

Department of Energy

Low Level Waste Disposition ~ Status and Emerging Issues

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Introduction

- EM leads DOE's complex-wide efforts to improve disposition planning and optimize waste disposition projects
- However, DOE's waste management policy remains unchanged and DOE's Programmatic Waste Management Environmental Statement and Records of Decision are still valid
- “National Disposition Strategies” refer to updated plans, tools and management actions needed to strengthen disposition projects and provide greater transparency to DOE sites, communities, stakeholders and regulators



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DOE Order 435.1, Radioactive Waste Management, Establishes Policy & Framework

- **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**



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We face serious programmatic challenges

- Some project costs are increasing, but budget resources are limited
- Security and compliance requirements increasing
- The tough stuff remains
- Disposal landscape has changed, which brings market changes and cost impacts

We must strengthen our planning to ensure progress continues to be made.



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Specific waste disposition challenges

- Offsite LLW/MLLW shipments to Hanford remain suspended
- Limited opportunity exists at NTS for higher-activity MLLW disposal
- Limited operations planned at TSCA Incinerator
- Development of new, on-site capabilities deterred by budget constraints, reduced volumes, legal and stakeholder issues
- Commercial alternatives do not exist for some wastes
- Continued cleanup and future missions absolutely dependent on availability of treatment and disposal
- “Problematic waste streams” still exist... and future facility D&D will identify more
- Final disposition of Fernald Silo residues



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New LLW/MLLW projections

- Waste Information Management System (WIMS)
 - Web-based system (developed by FIU) available to any registered user
 - Produces waste disposition maps similar to those developed by EM Integration in 1999-2001
 - Current data reflects mostly EM sites forecasts
 - <http://wims.arc.fiu.edu/WIMS>
- New life cycle waste forecast underway
 - Additional sites from NNSA and SC this year
 - Data review underway
- Once data is reviewed, it will be posted to the Waste Information Management System website for public review



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Preliminary LLW/MLLW data trends

- On-site disposal cells continue to serve large site cleanup programs at Hanford/ORP, Idaho, and Oak Ridge
- Projected waste volume to off-site disposal continues downward trend
- Significant use of commercial waste disposal in spite of smaller volumes
- Large uncertainties remain in out-year forecasts due to unplanned and uncertain work scope at several key sites



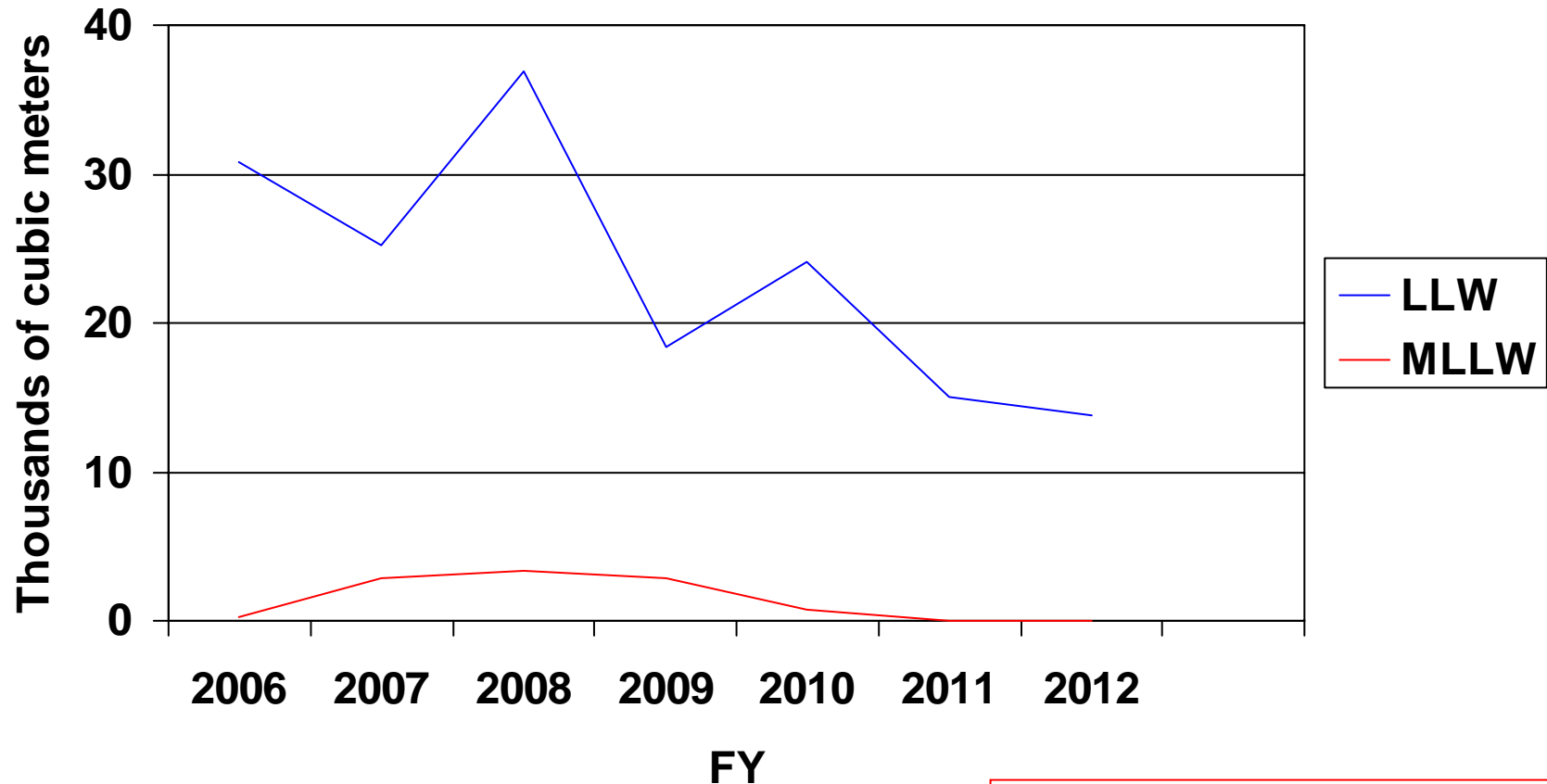
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Projected Offsite LLW Disposal at NTS

