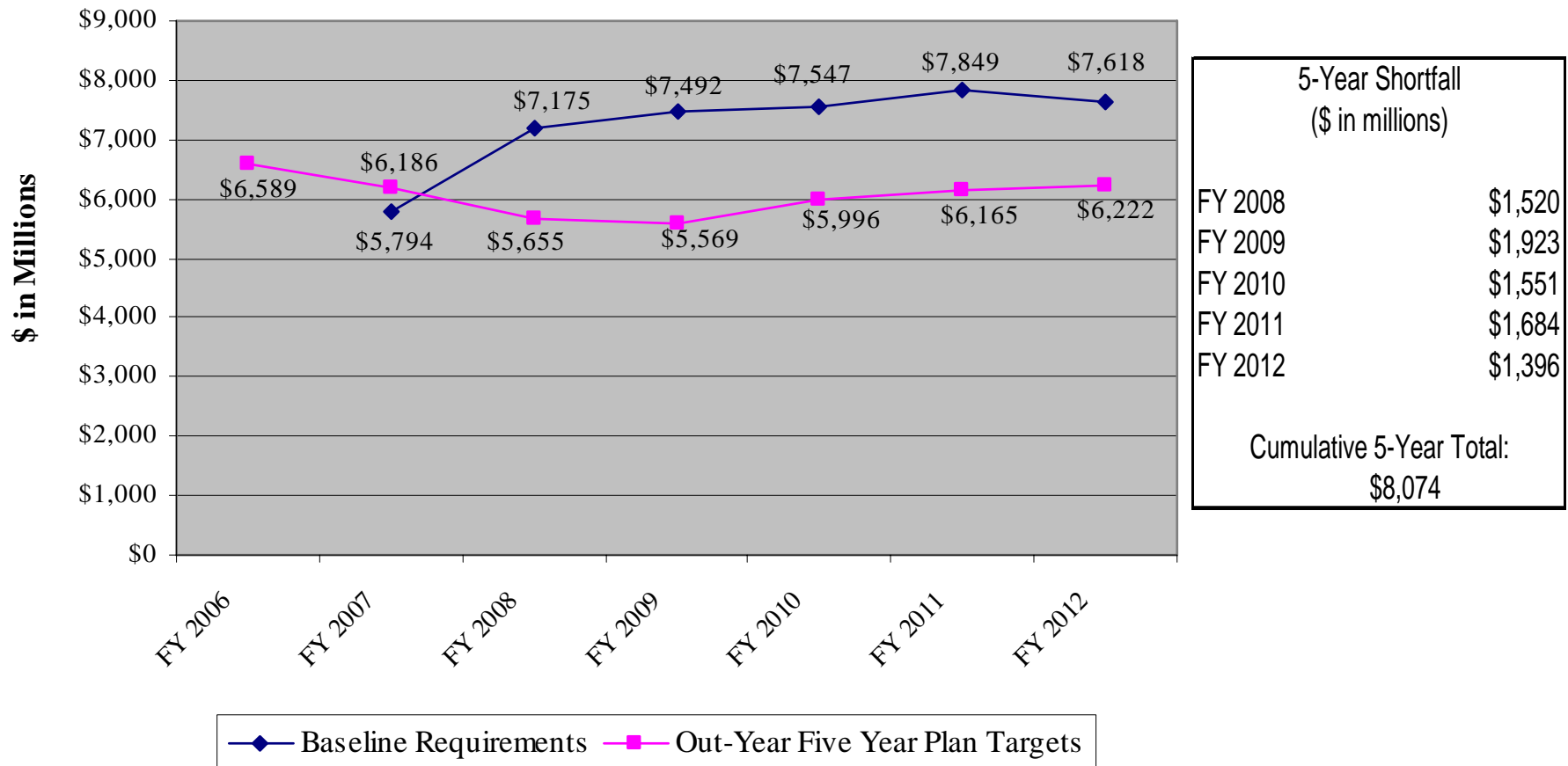
Other is comprised of:  
 Program Direction, Technology Development,  
 Contribution to the D&D Fund,  
 Uranium/Thorium Reimbursements,  
 Headquarters, and Community and Regulatory  
 Support



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# Out year targets vs. current baseline requirements



\* FY 2006/2007 baseline data not available



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# *EM strategies for bridging the gap*

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- “Near-term baselines”
  - Independently reviewed to support validation
  - Formal approvals by Assistant Secretary for Environmental Management (as the Acquisition Executive)
  - Provides basis for tracking future cost and schedule changes
    - Due to available resources and funding
    - Due to policy and priority changes
- Five Year Plans
  - Informed development of the FY09 budget request
  - Revised outyear targets will soon be provided and Five Year Plans updated
- Out year planning initiative
  - Will inform FY10 budget formulation
  - Developing detailed analytical tools
  - Multiple “cases” under development



# *EM resuming leadership role in disposition*

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- EM is re-focused on providing complex-wide leadership in management and disposition of DOE waste streams
  - Zero tolerance for non-compliance with requirements
  - Complex-wide review of waste management programs planned
  - Corporate Boards established for all major waste streams
  - National Disposition Planning and formal integration efforts underway
- Organizational changes in the Office of Regulatory Compliance (EM-10) improve integration of waste and excess nuclear material disposition efforts
  - Office of Nuclear Materials Disposition (EM-14)
- DOE's waste management policy remains unchanged
  - DOE's *Waste Management Programmatic Environmental Impact Statement* and Records of Decision are still valid



# *DOE Order 435.1, Radioactive Waste\* Management, Establishes Policy & Framework for Waste Disposition Activities*

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- LLW/MLLW
  - If practical, disposal on the site where generated
  - If on-site disposal not available, at another DOE disposal Facility
  - At commercial disposal facilities if compliant, cost effective, and in the best interest of DOE
- TRU Waste
  - If defense, dispose at Waste Isolation Pilot Plant (WIPP)
  - If defense determination pending, safe storage awaiting future disposition
- HLW and SNF
  - Stabilization, immobilization/treatment if necessary, and safe interim site storage until geologic disposal is available

\* Other documents define plan for interim management of special nuclear materials (SNM); excess SNM disposal plans are integrated with waste plans

# *Low-Level/Mixed Low-Level Waste Management*

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- DOE-wide life-cycle waste forecasts reinstated
  - Waste Information Management System portrays data in disposition and geographic map formats – <http://wims.arc.fiu.edu/WIMS>
  - 3<sup>rd</sup> annual life-cycle update underway
- Development of disposition planning tools continues
  - “Mileage charts”
  - Complex-wide shipping schedules
  - Problematic waste streams and risk mitigation plans
  - Waste management summaries – “8,000 ft waste story”
  - Issue matrix
  - Revised guidance on cost-benefit analysis
  - **Oak Ridge projects are being used to pilot new detailed tools**
- National LLW/MLLW Disposition Strategy developed
  - Rev. 0 in 2006; Rev 1 under review
- EM working to optimize use of DOE waste management assets
  - Nevada Test Site disposal facilities and TSCA Incinerator
- EM pursuing reliable and cost-effective commercial services, as well
  - Planning for complex-wide contracts for commercial treatment and disposal



