

**Savannah River Site (SRS) Citizens Advisory Board  
Nuclear Materials (NM) Committee Meeting  
Aiken Municipal Conference Center, Aiken, SC  
July 17, 2008**

The Savannah River Site (SRS) Citizens Advisory Board (CAB) Nuclear Materials Committee held a meeting on Thursday, July 17, 2008, 5:30-7:15 p.m., at the Aiken Municipal Conference Center in Aiken, SC. The purpose of the meeting was to discuss:

1. Surplus Nuclear Materials and Spent Nuclear Fuel Disposition Strategy
2. K-Area Projects (Shuffler & GFSVTR)
3. Design Basis Threat (*informal remarks*)
4. Opportunity for public comment on CAB related items.

**Attendees:**

**CAB Members**

Manuel Bettencourt  
Judy Greene-McLeod  
Mary Drye  
Leon Chavous  
Ranowul Jzar  
Donna Antonucci  
Kathe Golden  
Joe Ortaldo

Don Bridges

Stan Howard  
Ed Burke  
K. Jayaraman

**Stakeholders**

Rick McLeod, CAB Technical  
Advisor  
Scott Brim, Public  
P. K. Hightower, Stakeholder  
Lee Poe, Public  
Karen Patterson, Public  
Martha Berry, EPA  
Jim Hussey, Chambliss Office  
Liz Goodson, Public  
Nancy Bobbitt, Isackson's  
Office  
Tom Clements, Friends of the  
Earth Organization  
Josh Livingston, BSA

**DOE/Contractors**

Sheron Smith, DOE-SR  
Allen Gunter, DOE-SR  
Dawn Gillas, DOE-SR  
Jean Ridley, DOE-SR  
Michelle Ewart, DOE-SR  
Roger White, WSRC  
Sonny Goldston, SRNS  
T. R. Cowlam, WSRC  
  
R. M. Sprague, WSRC  
  
Ron Livingston, SRNL  
Terry Spears, DOE-SR  
Ricky Bell, SRNS  
Ron Oprea, SRNS  
Chris Woods, V3  
Carl Lanigan, DOE-SR  
Linda Quarles, DOE-SR

**Welcome and Introduction:**

Manuel Bettencourt, NM Chair, called the meeting to order at 5:30pm. He continued by welcoming everyone and requesting self introductions.

**Committee Chair Update:**

During the Committee Chair Update, Mr. Bettencourt reminded everyone of the SRS CAB annual membership drive that begins in August. He encouraged current CAB members to provide a copy of the applications to friends and neighbors who would be active and interested in the Board's mission. Applications are available on the table or can be accessed electronically at the SRS CAB Webpage.

Mr. Bettencourt reviewed the status of the four open NM Recommendations. He stated that after tonight's briefings these would be reviewed for completion. He asked that the NM recommendation managers to review them as well.

Mr. Bettencourt requested everyone to acknowledge and abide by the meeting ground rules. He stated that this evenings topics are of interest to all and to facilitate the discussions and best use of time, he requested that all questions be held until the end of the presentations. He then asked Allen Gunter, DOE-SR to begin the presentations.

### **Meeting Summary:**

Members of the Nuclear Materials Committee and the public met on Thursday, July 17, 2008, 5:30-7:30 p.m. at the Aiken Municipal Conference Center, in Aiken, SC. DOE-SR hosted the meeting. The purpose of the meeting was to receive presentations and discuss: 1) Design Basis Threat Project Status (*informal remarks*) provided by Michelle Ewart, DOE-SR; 2) K-Area Projects (Shuffler and FFTF Vault), presented by Carl Lanigan, DOE-SR; and 3) Plutonium and Uranium Receipts/Disposition Status presented by Allen Gunter, DOE-SR. The meeting was well attended. The discussions did not generate a proposed draft motion or letter.