(Very preliminary- data collection in progress)



NOTE: Mixed Waste Disposal Unit will close by Nov 2010



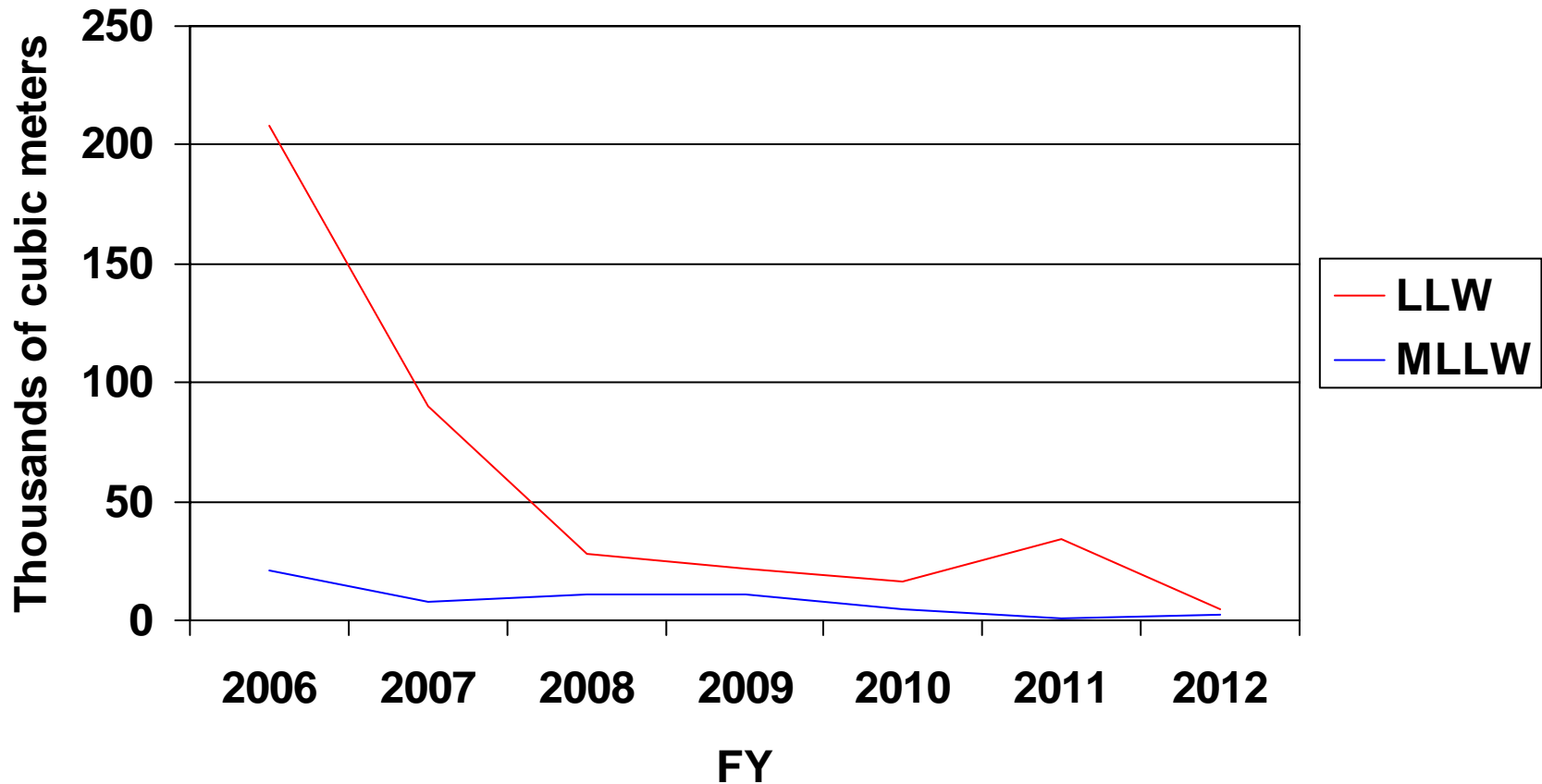
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Projected Offsite LLW/MLLW at Commercial Facilities