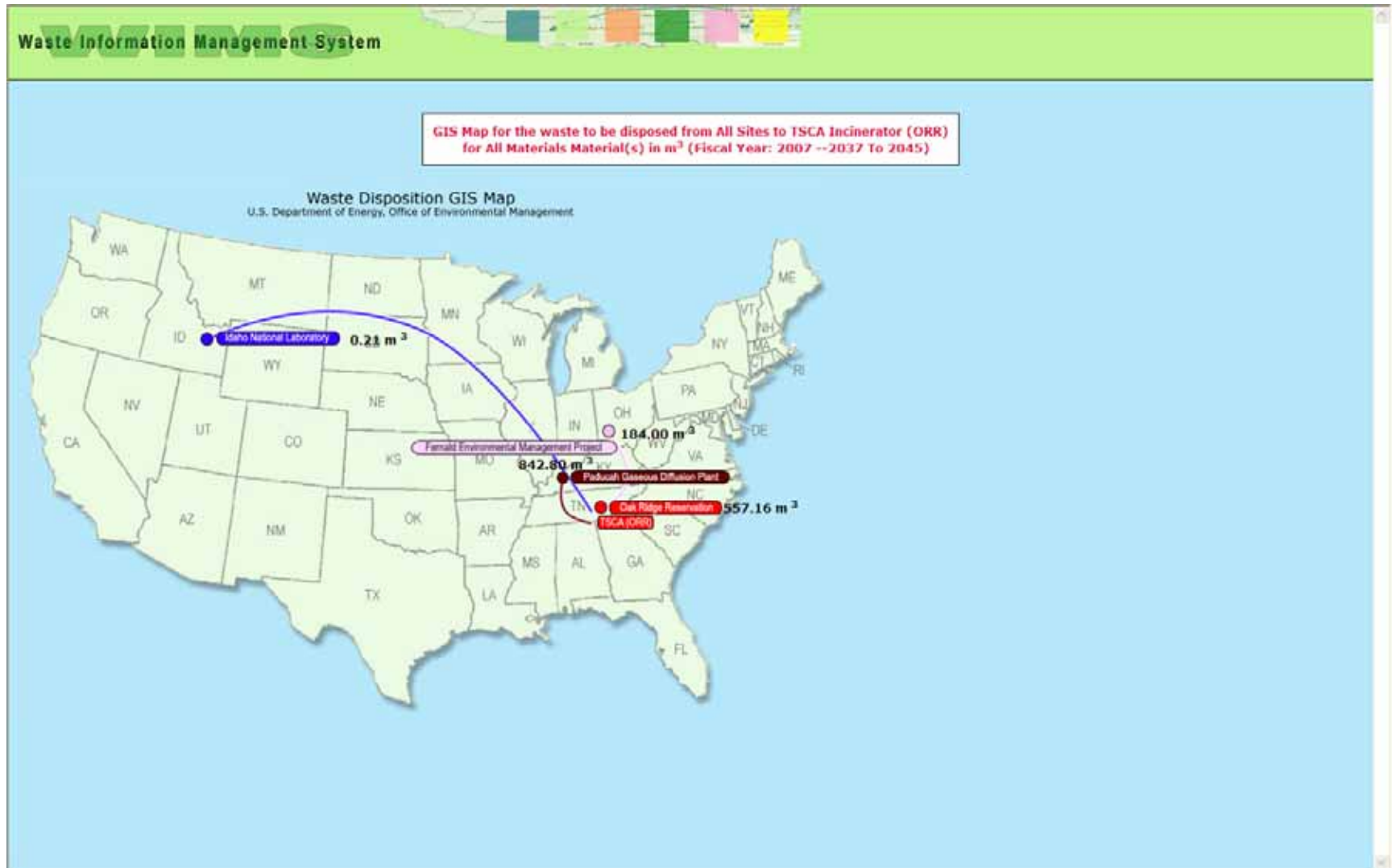
# *OR LLW/MLLW Disposition*

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- OR disposition assets
  - EMWMF, TSCA Incinerator, TRU Waste Processing Facility, other landfills
- OR relies on on-site disposal for CERCLA (remediation) wastes, but OR sites/programs ship considerable volumes off-site
  - To NTS and Clive, UT for disposal
  - To various commercial treatment firms
- ETTP – nearly all legacy LLW/MLLW removed
- TSCA Incinerator
  - Planned operations through 2009 to complete life-cycle burn plan
- Y-12
  - Well established program to manage its newly-generated wastes (NGW)
- ORNL
  - Beginning in FY09, will be financially responsible for cost to manage NGW
- Some waste challenges remain