Allen Gunter, DOE-SR, provided the status of Plutonium (Pu) consolidation and disposition and the Enriched Uranium and Spent Fuel disposition. He informed the CAB members of the revised preferred alternative for the Pu Disposition Project which eliminates the vitrification capability and will prepare the Pu for disposition using the MOX and H-Canyon facilities. The revised preferred alternative utilizes existing facilities or those under construction with demonstrated technologies which significantly reduces risks and is cost effective. Open discussions included that there will not be any impacts to delay the schedule; no change in the amount of Pu to be dispositioned at SRS; and clarification of why K-Area is the only CAT 1 designation onsite. Manuel Bettencourt asked for the assurance that there are no issues on available storage for the Pu at SRS. Rick McLeod asked how the risk of the Defense Waste Processing Facility (DWPF) becoming inoperable would impact the Pu Program and the Waste Program. Allen Gunter stated that the Life-cycle Liquid Waste Disposition System Plan, Rev. #15 has identified and addresses these risks. Mr. Gunter summarized that disposition of Nuclear Materials can be accomplished with minimal impact on the SRS liquid waste system.

Carl Lanigan, DOE-SR, presented the Green Fuel Storage Vault Type Room Project Overview. Once the future Pu Preparation Project is operational, the green fuel will be de-cladded and then dispositioned through H-Canyon. His presentation provided photos of the Hanford Un-irradiated Fuel Packages. His presentation concluded with the planned funding and baseline schedule. Open discussions clarified that green fuel is fuel that has not been radiated, some of the empty casks will be used by MOX; and that shipments will be verified and material accounted by weight.

Carl Lanigan, DOE-SR, presented the Shuffler Project Overview. The Project driver is DOE Order 470.4-1, Change 1, Part 2, Section M.2 that requires vitrification of receipt of Highly Enriched Uranium. Open discussions included the estimated time to process a drum and if the onsite Californium materials will be the source. Accountability will be done through statistical methods. His presentation concluded with the planned funding and baseline schedule.

Michelle Ewart, DOE-SR, provided informal remarks on the status to the Design Basis Threat (DBT) 2005 Project. She began by stating that DOE DBT policy has served as the long-term security planning document and protection system performance for nearly 24 years. The values associated with this metric were fairly stable until the events of September 11, 2001, which changed perceptions regarding the global threat spectrum and instigated signification modifications to the DBT. She continued her briefing by providing the DBT definition and the purpose and background for the heightened security measures in K-Area. CAB members were very interested in the consolidation of materials to one area and why those decisions had been made. They asked if the security force personnel had been increased. Ms. Ewart summarized by stating that WSRC and WSI are conducting their readiness assessments and are expected to declare readiness by July 31, 2008. The Department will validate and declare readiness by September 30, 2008 making SRS the first site in the complex to be DBT 2005 compliant.

No *draft motions* were generated from the meeting discussions.

**Public Comment(s):** An opportunity for the public to comment on CAB related issues was provided. Tom Clements, who is a member of the Friends of the Earth organization, provided public comments that stated his appreciation for the interactions and questions of DOE-SR by SRS CAB members; he encouraged review of the H Canyon GAO report which is due out this summer; he encouraged review of the MOX PDCF and WSB; and strongly encouraged the CAB members to be informed of the GNEP efforts and impacts.

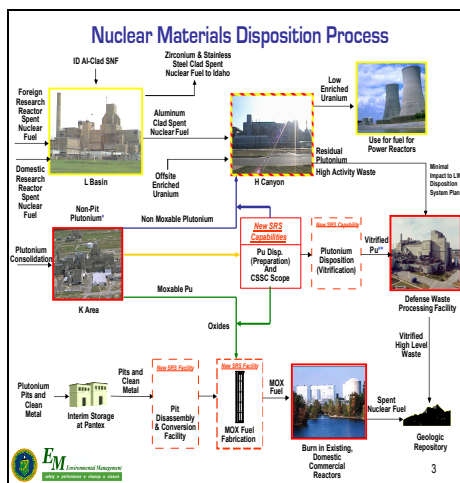
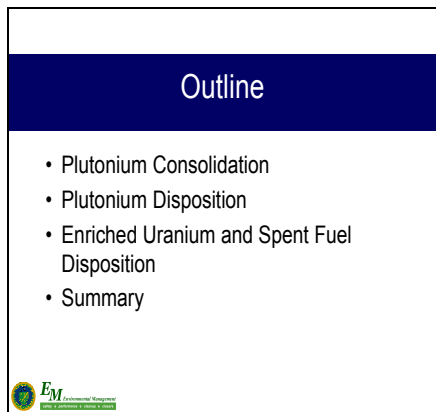
### Actions:

Manuel Bettencourt, Chair, NM Committee, requested Allen Gunter, DOE-SR, to present at the full board meeting on July 29<sup>th</sup>.

