

# **EM Spent Nuclear Fuel/High-Level Waste Activities**



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U.S. Department of Energy**

**April 13, 2005**



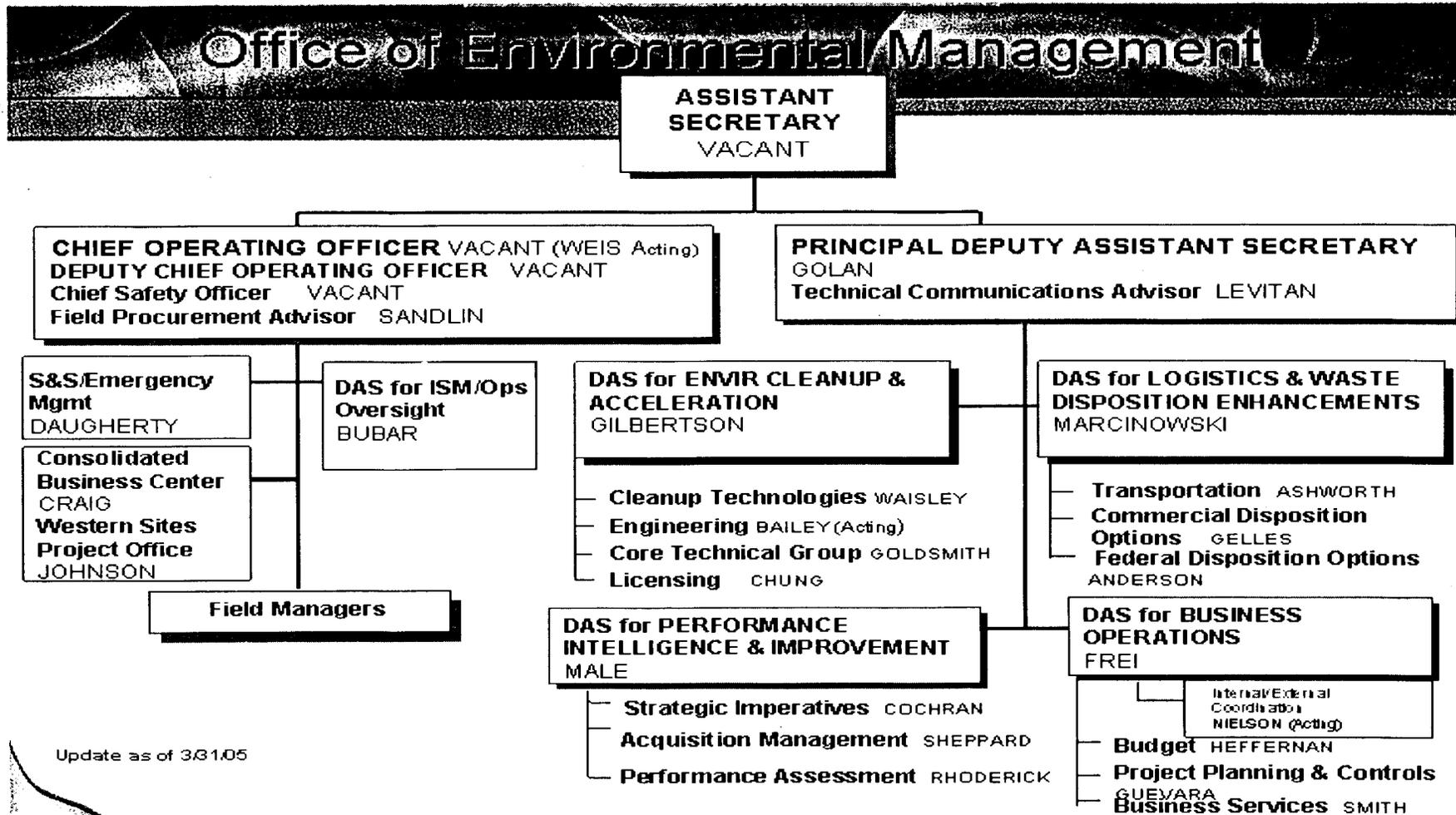
# **EM Spent Nuclear Fuel/High-Level Waste Activities**