# Planned LLW/MLLW Shipments TO Oak Ridge

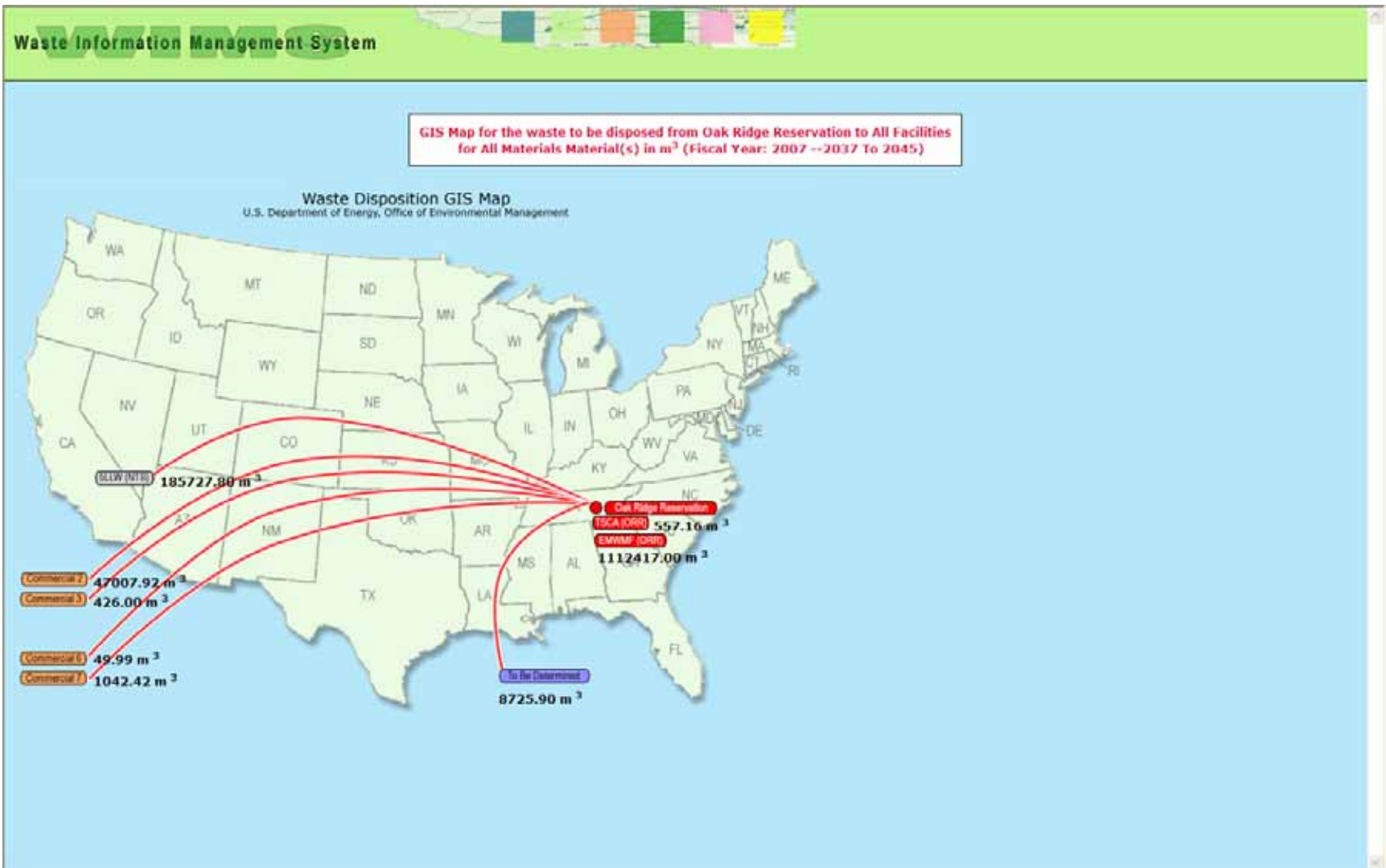


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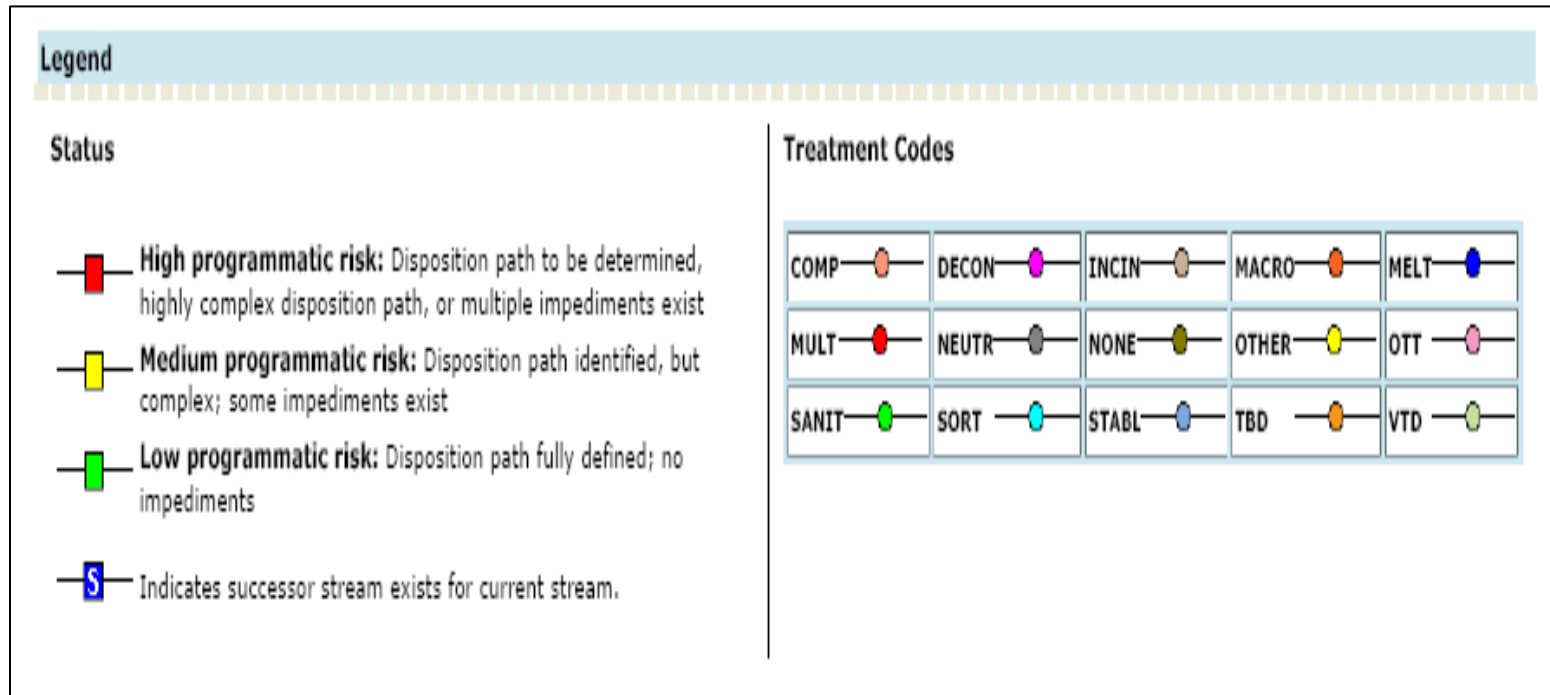
# Planned LLW/MLLW Shipments FROM Oak Ridge



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# OR LLW/MLLW Disposition Map



Formal risk mitigation plans and disposition action plans will be developed for any stream with a yellow or red status flag.

Waste and Materials Disposition Map for All Materials

Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge WM_LL-03	Low Level Waste	Solids	4 m <sup>3</sup>	No	■	●	Area 5 LLW Disposal Unit (NTS) 185727 m <sup>3</sup>
Oak Ridge Y12-L2	Low Level Waste	Solids	109265 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-L3	Low Level Waste	Solids	38716 m <sup>3</sup>	No	■	●	
Oak Ridge WM_LN-02FC	Low Level Waste	Solids	1200 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-20	Low Level Waste	Solids	28 m <sup>3</sup>	No	■	●	
Oak Ridge WM_LN-02	Low Level Waste	Solids	966 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-12	Low Level Waste	Solids	1572 m <sup>3</sup>	No	■	●	



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Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge UTB-10	Low Level Waste	Solids	2881 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-L4	Low Level Waste	Solids	7.8 m <sup>3</sup>	No	■	●	
Oak Ridge WGF-20	Low Level Waste	Soil/Gravel	36 m <sup>3</sup>	No	■	●	
Oak Ridge FWENC-001	Low Level Waste	Debris Waste	3200 m <sup>3</sup>	Yes	■	●	
Oak Ridge WGF-4	Low Level Waste	Debris Waste	26826 m <sup>3</sup>	Unknown	■	●	
Oak Ridge WGF-4-RH	Low Level Waste	Debris Waste	37 m <sup>3</sup>	No	■	●	
Oak Ridge FWENC-003	Low Level Waste	Debris Waste	474 m <sup>3</sup>	Yes	■	●	
Oak Ridge WGF-12	Low Level Waste	Debris Waste	18 m <sup>3</sup>	No	■	●	

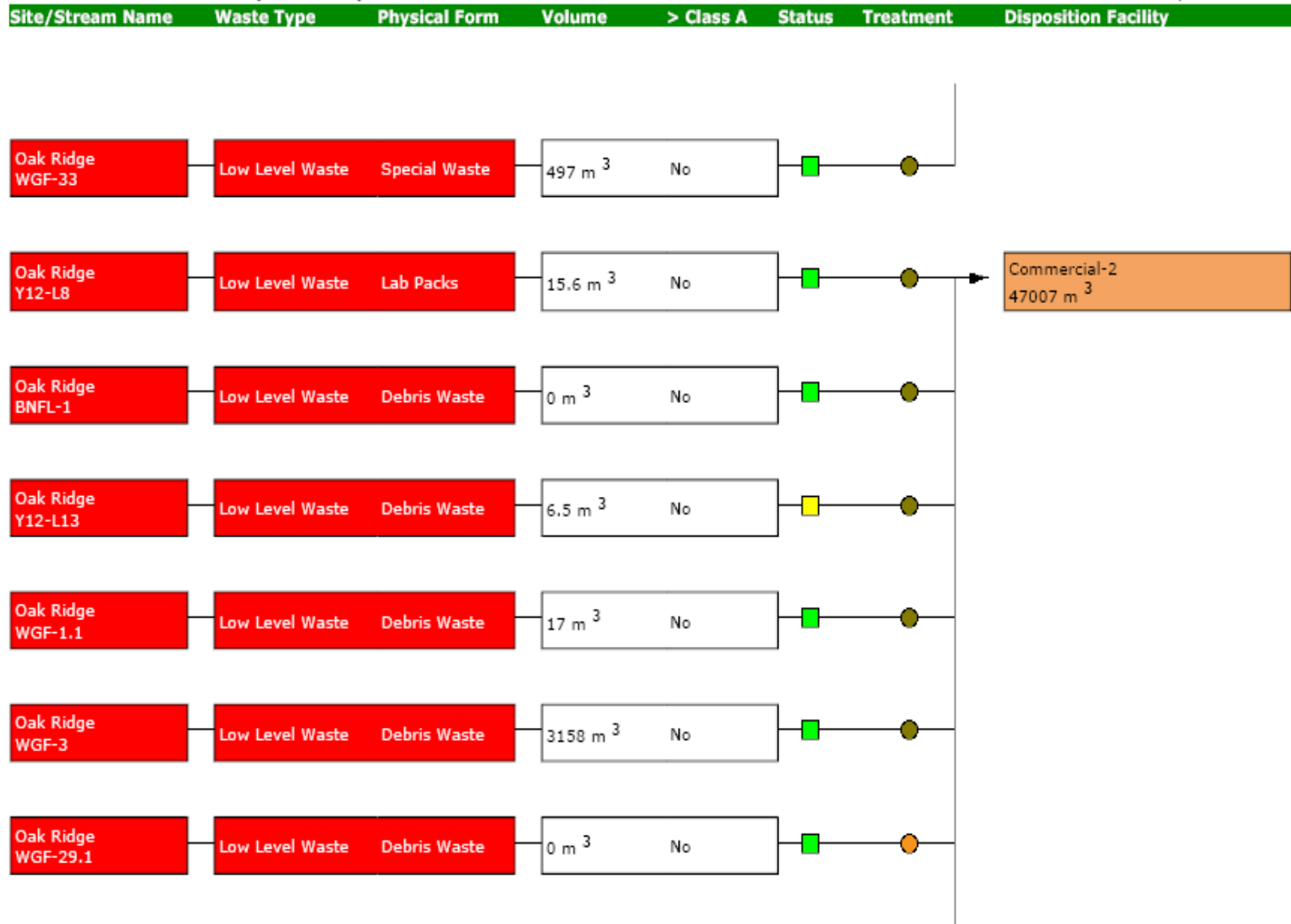


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Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge Y12-L12	Low Level Waste	Debris Waste	4680 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-L5	Low Level Waste	Debris Waste	16.81 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-L9	Low Level Waste	Homogeneous Solids	39 m <sup>3</sup>	No	■	●	
Oak Ridge WGF-19	Low Level Waste	Soil/Gravel	722 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-13	Low Level Waste	Soil/Gravel	280 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-21	Low Level Waste	Solids	29002 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-L7	Low Level Waste	Solids	800 m <sup>3</sup>	No	■	●	
Oak Ridge WM_LN-01	Low Level Waste	Solids	417 m <sup>3</sup>	No	■	●	



