

# TRANSCRIPT OF PROCEEDINGS

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PUBLIC MEETING AND HEARING )  
  )  
SAVANNAH RIVER SITE                          )

REVISED AND CORRECTED COPY

Pages: 1 through 299  
Place: Augusta, Georgia  
Date: June 16, 2011

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BEFORE THE  
DEFENSE NUCLEAR FACILITIES SAFETY BOARD

PUBLIC MEETING AND HEARING )  
)  
SAVANNAH RIVER SITE )

June 16, 2011  
1:00 p.m.

Bell Auditorium  
Augusta Entertainment Complex  
712 Telfair Street  
Augusta, Georgia 30901-2327

BOARD MEMBERS PRESENT:

PETER S. WINOKUR, Ph.D., Chairman  
JOSEPH F. BADER, Board Member  
DR. JOHN E. MANSFIELD, Ph.D., Board Member

## ATTENDEES:

Xavier Ascanio  
Wyatt Clark  
Dae Chung  
John Dickenson  
Fred Dohse  
Robert Edwards  
David Eyler  
David Freshwater  
Kevin Hall  
Steven Howell  
Pat McGuire  
Michael Mikolanis  
David Moody  
David Olson  
Geoff Reynolds  
Lee Schifer  
Terrel Spears

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1 recording.

2           The transcript, associated documents, public  
3 notice, and video recording will be available for viewing  
4 at our public reading room in Washington, DC. In  
5 addition, an archived copy of the video recording will be  
6 available through our website for at least 60 days.

7           Per the Board's practice and as stated in the  
8 *Federal Register* notice, we welcome comments from  
9 interested members of the public at the conclusion of  
10 testimony, approximately 4:30 p.m. this afternoon for  
11 Session I and approximately 8:30 p.m. for Session II.

12           A list of those speakers who have contacted the  
13 Board is posted at the entrance to this room. We have  
14 generally listed the speakers in the order in which they  
15 have contacted us or, if possible, when they wish to  
16 speak. I will call the speakers in this order and ask  
17 that speakers state their name and title at the beginning  
18 of their presentation.

19           There's also a table at the entrance to this  
20 room with a sign-up sheet for members of the public who  
21 wish to make a presentation but did not have an  
22 opportunity to notify us ahead of time. They will follow  
23 those who have already registered with us in the order in  
24 which they have signed up.

25           To give everyone wishing to make a presentation

1 an equal opportunity, we ask speakers to limit their  
2 original presentations to five minutes. The Chair will  
3 then give consideration for additional comments, should  
4 time permit.

5 Presentations should be limited to comments,  
6 technical information, or data concerning the subject of  
7 this public meeting and hearing. The Board Members may  
8 question anyone making a presentation to the extent deemed  
9 appropriate.

10 The record of this proceeding will remain open  
11 until July 18, 2011. I would like to reiterate that the  
12 Board reserves its right to further schedule and regulate  
13 the course of this meeting and hearing, to recess,  
14 reconvene, postpone, or adjourn this meeting and hearing  
15 and to otherwise exercise its authority under the Atomic  
16 Energy Act of 1954, as amended.

17 I would now like to move on to why the Board  
18 chose to hold a public hearing at the Savannah River Site.

19 First, the Board intends to hold more public meetings in  
20 communities surrounding defense nuclear facilities. Too  
21 many of our public meetings are held in Washington, DC,  
22 far from those members of the public who have a vested  
23 interest in the sites.

24 We selected the Savannah River Site because it  
25 is one of the highest and most varied workloads -- has one



1 of the highest and most varied workloads in the DOE  
2 complex.

3 At this one site, there are operations  
4 involving plutonium, enriched uranium, transuranic waste,  
5 tritium, liquid high-level waste, low-level waste,  
6 decommissioning, research and development [R & D], as well  
7 as several major construction projects. These diverse  
8 activities are performed by multiple contractors and  
9 managed by different organizations within DOE.

10 The very complexity of the Savannah River Site  
11 creates additional hazards beyond the sum of its  
12 individual activities.

13 There is no way for us to address every  
14 potentially hazardous nuclear activity at the Savannah  
15 River Site in this forum. Therefore we have limited  
16 ourselves to three topics that we believe are high  
17 priorities due to their safety implications: liquid waste  
18 processing, emergency preparedness, and nuclear material  
19 storage and disposition. In the remainder of my remarks,  
20 I will briefly comment on these three topics.