## **Topics to be Addressed:**

- **EM Headquarters Organization**
- **EM-10 Office Relationships**
- **EM-10 Responsibility Assignment  
Matrix for SNF/HLW**
- **Draft SNF/HL Issues**
- **Role of NSNFP**

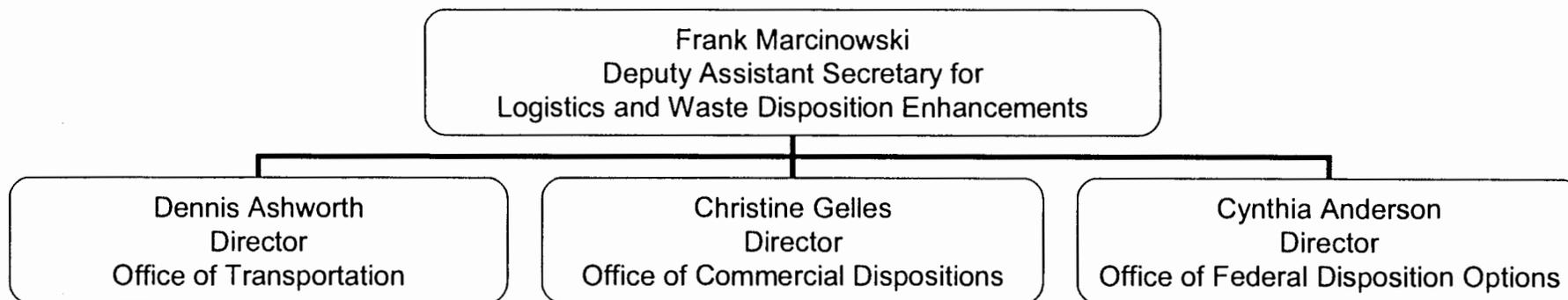


# EM Headquarters Organization





# EM-10 Organization



**Spent Nuclear Fuel (SNF)/High Level Waste (HLW) Team Responsibility Matrix**

**April 5, 2004**

	<b>Savannah River (SR)</b>	<b>Idaho (ID)</b>	<b>Richland (RL)</b>	<b>Office of River Protection (ORP)</b>	<b>West Valley (WV)</b>	<b>Civilian Radioactive Waste (RW)</b>	<b>Budget (EM-31)</b>
<b>SNF</b>	<b>Scorah</b> 301 903 3201 Lahoti 301 903 7210	<b>Blaney</b> 301 903 7103 Scorah 301 903 3201	<b>Lahoti</b> 301 903 7210 Scorah 301 903 3201				
<b>HLW</b>	<b>Scorah</b> 301 903 3201 Black 301 540 5944	<b>Black</b> 301 540 5944 Blaney 301 903 7103		<b>Lahoti</b> 301 903 7210 Black 301 540 5944	<b>Black</b> 301 540 5944 Lahoti 301 903 7210		
<b>Transportation</b>						<b>Blaney</b> 301 903 7103 Scorah 301 903 3201	
<b>Budget</b>	<b>Scorah</b> 301 903 3201 Black 301 540 5944	<b>Blaney</b> 301 903 7103 Black 301 540 5944	<b>Lahoti</b> 301 903 7210 Black 301 540 5944	<b>Lahoti</b> 301 903 7210 Black 301 540 5944	<b>Black</b> 301 540 5944 Lahoti 301 903 7210		<b>Black</b> 301 540 5944 Scorah 301 903 3201
<b>Yucca Mountain License Application (YMLA)</b>	<b>Scorah</b> 301 903 3201 Lahoti 301 903 7210	<b>Blaney</b> 301 903 7103 Lahoti 301 903 7210	<b>Lahoti</b> 301 903 7210 Scorah 301 903 3201	<b>Lahoti</b> 301 903 7210 Scorah 301 903 3201	<b>Black</b> 301 540 5944 Lahoti 301 903 7210	<b>Blaney</b> 301 903 7103 Lahoti 301 903 7210	
<b>NSNFP</b>		<b>Blaney</b> 301 903 7103 Scorah 301 903 3201					
<b>EM-RW MOA</b>						<b>Scorah</b> 301 903 3201 Lahoti 301 903 7210	