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Waste and Materials Disposition Map for All Materials

Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
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Oak Ridge Y12-L6a	Low Level Waste	Solids	350 m <sup>3</sup>	No	■	●	
Oak Ridge WM_LN-01FC	Low Level Waste	Solids	600 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-L1a	Low Level Waste	Solids	2238.96 m <sup>3</sup>	No	■	●	
Oak Ridge WM_LL-01	Low Level Waste	Solids	205 m <sup>3</sup>	No	■	●	
Oak Ridge WM_RN-03	Mixed Low Level Waste	Solids	261 m <sup>3</sup>	No	■	●	
Oak Ridge WM_RN-03FC	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	■	●	
Oak Ridge WM_RL-02	Mixed Low Level Waste	Solids	1595 m <sup>3</sup>	No	■	●	



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Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
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Oak Ridge Y12-M13a	Mixed Low Level Waste	Solids	13 m <sup>3</sup>	No			
Oak Ridge WM_ML-03	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No			
Oak Ridge WGF-28	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No			
Oak Ridge WM_ML-04.1	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No			
Oak Ridge WM_MN-03	Mixed Low Level Waste	Solids	131 m <sup>3</sup>	No			
Oak Ridge WM_MN-03FC	Mixed Low Level Waste	Solids	33 m <sup>3</sup>	No			
Oak Ridge Y12-M16	Mixed Low Level Waste	Solids	295.1 m <sup>3</sup>	No			
Oak Ridge WM_MN-04.1	Mixed Low Level Waste	Solids	54 m <sup>3</sup>	No			



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Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
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Oak Ridge Y12-M8a	Mixed Low Level Waste	Solids	163.6 m <sup>3</sup>	No	■	●	
Oak Ridge WGF-31	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	
Oak Ridge WM_MN-01FC	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	
Oak Ridge WGF-23	Mixed Low Level Waste	Soil/Gravel	485 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-M11	Mixed Low Level Waste	Homogeneous Solids	127.35 m <sup>3</sup>	No	■	●	
Oak Ridge BNFL-3	Mixed Low Level Waste	Debris Waste	0 m <sup>3</sup>	No	■	●	
Oak Ridge WGF-9.1	Mixed Low Level Waste	Debris Waste	0 m <sup>3</sup>	No	■	●	



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Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge WGF-8	Mixed Low Level Waste	Debris Waste	1302 m <sup>3</sup>	No	■	●	Commercial-3 426 m <sup>3</sup>
Oak Ridge BNFL-2	Mixed Low Level Waste	Debris Waste	0 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-L10	Low Level Waste	Organic Liquids	97.5 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-16	Low Level Waste	Organic Liquids	32 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-15-L	Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	
Oak Ridge WM_LN-03FC	Low Level Waste	Liquids	15 m <sup>3</sup>	No	■	●	
Oak Ridge WM_LL-04	Low Level Waste	Liquids	21 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-17	Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	



Waste and Materials Disposition Map for All Materials

Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
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Oak Ridge WM_LN-03	Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-L11	Low Level Waste	Aqueous Liquids/Slurries	97.5 m <sup>3</sup>	No	■	●	
Oak Ridge WGF-16	Low Level Waste	Organic Liquids	0 m <sup>3</sup>	Unknown	■	●	
Oak Ridge UTB-18	Low Level Waste	Solids	146 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-11	Low Level Waste	Solids	0 m <sup>3</sup>	No	■	●	
Oak Ridge UTB-15-S	Low Level Waste	Solids	0 m <sup>3</sup>	No	■	●	
Oak Ridge WGF-32	Low Level Waste	Soil/Gravel	0 m <sup>3</sup>	No	■	●	



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Waste and Materials Disposition Map for All Materials



















Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge WGF-1	Low Level Waste	Debris Waste	17 m <sup>3</sup>	No			
Oak Ridge Y12-M4a	Mixed Low Level Waste	Aqueous Liquids/Slurries	52.4238 m <sup>3</sup>	No			Commercial-5 52 m <sup>3</sup>
Oak Ridge WGF-29	Low Level Waste	Debris Waste	0 m <sup>3</sup>	No			Commercial-6 49 m <sup>3</sup>
Oak Ridge WGF-15	Low Level Waste	Organic Liquids	0 m <sup>3</sup>	Unknown			
Oak Ridge Y12-M6a	Mixed Low Level Waste	Organic Liquids	20.6646 m <sup>3</sup>	No			
Oak Ridge Y12-M5a	Mixed Low Level Waste	Organic Liquids	29.325 m <sup>3</sup>	No			
Oak Ridge WM_MN-05FC	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No			
Oak Ridge Y12-M5b	Mixed Low Level Waste	Organic Liquids	29.325 m <sup>3</sup>	No			Commercial-7 1042 m <sup>3</sup>



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Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge Y12-M6b	Mixed Low Level Waste	Organic Liquids	41.9554 m <sup>3</sup>	No	 		
Oak Ridge WM_ML-04	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	 		
Oak Ridge Y12-M7	Mixed Low Level Waste	Lab Packs	7.8 m <sup>3</sup>	No	 		
Oak Ridge WGF-9	Mixed Low Level Waste	Debris Waste	0 m <sup>3</sup>	No	 		
Oak Ridge WM_MN-05	Mixed Low Level Waste	Liquids	50 m <sup>3</sup>	No			
Oak Ridge WGF-14	Mixed Low Level Waste	Liquids	21 m <sup>3</sup>	Unknown			
Oak Ridge WM_RL-03	Mixed Low Level Waste	Liquids	14 m <sup>3</sup>	No			



Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge WM_RN-04	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	
Oak Ridge WGF-30	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	
Oak Ridge WM_ML-05	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	
Oak Ridge WM_RN-04FC	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	■	●	
Oak Ridge Y12-M4b	Mixed Low Level Waste	Aqueous Liquids/Slurries	106.4362 m <sup>3</sup>	No	■	S ●	
Oak Ridge Y12-M12	Mixed Low Level Waste	Organic Liquids	8.5 m <sup>3</sup>	No	■	S ●	
Oak Ridge Y12-M13b	Mixed Low Level Waste	Solids	13 m <sup>3</sup>	No	■	S ●	
Oak Ridge WM_MN_04FC	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	■	●	



Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge Y12-M9	Mixed Low Level Waste	Solids	494.3 m <sup>3</sup>	No	Green square	Blue square with 'S'	Red circle
Oak Ridge WM_MN-04	Mixed Low Level Waste	Solids	54 m <sup>3</sup>	No	Green square	Blue square with 'S'	Red circle
Oak Ridge Y12-M14	Mixed Low Level Waste	Solids	38.5 m <sup>3</sup>	No	Green square	Blue square with 'S'	Red circle
Oak Ridge Y12-M8b	Mixed Low Level Waste	Solids	163.6 m <sup>3</sup>	No	Green square	Blue square with 'S'	Red circle
Oak Ridge WGF-2-RH	Low Level Waste	Debris Waste	19576 m <sup>3</sup>	Unknown	Green square	Green circle	EMWMF Disposal Cell (ORR) 1112417 m <sup>3</sup>
Oak Ridge WGF-11	Low Level Waste	Debris Waste	188666 m <sup>3</sup>	No	Green square	Green circle	
Oak Ridge WGF-18-RH	Low Level Waste	Soil/Gravel	48163 m <sup>3</sup>	No	Green square	Green circle	



Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge WGF-25	Low Level Waste	Soil/Gravel	57168 m <sup>3</sup>	Unknown	█	●	
Oak Ridge WGF-2	Low Level Waste	Debris Waste	435215 m <sup>3</sup>	No	█	●	
Oak Ridge BNFL-4	Low Level Waste	Solids	0 m <sup>3</sup>	No	█	●	
Oak Ridge WM_LL_02	Low Level Waste	Solids	0 m <sup>3</sup>	No	█	●	
Oak Ridge WGF-18	Low Level Waste	Soil/Gravel	281919 m <sup>3</sup>	No	█	●	
Oak Ridge WGF-22	Mixed Low Level Waste	Soil/Gravel	77889 m <sup>3</sup>	Unknown	█	●	
Oak Ridge WGF-7	Mixed Low Level Waste	Debris Waste	3821 m <sup>3</sup>	Unknown	█	●	
Oak Ridge Y12-M10	Mixed Low Level Waste	Homogeneous Solids	100 m <sup>3</sup>	No	█	●	Pit 3 (Area 5) MLLW Disposal (NTS) 1651 m <sup>3</sup>





Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge Y12-M15	Mixed Low Level Waste	Solids	3.5 m <sup>3</sup>	No	Green square	Green circle	
Oak Ridge FWENC-002	Mixed Low Level Waste	Debris Waste	1548 m <sup>3</sup>	Yes	Green square	Orange circle	
Oak Ridge Y12-L6	Low Level Waste	Solids	600 m <sup>3</sup>	No	Green square	Cyan circle	To Be Determined 8725 m <sup>3</sup>
Oak Ridge Y12-L1	Low Level Waste	Solids	4477.9 m <sup>3</sup>	No	Green square	Blue square with 'S', Cyan circle	
Oak Ridge UTB-23-L	Low Level Waste	Liquids	0 m <sup>3</sup>	Unknown	Yellow square	Orange circle	
Oak Ridge WGF-13	Low Level Waste	Liquids	0 m <sup>3</sup>	Unknown	Yellow square	Orange circle	
Oak Ridge WGF-21	Low Level Waste	Soil/Gravel	107 m <sup>3</sup>	Unknown	Yellow square	Orange circle	



Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge WM_LL-05	Low Level Waste	Solids	107 m <sup>3</sup>	Unknown	Yellow square	Orange circle	
Oak Ridge UTB-22	Low Level Waste	Solids	12 m <sup>3</sup>	Yes	Red square	Orange circle	
Oak Ridge WGF-26	Low Level Waste	Solids	0 m <sup>3</sup>	Unknown	Yellow square	Orange circle	
Oak Ridge WGF-5	Low Level Waste	Debris Waste	1802 m <sup>3</sup>	Unknown	Yellow square	Orange circle	
Oak Ridge UTB-23-S	Low Level Waste	Solids	0 m <sup>3</sup>	Unknown	Yellow square	Orange circle	
Oak Ridge WGF-17	Mixed Low Level Waste	Organic Liquids	0 m <sup>3</sup>	Unknown	Yellow square	Orange circle	
Oak Ridge FWENC-002A	Mixed Low Level Waste	Debris Waste	330 m <sup>3</sup>	Yes	Green square	Orange circle	
Oak Ridge WGF-24	Mixed Low Level Waste	Soil/Gravel	42 m <sup>3</sup>	Unknown	Yellow square	Orange circle	

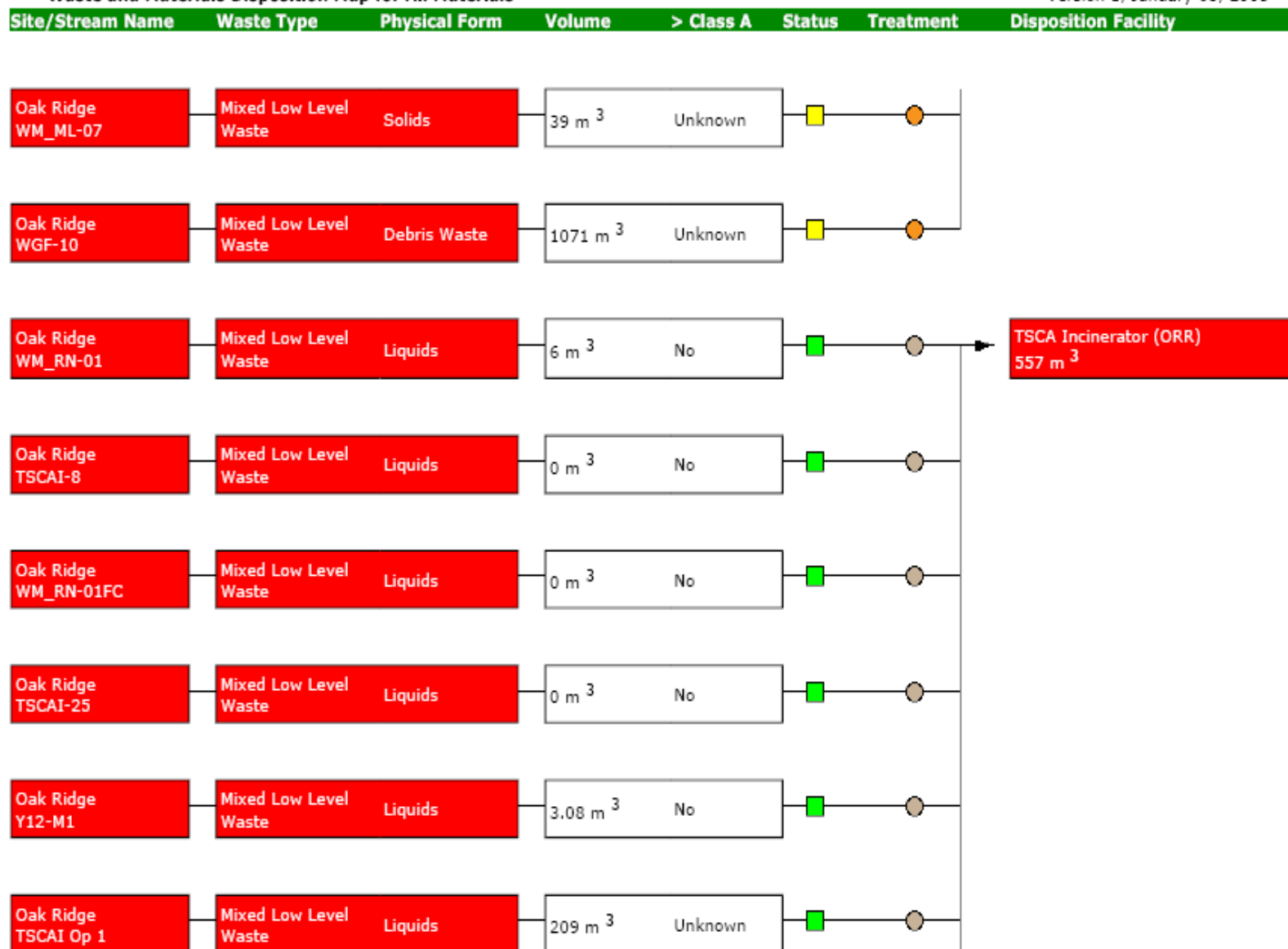


Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge WGF-27	Mixed Low Level Waste	Solids	31 m <sup>3</sup>	Unknown	■	●	
Oak Ridge UTB-24-L	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	Unknown	■	●	
Oak Ridge WM_ML-06RH	Mixed Low Level Waste	Solids	5 m <sup>3</sup>	Unknown	■	●	
Oak Ridge WM_ML-06_F	Mixed Low Level Waste	Solids	6 m <sup>3</sup>	Unknown	■	●	
Oak Ridge UTB-24-S	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	Unknown	■	●	
Oak Ridge UTB-25-S	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	Unknown	■	●	
Oak Ridge WM_ML-06	Mixed Low Level Waste	Solids	96 m <sup>3</sup>	Unknown	■	●	



Waste and Materials Disposition Map for All Materials

Version 1, January 08, 2008



**EM** Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

Waste and Materials Disposition Map for All Materials

Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
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Oak Ridge TSCAI-12	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge WM_MN-01	Mixed Low Level Waste	Liquids	12 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge TSCAI-23	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge TSCAI-9	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge TSCAI-4	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge TSCAI-18	Mixed Low Level Waste	Liquids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge WM_MN-02	Mixed Low Level Waste	Solids	230 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	



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Waste and Materials Disposition Map for All Materials

Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
Oak Ridge Y12-M3	Mixed Low Level Waste	Homogeneous Solids	8.6 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge TSCAI-10	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge TSCAI-3	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge TSCAI-19	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge WM_RN-02	Mixed Low Level Waste	Solids	16 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge WM_RN-02FC	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge TSCAI-13	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oak Ridge WM_MN-02FC	Mixed Low Level Waste	Solids	0 m <sup>3</sup>	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	