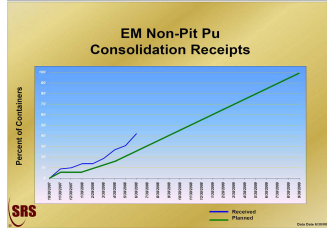
**Adjourn:** The meeting was adjourned at 7:15pm.

### PRESENTATIONS:

**Surplus Nuclear Materials and Spent Nuclear Fuel Disposition Strategy** – *Presented by Allen Gunter, DOE-SR*



## Plutonium Consolidation

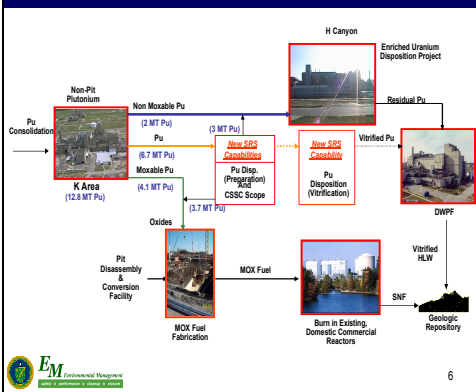


## Plutonium Disposition Summary

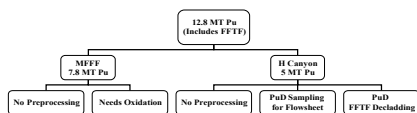
- Initial preferred alternative for Pu Disposition Project was vitrification of up to ~12.8 MT of surplus non-pit plutonium
- Pu Business Case developed utilizing up to three facilities for Pu disposition, which was basis for DOE's disposition plan to Congress\*:
  - Mixed Oxide Fuel Fabrication Facility (MOFF) under construction
  - Existing H-Canyon facilities (Pu disposition began in FY 2007)
  - Proposed plutonium vitrification capability
- Revised preferred alternative for Pu Disposition Project proposal:
  - eliminate the vitrification capability
  - prepare Pu for disposition using the MOX and H-Canyon facilities
  - integrate 3013 Container Surveillance and Storage Capability (C&SC) Project
- Revised preferred alternative utilizes existing facilities (or under construction) with demonstrated technologies and is cost effective

\*September 2007 Report to Congress noted that, "DOE's plan abscondes evaluation of an alternative approach that would either reduce or eliminate the need for the proposed vitrification process."