21 The liquid high-level waste system at the  
22 Savannah River Site contains one of the largest  
23 inventories of radioactive material in the world,  
24 approximately 350 million curies.

25 Currently a significant portion of this liquid

1 waste is held in older tanks, which lack full secondary  
2 containment. Space in newer tanks is at a premium. The  
3 Board issued Recommendation 2001-1, High-Level Waste  
4 Management at the Savannah River Site [SRS], to urge DOE  
5 to treat the high-level waste system as an integrated  
6 whole with a safety goal of stabilizing its radioactive  
7 material in a timely manner while avoiding unacceptable  
8 levels of new risk during this stabilization process.

9           The Board is concerned that in the ten years  
10 since we issued Recommendation 2001-1, there has been  
11 little progress in reducing the inventories of high-level  
12 waste at the Savannah River Site. There has been some  
13 progress in reducing the curie content, but the volumes in  
14 the tanks remain nearly the same.

15           DOE and its contractor, Savannah River  
16 Remediation, LLC [SRR], have ambitious plans to accelerate  
17 waste stabilization and tank closure at the Savannah River  
18 Site. This goal is commendable.

19           However, even with adequate funding resources  
20 available, these plans are reliant upon new facilities  
21 without a demonstrated capability to integrate seamlessly  
22 with aging systems that will need to perform beyond their  
23 historical baselines. Delays and system failures can  
24 increase risks as old-style tanks are used for even longer  
25 periods of time.

1           The Board wants to better understand how DOE is  
2 managing and reducing that risk at a time when Type III  
3 tank space, which is necessary for operational flexibility  
4 in emergencies such as leaking tanks, continues to hover  
5 around 2 million gallons, a relatively small margin.

6           The Board wants to emphasize that the smooth  
7 operation of all high-level waste facilities at the  
8 Savannah River Site as an integrated whole provides a  
9 critical safety mission for the Department of Energy.  
10 Treating and stabilizing legacy waste in underground tanks  
11 is the Board's overriding safety concern at the site.

12           Emergency preparedness has always been a  
13 critical part of any hazardous site's safety posture.  
14 Recent events in the Gulf of Mexico, Japan, and across the  
15 southern United States have shown the world that  
16 catastrophic accidents can happen anywhere.

17           One must prepare for both natural and man-made  
18 disasters. One lesson that is clear from both the  
19 Deepwater Horizon and Fukushima disasters is that  
20 emergency response preparations must include plans for  
21 recovery from an event on a reasonable time scale, not  
22 just plans for immediate stabilization of the scene.

23           Operations at the Savannah River Site have the  
24 potential to create serious events on their own and as a  
25 result of natural phenomena. The Board believes that

1 emergency preparedness programs at the Savannah River Site  
2 should be strengthened through improved integration among  
3 the contractors and facilities, stronger drill and  
4 exercise programs, and the preplanning of post-event  
5 recovery actions.

6           The Board also believes it is critical that  
7 emergency preparedness and fire department organizations  
8 are fully staffed and trained and have the resources  
9 necessary to provide the most immediate on-site response  
10 following a natural disaster.

11           The Board is also concerned about how DOE will  
12 dispose of nuclear materials in light of the potential  
13 termination of H-Canyon and HB-Line processing. Surplus  
14 nuclear materials across the complex with questionable  
15 storage conditions and uncertain futures were the topic of  
16 two Board recommendations: Recommendation 94-1, *Improved*  
17 *Schedule for Remediation in the Defense Nuclear Facilities*  
18 *Complex*, and Recommendation 2000-1, *Prioritization for*  
19 *Stabilizing Nuclear Materials*.

20           While DOE has successfully stabilized, at least  
21 into interim forms, most of the immediate hazards  
22 described in the recommendations, surplus nuclear  
23 materials continue to present safety hazards during  
24 storage and processing until they reach their final  
25 stabilized form, usually in a waste repository.

1           DOE recently chose not to process spent fuel --  
2 spent nuclear fuel in H-Canyon following significant  
3 preparations on-site in support of this mission. In  
4 conjunction with this decision, the Department of Energy  
5 began providing direction to Savannah River Nuclear  
6 Solutions [SRNS] to prepare for shutting down all  
7 processing in the Canyon.

8           H-Canyon has been the planned disposition path  
9 for a large amount of nuclear materials at the Savannah  
10 River Site and throughout the DOE complex. While DOE has  
11 made some headway in developing new pathways to stabilize  
12 a portion of these nuclear materials, there are  
13 uncertainties in these new disposition plans.