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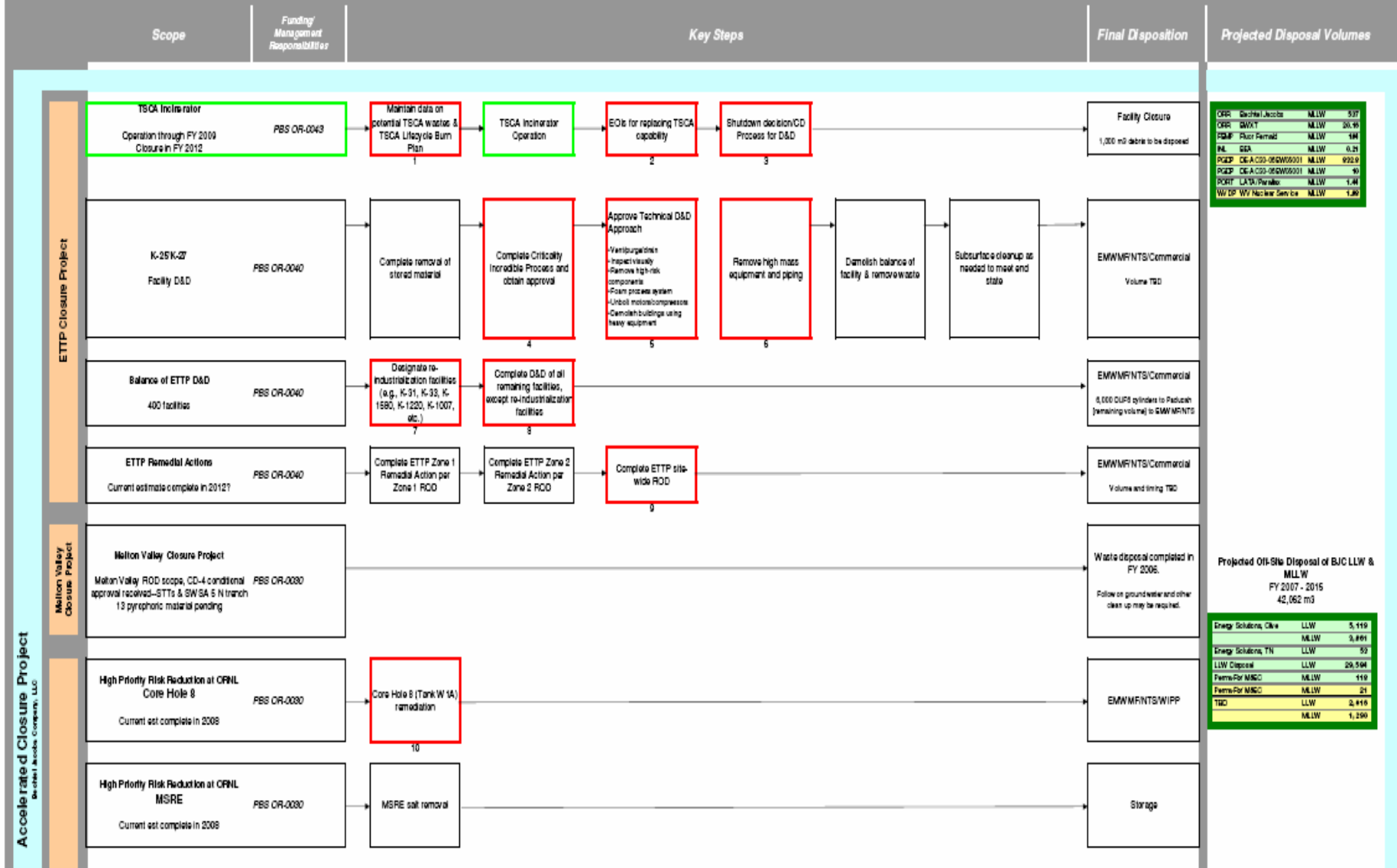
Waste and Materials Disposition Map for All Materials

Version 1, January 08, 2008

Site/Stream Name	Waste Type	Physical Form	Volume	> Class A	Status	Treatment	Disposition Facility
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# Oak Ridge Waste Story -- The 8,000 Foot View



ORR	Waste/Leachate	MLLW	537
ORR	SWAT	MLLW	20,46
P&M	Flux/Ferrous	MLLW	144
ML	SLC	MLLW	0.21
PCFP	CEA CD-1/CEM05001	MLLW	922.9
PCFP	CEA CD-2/CEM05001	MLLW	40
PCFP	LA 10/Parallels	MLLW	1.44
WDP	WY Nuclear Service	MLLW	1.80

Energy Solutions, Olive	LLW	5,119
Energy Solutions, TN	LLW	3,861
LLW Disposal	LLW	29,594
Ferms For M&C	MLLW	119
Ferms For M&C	MLLW	21
TSD	LLW	2,414
	MLLW	1,190

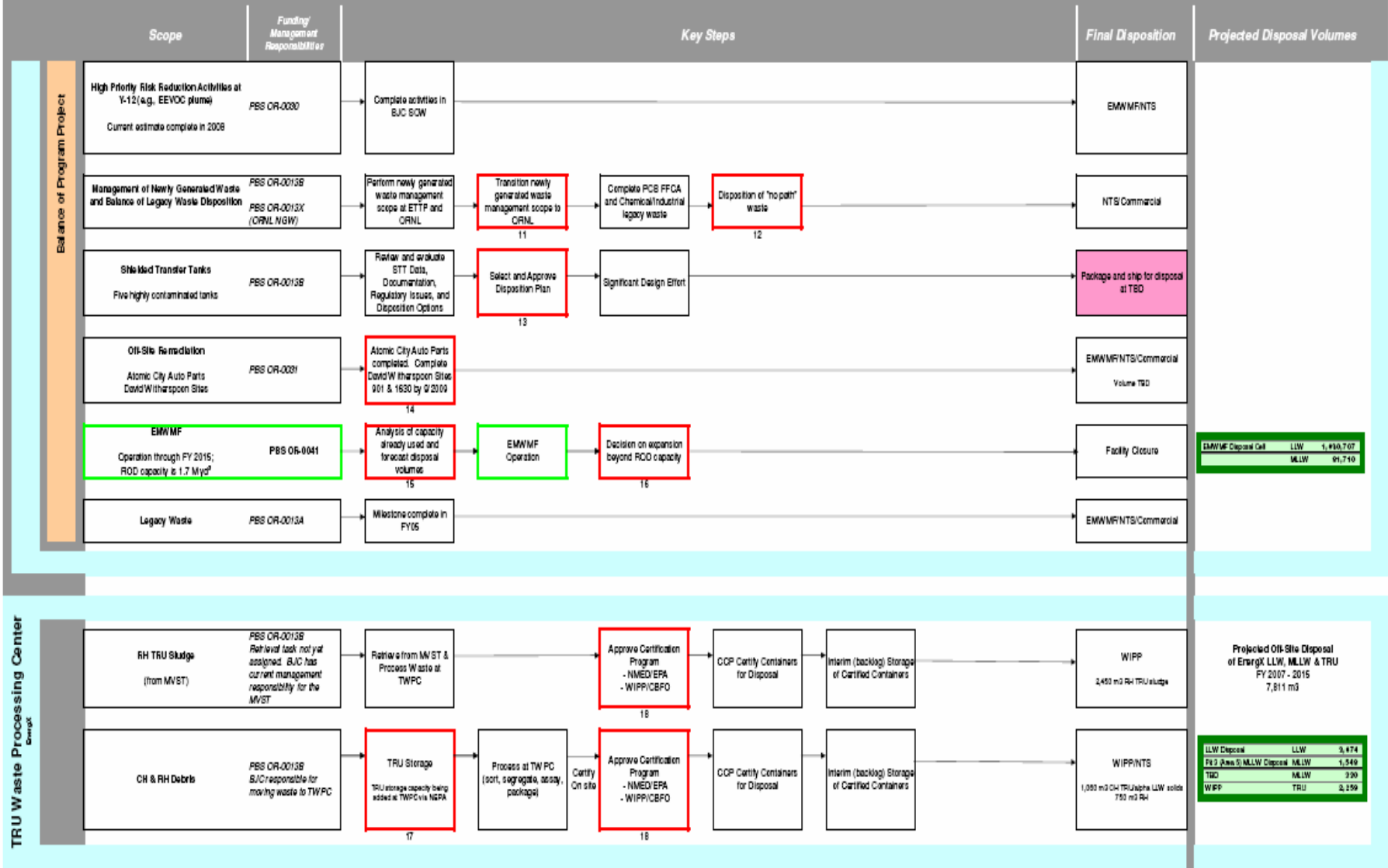
Accelerated Closure Project  
© 2008 Jacobs Company, LLC