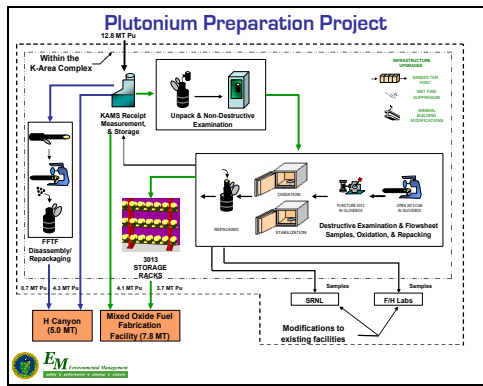
## Plutonium Disposition Strategy



## Plutonium Disposition Program Scope







## Enriched Uranium Disposition Project

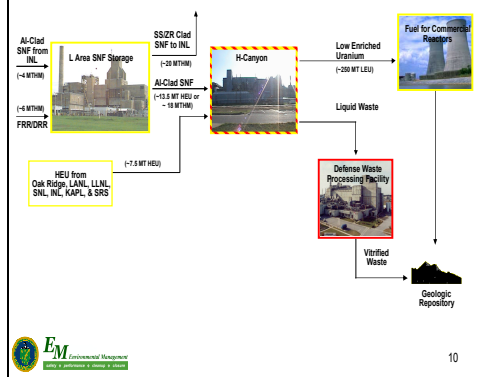
- Enriched Uranium (EU) Disposition Project
  - October 2006, approved mission need (CD0) and alternative selection and cost range (CD-1)
  - January 2008, approved the performance baseline and authorization to implement (CD-2/3)
- Disposition ~21 MT of surplus HEU by processing in H-Canyon facilities as part of the EU Disposition Project
  - ~ 7.5 MT of HEU (processing ~25% complete and will be completed by FY 2010)
  - ~ 13.5 MT of HEU in the form of aluminumclad spent nuclear fuel (processing to start in FY 2010 and estimated to be completed in FY 2019)
- HEU will be blended down to low enriched uranium (LEU) and sold to an end user (such as TVA) for use in fabricating fuel for commercial nuclear reactors

Note: NNSA has responsibility for DOE's overall surplus HEU disposition program

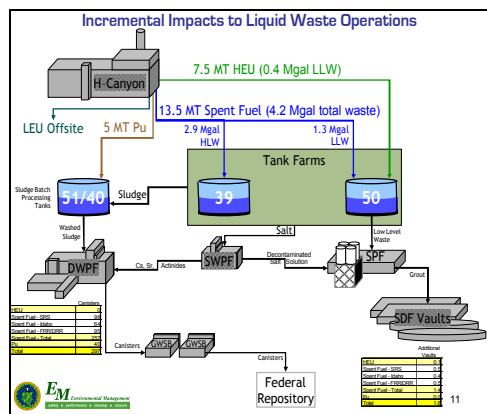


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## Highly Enriched Uranium Disposition Strategy



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## Nuclear Materials Summary

- Disposition of Nuclear Materials can be accomplished with minimal impact on SRS liquid waste system
  - 6 Month Extension
  - ~ 40 additional canisters
- Minimizes program risk by utilizing existing facilities or ones currently under construction to disposition nuclear materials
  - H Canyon
  - MOX



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## Shuffler Project Review – presented by Carl Lanigan, DOE-SR

### Presentation to the SRS Citizens Advisory Board Nuclear Materials Committee

#### Shuffler Project Overview

July 17, 2008

Carl Lanigan  
Federal Project Director  
DOE-SR



### Shuffler Mission Driver

- Department of Energy (DOE) Order 470.4-1 Change 1, Part 2, Section M, 2.a requires verification of receipt of Highly Enriched Uranium (HEU).
- The Savannah River Site (SRS) does not currently have the ability to perform this operation with shipping containers.