14           The site's inventory of aluminum-clad, spent  
15 nuclear fuel is not among those materials that have a new  
16 proposed disposition path. Therefore, the Board would  
17 like to understand whether extended storage of nuclear  
18 materials may cause safety problems, specifically the  
19 inventories of spent nuclear fuel in wet storage at the  
20 Savannah River Site.

21           This concludes my opening comments. I will now  
22 turn to the Board Members for their opening statements.

23           Do you have an opening statement, Dr.  
24 Mansfield?

25           DR. MANSFIELD: No, not at this time.

1 DR. WINOKUR: Do you have an opening statement,  
2 Mr. Bader?

3 MR. BADER: No, not at this time.

4 DR. WINOKUR: This concludes the Board's  
5 opening remarks. At this time, I would like to introduce  
6 Mr. Dae Chung, the Principal Deputy Assistant Secretary  
7 for Environmental Management at DOE, and Dr. David Moody,  
8 the manager of DOE's Savannah River Operations Office, and  
9 ask them to provide their opening statements.

10 Your full written statements will be accepted  
11 into the record, so I'd ask you to please summarize your  
12 comments. Thank you.

13 MR. CHUNG: Good afternoon, Mr. Chairman and  
14 Members of the Defense Nuclear Facilities Safety Board. I  
15 appreciate the opportunity to be here today to represent  
16 Department of Energy's Office of Environmental Management  
17 [EM] and provide a complex-wide perspective on liquid  
18 waste processing, nuclear material storage, and  
19 disposition and emergency preparedness, with a focus on  
20 the Savannah River Site.

21 With regard to liquid waste processing, EM has  
22 approximately 90 million gallons of highly radioactive  
23 liquid tank waste throughout our complex. Management and  
24 treatment of this waste makes up over 33 percent of the  
25 life cycle costs of the EM program, and managing this

1 waste safely is our highest priority.

2 EM has had an active liquid waste technology  
3 and development effort since the mid-1990s. Recent  
4 efforts have centered on evaluation of the overall  
5 technologies for tank waste treatment through the  
6 technical evaluation group and the Environmental  
7 Management Advisory Board Tank Waste Committee, which will  
8 propose recommendations to the Assistant Secretary this  
9 summer via a separate public meeting.

10 Several tank waste treatment facilities were  
11 initiated approximately 15 years ago; specifically the  
12 vitrification facilities at West Valley Demonstration  
13 Project, which has since been shut down, and at Savannah  
14 River Site.

15 The Savannah River Site has 51 below-ground  
16 tanks, two of which are closed. The tanks contain  
17 approximately 37 million gallons of waste, containing  
18 about 380 million curies.

19 As noted before, SRS has operated tank waste  
20 treatment facilities for some time, the Defense Waste  
21 Processing Facility, initiating operations in 1996 for  
22 processing sludge waste from the tanks.

23 Recent changes in the Defense Waste Processing  
24 Facility melter design will allow greater waste loading in  
25 canisters, which will assist in reducing the cost and

1 schedule of the tank waste mission.

2 In 2008 the Department began operating the  
3 Actinide Removal Process Modular Cesium Removal Unit to  
4 separate the higher-activity fraction of the salt waste  
5 for treatment in the Defense Waste Processing Facility  
6 from the lower-activity fraction that is treated and  
7 disposed on-site via Saltstone.

8 In 2014, DOE anticipates beginning operation of  
9 the Salt Waste Processing Facility [SWPF], which will  
10 enable more rapid processing of the salt waste.

11 New innovations are currently being developed  
12 for pretreatment in Tank Farms. These are currently in  
13 the testing phase to determine their effectiveness and,  
14 when deployed, should result in increased [sic] cost and  
15 schedule for separating the waste.

16 Key technologies being considered include a  
17 next-generation cesium extractant for the Salt Waste  
18 Processing Facility, rotary microfiltration, and a small-  
19 column ion exchange system. EM recently performed an  
20 external technical review of the latter two technologies,  
21 and they are also being evaluated by the Tank Waste  
22 Subcommittee that I mentioned earlier.

23 The Board has been closely involved in our  
24 efforts in this area. On March 23, 2001, the Board issued  
25 Recommendation 2001-1, *High-Level Waste Management at*



1 *Savannah River Site.*

2           In response to this recommendation, the site  
3 has made progress in developing and implementing processes  
4 to treat salt waste and improvements in its tracking and  
5 monitoring system for available tank space.