**Note: The person identified in bold is Primary Point of Contact. Second person is backup**

**SPENT NUCLEAR FUEL/HIGH-LEVEL WASTE ISSUES TABLE (4/12/05)**

<b>Issue No.</b>	<b>Site Name</b>	<b>HQ POC</b>	<b>Field POC</b>	<b>ISSUES</b>	<b>STATUS</b>
1	ID	Blaney 301 903 7103; Scorah 301 903 3201	Jan Hagers 208-526-0758; Rick Provencher 208-526-7300	A decision is needed on the path forward for the privatized SNF project and associated contract with Foster Wheeler Environmental Corporation.	Foster Wheeler received its license from the Nuclear Regulatory Commission at the end of November 2004. NE-ID is meeting with Foster Wheeler to define the project path forward including the Foster Wheeler financial plan for construction.
2	ID	Black 301 540 5944; Blaney 301 903 7103	Rick Provencher 208-526-7300 Greg Duggan 208 526 3181	The path forward for broaching discussions with RW and regulators on the direct disposal of HLW calcine needs to be developed.	NE-ID is preparing a CD-0 package for the HLW Calcine Disposition Project and hopes to submit it to HQ soon.
3	SRS	Scorah 301 903 3201; Lahoti 301 903 7210	Randy Ponik 803-208-3973	EM will need to decide the timing of a new packaging facility (the Treatment and Storage Capability) for preparing SNF for transport to the geologic repository.	SRS plans to request that funds for the Treatment and Storage Capability be included in the FY 2007 budget formulated this spring.
4	EM-HQ	Anderson 202 586 2083	N/A	EM HQ is well organized to deal with TRU issues, as it has a dedicated team of personnel working on WIPP/TRU matters. The same is not true of SNF issues, and even less so when it comes to HLW. Experienced HLW personnel are dispersed among several offices in HQ with no central authority. EM HQ needs to decide if this situation will continue.	EM-10 has initiated steps to clarify SNF/HLW responsibilities between EM-12 and EM-13
5	ORP	Lahoti 301 903 7210; Black 301 540 5944	Phil LaMont 509-376-6117	EM will need to decide when to proceed with another Canister Storage Building for storage of HLW canisters.	RL has sufficient dry storage for SNF but is projected to exceed capacity for storage of HLW canisters at the end of 2012. If shipments to the geologic repository do not begin by then, additional storage will be needed. This additional storage capacity may need to be included in the FY 2007 budget formulated this spring.