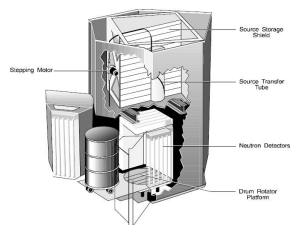


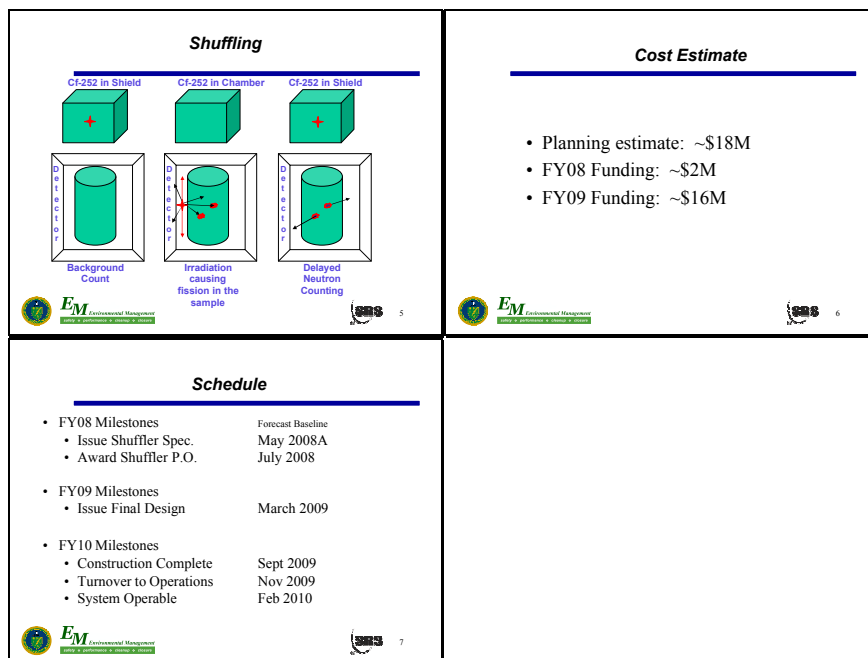
### Shuffler Mission Objectives

- Install and operate a 252 Californium (252Cf) Shuffler inside the K-Area.
- Perform Material Control and Accountability (MC&A) Non-Destructive Assay (NDA) measurements in support of verification/accountability of uranium bearing Special Nuclear Material (SNM).

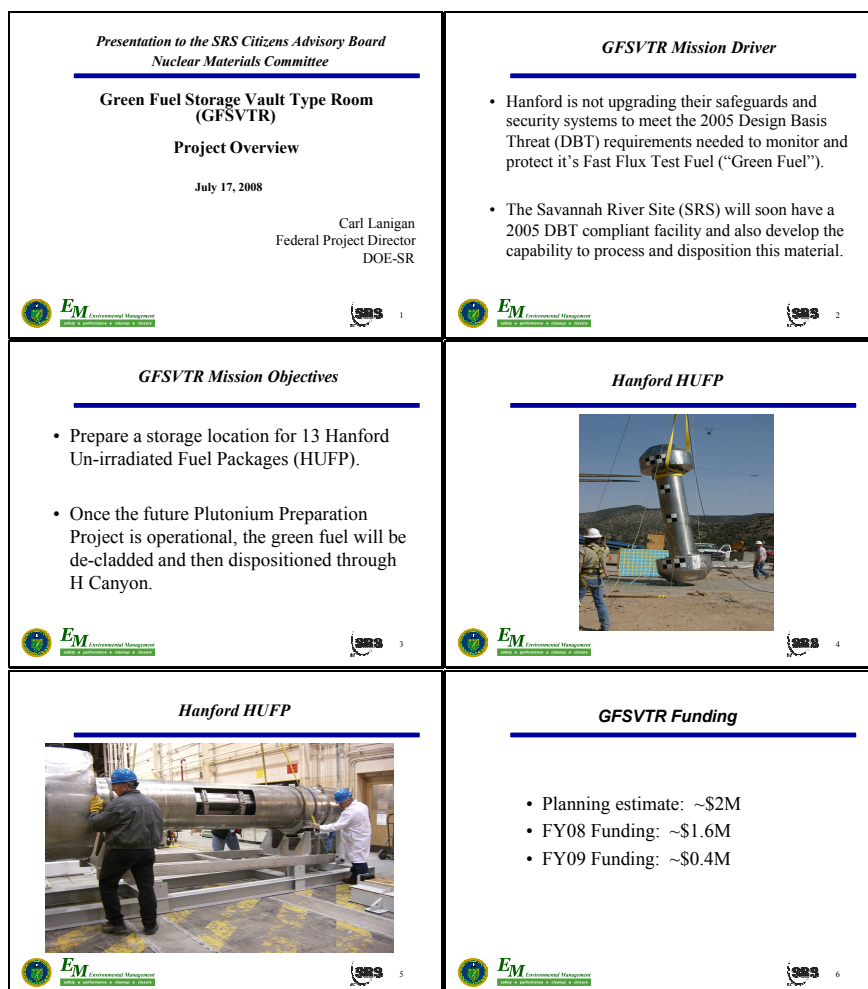


### Cf-252 Shuffler





## Green Fuel Storage Vault Type Room Project Overview – presented by Carl Lanigan, DOE-SR



### ***GFSVTR Schedule***

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- |                                    |                   |
|------------------------------------|-------------------|
| • FY08 Milestones                  | Forecast Baseline |
| • Issue Site Selection             | Jun 2008A         |
| • Issue Scope of Work (Est, Sched) | Jul 2008          |
| • Issue Vault Type Room Design     | Aug 2008          |
| • FY09 Milestones                  |                   |
| • Construction Complete            | Nov 2008          |
| • System Operable                  | Mar 2009          |