6           The safety concerns posed by the tank space  
7 have been mitigated to some extent by the number of tanks  
8 that have been emptied through the accelerated tank  
9 closure program.

10           Additionally, the site utilized \$200 million of  
11 Recovery Act funds on Tank Farm infrastructure upgrades  
12 and also has an active program to address potential  
13 vulnerabilities posed by aging Tank Farm facilities.

14           With regard to nuclear materials storage and  
15 disposition, H-Canyon is a key component and is currently  
16 operating to complete blend-down of the enriched uranium  
17 recovered from dissolution of about 5.6 metric tons of  
18 unirradiated highly enriched uranium [HEU] materials  
19 provided by National Nuclear Security Administration  
20 [NNSA] that has been ongoing for about the last three  
21 years.

22           The Department intends to complete the current  
23 highly enriched uranium blend-down work in 2011, and  
24 H-Canyon will then continue in a operational condition.  
25 At this time, there are no plans to process any

1 significant quantity of materials in H-Canyon beyond  
2 completion of the highly enriched uranium blend-down  
3 activity.

4           However, in fiscal year 2012, H-Canyon  
5 activities will include proficiency runs to maintain  
6 operator qualification, continued receipt and processing  
7 of sample returns from Savannah River National Laboratory  
8 [SRNL] and F-and-H Process Laboratory, working with other  
9 program secretarial offices to identify proof of concept  
10 demonstrations that may be performed there, and continued  
11 remediation of legacy transuranic waste.

12           Additionally, DOE plans to utilize HB-Line to  
13 begin blending surplus non-pit plutonium material with an  
14 additive to make the material difficult to recover for  
15 subsequent disposal at the Waste Isolation Pilot Plant  
16 [WIPP] for final disposal and to complete research and  
17 development work on a vacuum distillation process to  
18 determine whether certain plutonium can be processed to  
19 meet the Mixed Oxide [MOX] Fuel Fabrication Facility  
20 acceptance specification.

21           The Secretary of Energy has determined that no  
22 processing of aluminum-clad used nuclear fuel [UNF] will  
23 occur until the recommendations of the President's Blue  
24 Ribbon Commission [BRC] on America's Nuclear Future are  
25 issued and evaluated by the Department.

1           The proposed use of H-Canyon will still allow  
2 the flexibility to process aluminum-clad used fuel and any  
3 other appropriate nuclear fuels in the future, should that  
4 decision be made.

5           In the interim, the aluminum-clad used fuel  
6 will remain in safe wet storage in L-Basin at the Savannah  
7 River Site. Any future decision will consider  
8 alternatives such as processing in H-Canyon, placing it in  
9 dry storage, or implementing a potential future Blue  
10 Ribbon Commission recommendation regarding used nuclear  
11 fuel.

12           Additionally, there are currently no surplus  
13 nuclear materials in a storage condition that pose safety  
14 risks for facility workers, the public, or the environment  
15 and that need to be stabilized or processed in H-Canyon.

16           EM has reviewed NNSA's classified nuclear  
17 material inventory assessment, which identifies all of the  
18 Department's nuclear materials and used nuclear fuel, to  
19 make sure there are no materials on it that might require  
20 future processing in H-Canyon for either disposition or  
21 stabilization purposes.

22           As noted in the Department's April 22nd, 2011,  
23 letter to the Board, there are no orphan special nuclear  
24 materials that EM is aware of at this time that require  
25 processing in H-Canyon to address a safety concern.

1           With regard to emergency preparedness, EM has a  
2 documented and robust emergency management program in  
3 accordance with DOE requirements. All EM facilities have  
4 implemented, at a minimum, a base level emergency  
5 management program which provides a framework for the  
6 response to serious events involving health and safety,  
7 the environment, safeguards, and security.

8           All EM sites develop plans and procedures to  
9 respond to emergency events based on their hazards, train  
10 and exercise emergency response personnel to respond, and  
11 coordinate with the state, local, and tribal governments  
12 regarding the hazards, response capabilities, and plans.

13           In addition, our facilities perform annual  
14 self-assessments of their emergency management program,  
15 and a full-participation exercise is conducted at a  
16 minimum of once a year.

17           EM headquarters performs oversight of the sites  
18 emergency management programs, including performing  
19 assessments every three years and observing emergency  
20 management exercises.