ETTP Closure Project

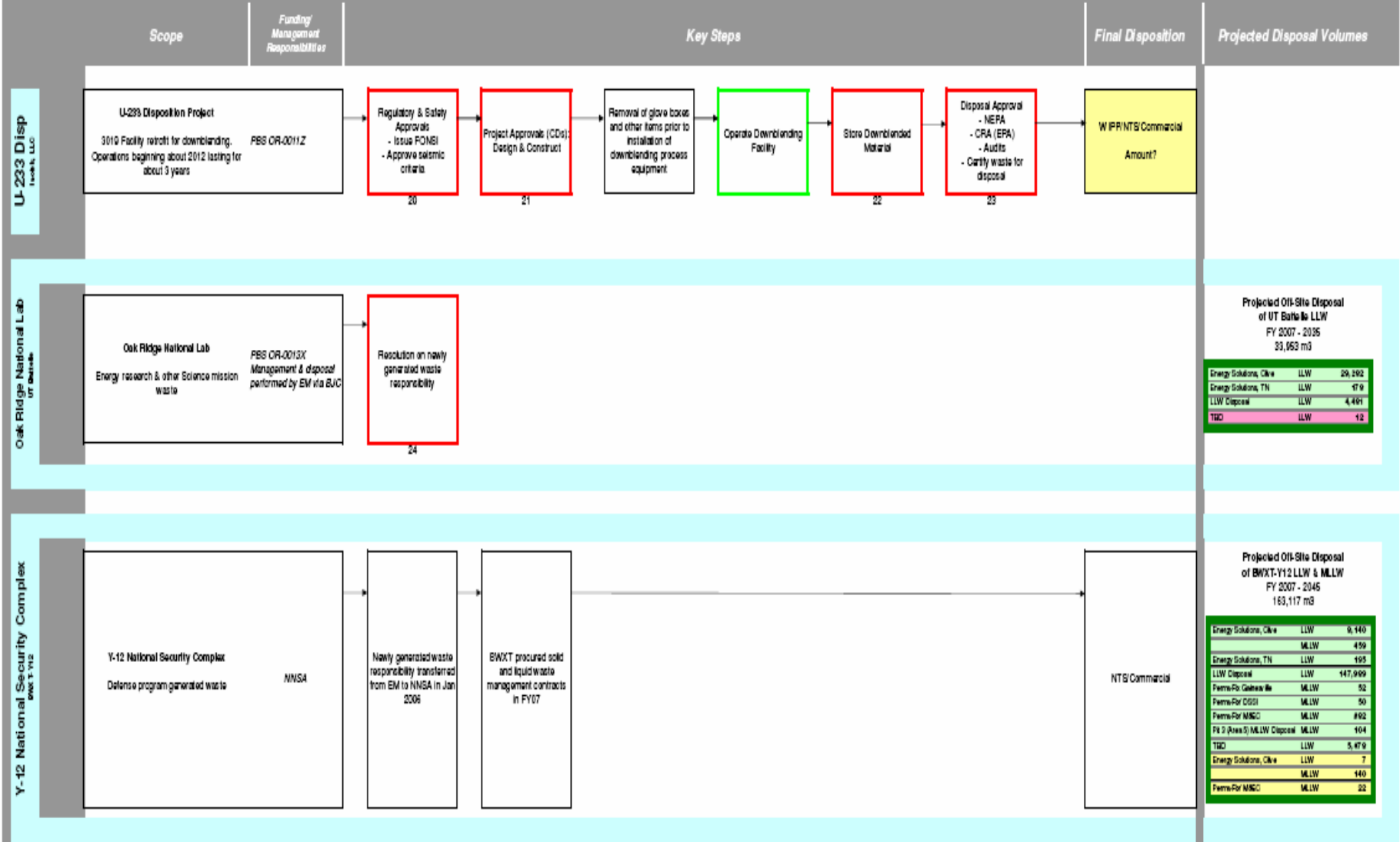
Melton Valley Closure Project



# Oak Ridge Waste Story -- The 8,000 Foot View

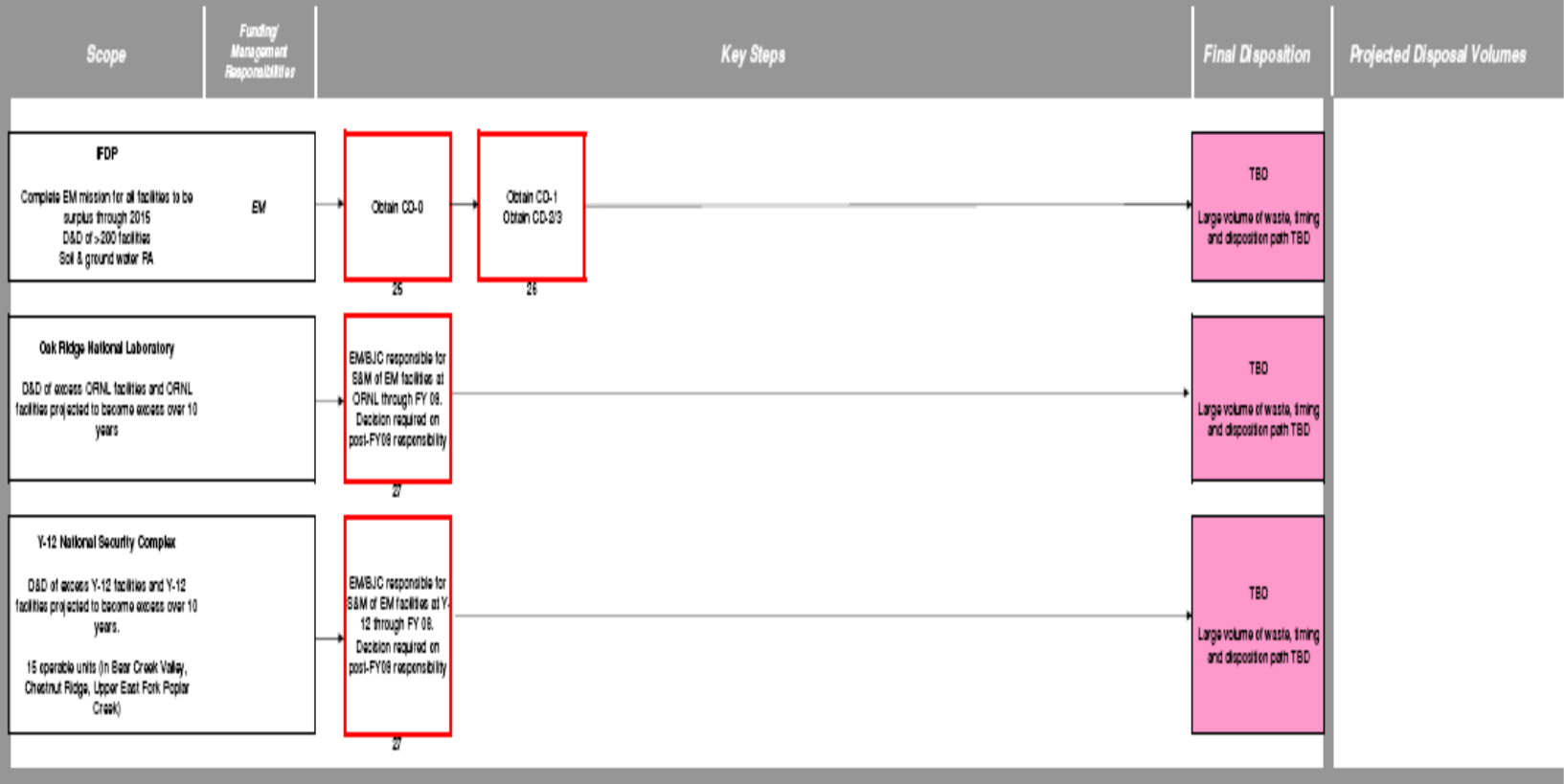


# Oak Ridge Waste Story -- The 8,000 Foot View



# Oak Ridge Waste Story -- The 8,000 Foot View

Integrated Facility Disposition Project (IFDP)