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6	RW Interface	Blaney 301 903 7103; Lahoti 301 903 7210	Jeff Williams (RW) 202-586-9620	Once RW announces its new schedule for submitting the license application to the Nuclear Regulatory Commission and for beginning repository operations, EM will need to factor the new dates into its long and short range budget and operating plans.	As indicated above with regard to facilities that may be needed at ID, SRS, and RL, EM will need to make decisions regarding its strategy/funding for SNF and HLW activities. A broad strategic review of EM SNF and HLW activities will be needed with costs identified. A new Integrated Acceptance Schedule for the acceptance of EM's SNF and HLW by RW will need to be developed.
7	RW Interface	Scorah 301 903 3201; Lahoti 301 903 7210	Jeff Williams (RW) 202-586-9620	EM-1 is to decide if the revised Memorandum of Agreement between EM and RW is to be signed.	RW signed the revised MOA and it is with Paul Golan.
8	RW Interface	Blaney 301-903-7103; Lahoti 301 903 7210	Jeff Williams (RW) 202-586-9620	EM needs to provide comments to RW on any changes it would like to see in the draft license application.	Revised LA sections are currently under review.
9	RW Interface	Scorah 301-903-3201; Blaney 301 903 7103	Jeff Williams (RW) 202-586-9620	EM needs to respond to RW's request for information to update the Integrated Interface Control Document. RW has asked for information by the end of February 2005.	Completed
10	RW Interface	Blaney 301 903 7103; Scorah 301 903 3201	Ned Larson (RW) 202-586-1710	EM needs to be involved with and supportive of RW's efforts to establish a transportation system.	RW is responsible for transporting EM's SNF and HLW from the DOE sites to the geologic repository. EM needs to ensure RW has the technical/operations information needed to procure transportation casks for EM's materials. Currently, EM-13 staff and the National Spent Nuclear Fuel Program personnel at ID have been providing the information. A more formal recognition of this role may be in EM's interest.
11	RW Interface	Larry Vaughan 202-586-2523	Dennis Brown (RW) 702-821-8410	EM needs to ensure the quality assurance requirements to be imposed on EM's SNF and HLW activities to meet the NRC regulatory requirements are appropriate.	RW is currently revising the QA requirements document. EM-3.2 is leading EM's evaluation of the revised requirements.

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12	SRS	Scorah 301 903 3201; Lahoti 301 903 7210	Randy Ponik 803-208- 3973	A decision needs to be documented as to how SRS SNF will be prepared for disposal in the geologic repository. If direct disposal in standard canisters is selected, as had been recommended by the SNF CPT, an amended ROD will be required.	Awaiting action from EM HQ.
13	SRS	Scorah 301 903 3201; Lahoti 301 903 7210	Randy Ponik 803-208- 3973	A decision to cancel the previous plan to swap SNF between ID and SRS needs to be documented. An amended ROD will be required.	Awaiting action from EM HQ.
14	SRS	Scorah 301 903 3201; Lahoti 301 903 7210	Randy Ponik 803-208- 3973	A decision on H-Canyon processing needs to be made. Under SRS's SNF Management ROD, H-Canyon is to remain available until an alternate SNF disposal path is available, currently planned to be the Treatment and Storage Capability in 2010. H-Canyon processing of some SNF is covered in the ROD; a decision on processing other SNF needs to be made before cessation of H-Canyon operations can begin. An amended ROD will be required.	SR is preparing a CD-0 package to address this issue and expects to submit it to HQ in 1-2 months.
15	SRS	Scorah 301 903 3201; Lahoti 301 903 7210	Randy Ponik 803-208- 3973	Capability for receipt of FRR and DRR SNF at SR needs to be addressed.	The number of additional FRR and DRR SNF receipts at SR is being addressed.
16	SRS	Scorah 301 903 3201; Lahoti 301 903 7210	Randy Ponik 803-208- 3973	The expected funding from FRR SNF receipts that can be used to support L-Basin and other SNF activities needs to be determined. If the funding is less than had been planned, a decision on making up the shortfall needs to be made.	SRS needs to communicate any expected shortfall to EM HQ.