21           Off-site entities are invited to participate in  
22 the exercise at least once every three years; however,  
23 depending on agreements with response resources such as  
24 fire, medical, local law enforcement agencies, most of the  
25 sites exercise annually with their off-site entities.

1           The recent events at the Japanese Fukushima  
2 Daiichi nuclear site prompted the Department to evaluate  
3 several issues at its sites with regard to beyond-design-  
4 basis events and the robustness of site emergency  
5 management plans.

6           SRS identified some areas for improvement in  
7 emergency management. An example of a planned improvement  
8 is to develop and execute emergency management drills  
9 focused on common-cause events affecting multiple  
10 facilities and multiple organizations.

11           In summary, we are making progress towards our  
12 goal of treating liquid waste, applying lessons learned to  
13 continuously improve our emergency preparedness posture in  
14 light of the recent experience in Japan, and have  
15 processes and facilities necessary to safely store nuclear  
16 materials until their ultimate disposition.

17           Thank you.

18           DR. WINOKUR: Thank you, Mr. Chung.

19           Dr. Moody.

20           DR. MOODY: Good afternoon, Chairman Winokur,  
21 members of the Defense Nuclear Facilities Safety Board,  
22 the Board's staff, and members of the public. I, too,  
23 welcome the opportunity to address the Board today and  
24 respond to any questions you may have regarding the liquid  
25 waste processing mission, safe storage and disposition of

1 nuclear materials, and the state of emergency preparedness  
2 at the Savannah River Site.

3 Mr. Chung just provided an excellent overview  
4 of these three topics, and I would like to open this  
5 meeting with a few remarks concerning our vision of the  
6 Savannah River Site mission.

7 The heart of the future vision for the Savannah  
8 River Site is the idea that unique nuclear materials  
9 expertise and assets reside at the site, which can be used  
10 to benefit the nation.

11 This expertise and infrastructure support three  
12 business segments: clean energy, environmental  
13 stewardship, and national security.

14 The new H-Canyon mission touches two of these  
15 business segments: clean energy with advanced fuel  
16 reprocessing R&D and national security in the areas of  
17 nonproliferation and material disposition.

18 Traditional H-Canyon operations will continue  
19 through calendar year '11 and transition to new missions  
20 in calendar year '12. I expect the Board to hear a lot  
21 more about this tonight during the third panel.

22 For environmental stewardship, our objective is  
23 to lead the Department in the deployment of innovative  
24 radioactive waste cleanup technologies, to accelerate  
25 current DOE national program priorities. During the first

1 panel today, you'll hear about some of our recent  
2 successes and the real progress being made in remediating  
3 tank waste.

4           Implementation of the Savannah River Site  
5 vision will require some workforce restructuring as we  
6 develop new technical capabilities in small modular  
7 reactor design and operations, fuel cycle research and  
8 development, and national deterrence programs. We will  
9 also strive to retain existing technical capabilities,  
10 especially in canyon and line disposition of proliferant  
11 materials.

12           Evolving missions and workforce restructuring  
13 will create a number of challenges and require balancing  
14 priorities as we maintain safety, reduce risk, and meet  
15 legal and regulatory commitments.

16           We must carefully consider options when  
17 assuring emergency preparedness and moving forward with  
18 actions to decrease the risk associated with legacy  
19 materials.

20           We will continue to close tanks and to vitrify  
21 and grout tank waste. We will ship all of the legacy  
22 transuranic waste to the Waste Isolation Pilot Plant, and  
23 we will disposition other legacy nuclear materials.

24           In emergency preparedness, we will evaluate the  
25 scopes of drills and their frequency and continue programs

1 to monitor operability of safety equipment in our nuclear  
2 facilities. I expect the Board will hear more about this  
3 during the second panel.

4 Again, I want to say that I appreciate the  
5 opportunity to be here this afternoon, and I look forward  
6 to these discussions, questions, and comments from the  
7 Board.

8 DR. WINOKUR: Thank you, Dr. Moody.

9 At this time, I would like to introduce Mr.  
10 Daniel Ogg, who will provide testimony from the Board's  
11 staff.

12 Mr. Ogg, I'll take your full written statement  
13 for the record, so please summarize your written statement  
14 in ten minutes or less.

15 MR. OGG: Good afternoon, Mr. Chairman and  
16 Members of the Board. For the record, my name is Daniel  
17 Ogg, and I am the Board's Group Lead for Nuclear Materials  
18 Processing and Stabilization. I direct the oversight of  
19 the nuclear cleanup activities conducted by the Department  
20 of Energy at the Savannah River Site. I will submit the  
21 full written statement for the record.