(Very preliminary – data collection in progress)



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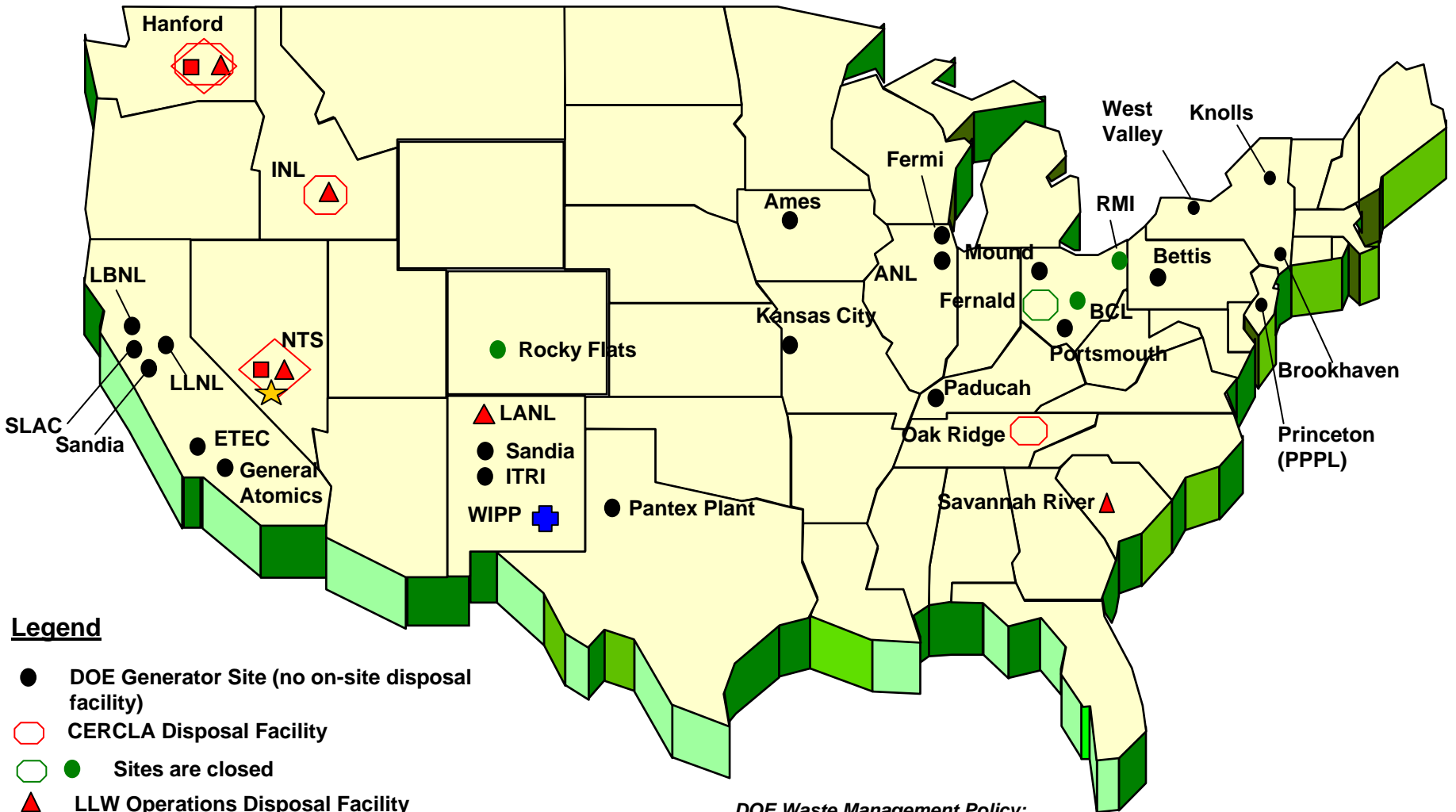
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In conclusion

- Waste disposition challenges remain, and DOE/EM's integrated planning efforts focus on these
- Current WM policy has not changed, and is not expected to change
- DOE relies on commercial industry for a significant portion of its LLW and MLLW treatment and disposal needs
- We must balance regulatory and industry concerns
 - Improved cost-benefit analyses are critical



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