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17	RL	Blaney 301 903 7103; Scorah 301 903 3201	Mark Gardner 208 526 5655	The transportability of MCOs needs to be analyzed and assured.	The National Spent Nuclear Fuel Program has plans to begin the needed analysis this year. This is a several year task expected to be completed in 2006. Initial investigations cover the MCO that were loaded a basket short. The effects of administrative controls on the loading of the baskets will also be evaluated from a criticality standpoint.
18	ID	Blaney 301 903 7103; Scorah 301 903 3201	Mark Gardner 208-526-5655; Rick provencher 208-526-7300	The role of the NSNFP needs to be communicated and acknowledged by affected parties. The NSNFP is an advocate for DOE SNF issues, but no advocate exists for HLW issues. The NSNFP could be the advocate for DOE-EM repository activities.	Discussions are underway between EM-10 and NE-ID to address this issue.
19	ID/RL	Blaney 301 903 7103; Scorah 301 903 3201	Mark Gardner 208 526 5655	The regulatory and technical strategy for cost effective disposition of sodium bonded fuel needs to be formally established and implemented.	Draft paper has been prepared by Chuck Nalezny
20	TBD	TBD	TBD	The disposition path for all Category I spent fuel inventories needs to be formalized and implemented.	TBD
21	SRS	Scorah 301 903 3201; Black 301 903 7122	Sachiko McAlhany 803 208 3972	The vitrified PU waste form at SR needs to be incorporated into the Yucca Mountain LA.	SR has prepared a draft report that was provided to RW to meet RW's request for information. The draft report will be finalized later in April 2005 in response to RW's clarifying questions.
22	RL	Scorah 301 903 3201; Black 301 540 5944	TBD	Disposition path for Cs and Sr capsules at RL needs to be determined.	TBD
23	ID	Blaney 301 903 7103; Scorah 301 903 3201	Mark Gardner 208-526-5655	EM needs performance-based repository waste acceptance criteria developed and agreed to with RW.	EM and the National Spent Nuclear Fuel Program must continue to pursue this objective with RW.

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24	ID	Blaney 301 903 7103; Scorah 301 903 3201	Mark Gardner 208-526 5657	Safeguards issues regarding enriched DOE SNF packaged in standard canisters have not been discussed or agreed to with the NRC.	EM and RW must agree on the timing for bringing this issue to the NRC.
25	RW Interface	Blaney 301 903 7103; Scorah 301 903 3201	Joe Price 702-794- 1441	During the last NRC technical exchange meeting, the DOE SNF criticality issues/analyses were not discussed in detail.	The NRC never officially acknowledge acceptance of the DOE SNF packaging concept/analyses for the medium and high enriched DOE fuel. A technical exchange meeting to review the DOE SNF criticality approach should be set up with the NRC to do that. With the LA delay, this would be an excellent time to bring the NRC on board as to how the criticality analyses were done for the DOE SNF and get their blessing.
26	ID	Blaney 301 903 7103; Scorah 301 903 3201	Mark Gardner 208-526 5658	Currently, in support of the LA, various analyses on criticality, TSPA, and PCSA have been completed for the DOE SNF. These analyses were completed based on specific configuration, fuel loading and Gd absorber requirements, etc. Although much of this information has been provided to the DOE sites (in some cases, as part of the design review process), the DOE sites have not officially acknowledge that they planned to package the fuels based on the analyses completed.	Some official understanding between the sites, HQ, and NSNFP is required to the identify why the sites take exceptions to the specific configuration, fuel loading and Gd absorber requirements etc. As required, additional analyses may be planned to ensure these exceptions are covered as part of the LA. As an example, the INEEL plans to package the TRIGA fuels in two layer 18" diameter canister at a higher packing density with lower enriched fuel than the three layer 18" diameter canister. This different design was identified by the site and the NSNFP evaluated this two layer design concept and found it acceptable (from a criticality standpoint) as long no FLIP TRIGA is involved.

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27	ID	Blaney 301 903 7103; Scoriah 301 903 3201	Mark Gardner 208-526 5658	RW plans to use commercially available casks for shipment of DOE canisters to the repository. Current commercial rail casks were designed to ship dual-purpose canister which contain shielding in the top head. The impacts to the shielding requirements need to be evaluated for DOE canister shipments.	The NSNFP plans to evaluate this issue starting in FY 2005 and completing in FY 2006.



## Role of the NSNFP

- Coordinate activities at three SNF sites.
- Support EM in interfacing with RW
  - Development of Integrated Acceptance Schedule
  - Review of Yucca License Application
- Analyses and development work required for SNF disposal.
- Coordination and support role to be extended to HLW disposal.