Disposition Asset

Key Federal Action Required



# *OR Transuranic (TRU) Waste Disposition*

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- OR is a very critical player in the national TRU strategy
  - Critical to keeping the “WIPP pipeline” filled
- OR TRU Waste Processing Facility helps to optimize disposal by providing MLLW processing
- OR TRU inventory ~2,250m<sup>3</sup>
  - Contact handled (CH) debris & remote-handled (RH) sludges and debris
  - CH shipments targeted to begin in late Spring
  - RH shipments targeted to begin in Summer
- Waste Isolation Pilot Plant (WIPP) Summary
  - ~175,600 m<sup>3</sup> statutory capacity
  - Over 52,000 m<sup>3</sup> of defense TRU waste disposed
  - Over 6,300 shipments received to date
  - Recently completed 100<sup>th</sup> RH shipment

# *Other OR Waste Disposition Challenges*

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- Molten Salt Reactor Experiment
  - Radioactive salt
  - Uranium laden charcoal container
- Shield Transfer Tanks (STTs)
- Pyrophoric material in Melton Valley
- HQ-OR teams established (or planned) to evaluate disposition alternatives and identify disposition strategies for these streams



# *OR Excess Materials Disposition (EM-owned only)*

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- PAST:
  - Legacy SNF shipped offsite to INL
  - DUF6 cylinders shipped offsite to Portsmouth/Paducah
- CONTINUING:
  - HFIR SNF shipped offsite to SRS
- FUTURE:
  - Contaminated nickel – disposition planning underway
  - U233/B3019 – future processing/downblending to prepare for off-site disposal (RH TRU and LLW)



# Summary

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- OR sites serve a critical role in DOE's overall waste and materials management strategies
  - Balanced role: shipper and receiver
  - Disposition assets built to meet OR needs, but may support other sites, too
- OR community and industry are valuable stakeholders for DOE, particularly EM efforts
  - Local and on-site commercial firms play important role in complex-wide waste treatment
- EM HQs is actively working with DOE-OR to deploy the detailed waste disposition tools



# Background slides



# *GTCC Disposal Alternatives under evaluation*

<b>Alternative</b>	<b>Description</b>
1	<i>No Action</i> —current and future GTCC LLRW and DOE GTCC-like waste would be stored at designated locations consistent with ongoing practices
2	<i>Disposal in a Geologic Repository at WIPP</i> —current and future GTCC LLRW and DOE GTCC-like waste would be disposed of at WIPP
3	<i>Disposal in a Geologic Repository at Yucca Mountain</i> —current and future GTCC LLRW and DOE GTCC-like waste would be disposed of at the proposed Yucca Mountain Repository
4	<i>Disposal at a New Enhanced Near Surface (ENS) Facility</i> —current and future GTCC LLRW and GTCC-like waste would be disposed of at a new ENS facility at INL, LANL, WIPP vicinity, NTS, SRS, ORR, or Hanford, or a commercial location
5	<i>Disposal at a New Intermediate Depth Borehole (IDB) Facility</i> —current and future GTCC LLRW and GTCC-like waste would be disposed of at a new IDB facility at the same locations identified in Alternative 4



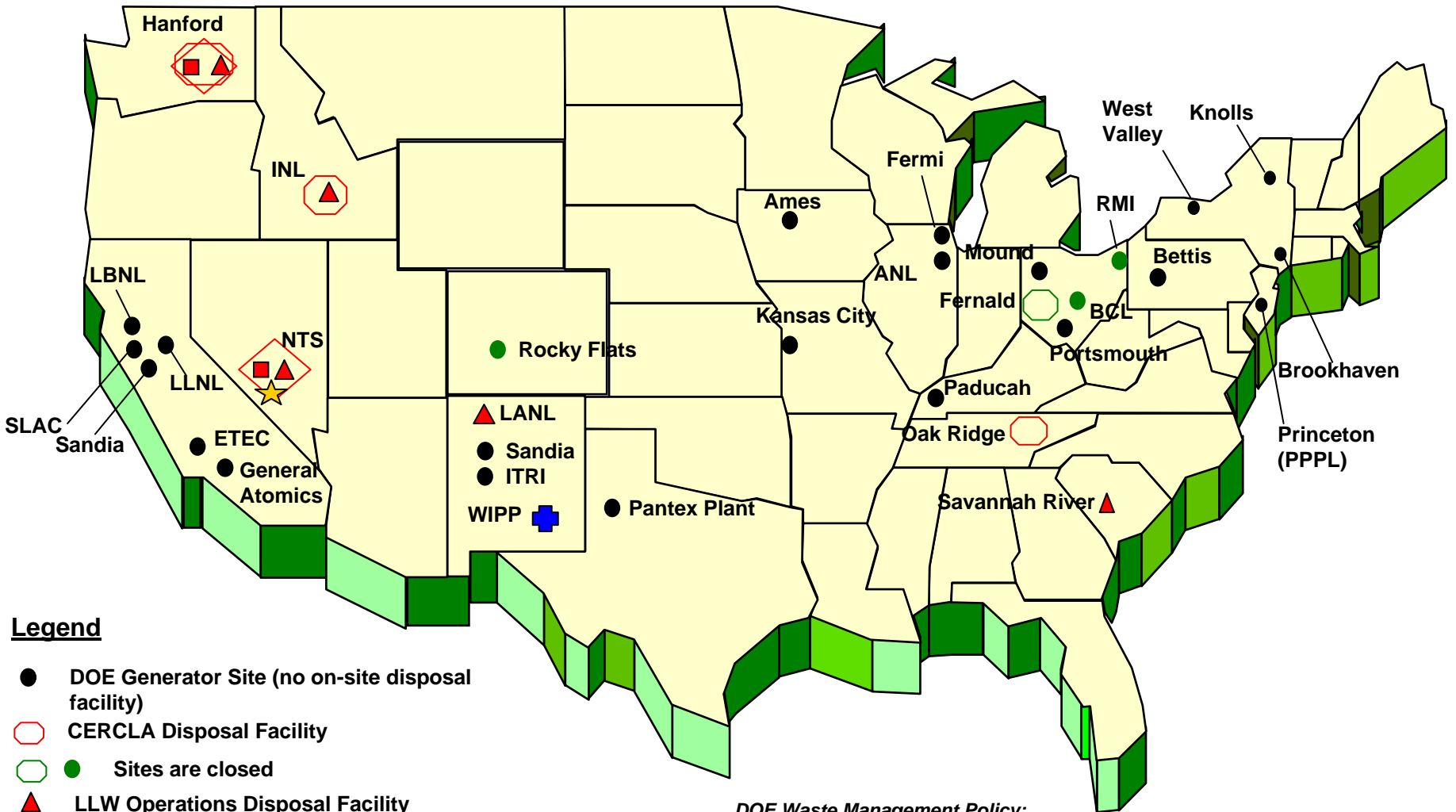
# *GTCC Disposal Site Locations under evaluation*

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- WIPP, NM
- WIPP Vicinity, NM
- Proposed Yucca Mountain Repository, NV
- Idaho National Laboratory (INL), ID
- Los Alamos National Laboratory (LANL), NM
- Nevada Test Site (NTS), NV
- Savannah River Site (SRS), SC
- Oak Ridge Reservation (ORR), TN
- Hanford Site, WA
- EIS will also analyze generic commercial facilities



# DOE's Waste Disposal Complex



## Legend

- DOE Generator Site (no on-site disposal facility)
- CERCLA Disposal Facility
- Sites are closed
- ▲ LLW Operations Disposal Facility
- MLLW Operations Disposal Facility
- ◇ Regional LLW Disposal Facility
- ⊕ Waste Isolation Pilot Plant (WIPP) for TRU disposal
- ★ Yucca Mountain repository for HLW/SNF disposal

### DOE Waste Management Policy:

**LLW and MLLW:** If practical, disposal on the site at which it is generated. If on-site disposal not available, at another DOE disposal facility. At commercial disposal facilities if compliant, cost effective, and in best interest of the Department

**TRU waste:** If defense, disposed at Waste Isolation Pilot Plant, New Mexico. If non-defense, safe storage awaiting future disposition

**HLW and SNF:** Stabilization, if necessary, and safe storage until geologic disposal is available