22 In this session of the public meeting, the  
23 Board is considering DOE's efforts to safely store,  
24 retrieve, and stabilize liquid high-level wastes held in  
25 underground storage tanks at the Savannah River Site.



1           I will provide a brief history of the high-  
2 level waste system at the Savannah River Site, then I will  
3 discuss the risks presented by the system and the actions  
4 taken by the Board and DOE to address the risks. Finally,  
5 I will discuss DOE's efforts to treat high-level waste at  
6 the Savannah River Site and the challenges where  
7 improvement is needed.

8           The Board has long focused its oversight on  
9 DOE's efforts to safely store and treat high-level wastes  
10 throughout the complex. At the Savannah River Site, DOE  
11 and its contractor manage approximately 38 million gallons  
12 of high-level waste containing approximately 350 million  
13 curies of radioactive isotopes in 49 underground storage  
14 tanks.

15           This collection of waste is one of the largest  
16 inventories of radioactive material in the defense nuclear  
17 weapons complex, and its safe storage and treatment should  
18 be among DOE's highest priorities.

19           DOE started using the high-level waste storage  
20 tanks at the Savannah River Site beginning in 1954. The  
21 oldest 22 of these tanks have been in service for more  
22 than 55 years, do not include modern design features for  
23 containment, and are generally considered not suitable for  
24 continued long-term storage of the waste.

25           The newer 27 tanks, called Type III tanks, do

1 include modern features such as full secondary  
2 containment, but they are so full of sludge, saltcake, and  
3 liquid waste that DOE's retrieval and treatment efforts  
4 have been hampered by a lack of operational space and  
5 flexibility.

6 I'll briefly explain the waste forms. The  
7 sludge waste includes dense materials like plutonium that  
8 settle to the bottom of the tanks. The saltcake and  
9 liquid wastes include other radioactive materials like  
10 cesium that dissolve easily in water.

11 In 1996, DOE started the Defense Waste  
12 Processing Facility or DWPF to turn the highly radioactive  
13 portion of the waste into a stable glass form suitable for  
14 permanent disposal. DOE intended to treat both sludge  
15 wastes and salt wastes at the DWPF; however, when the  
16 site's main salt processing capability failed in the mid-  
17 '90s -- that was the in-tank precipitation process, or  
18 ITP -- DOE was forced to process only sludge wastes at  
19 DWPF.

20 This is significant because more than 90  
21 percent of the waste by volume is salt waste, and most of  
22 it will remain in the high-level waste tanks until DOE  
23 starts the new Salt Waste Processing Facility, the  
24 replacement for the ITP process.

25 In 1990, DOE began operations of the Saltstone

1 Disposal Facility to treat the less radioactive portion of  
2 the waste resulting from waste retrieval and treatment  
3 operations. Operators at Saltstone produce a cement waste  
4 form that they dispose on site in disposal cells.

5 After the failure of ITP, DOE began several  
6 initiatives to treat and dispose of salt wastes. In 2008,  
7 DOE started a new process to treat salt waste, the ARP/MCU  
8 process; that's the Actinide Removal Process and the  
9 Modular Caustic-Side Solvent Extraction Unit.

10 This process serves two purposes. One, it is a  
11 test bed for the full-scale Salt Waste Processing  
12 Facility, and, two, it removes salt waste from the high-  
13 level waste tanks, but at a low flow rate. And finally,  
14 for the past eight years, DOE has been designing and  
15 building the Salt Waste Processing Facility.

16 Although DOE has removed some salt waste from  
17 the high-level waste tanks using these processes, progress  
18 has been slow, and total waste volume remains high. This  
19 is particularly true with space in the newer Type III  
20 tanks, where DOE expects waste volume to remain high until  
21 the Salt Waste Processing Facility begins operations.

22 High waste volume leads to inefficient  
23 operation of the liquid waste evaporators, creates a lack  
24 of flexibility to respond to large waste leak from a tank,  
25 and necessitates a larger number of small waste transfers,

1 which may cause more risks to workers from leaks or  
2 spills.

3           The Board remains concerned about the aging  
4 tanks, the slow progress of waste retrieval, and the  
5 continuing challenges that DOE faces in inefficient and  
6 produc -- I'm sorry -- inefficient and productive  
7 operation of its waste processing facilities.

8           These concerns bring me to a discussion of  
9 risks at the Tank Farms. The most significant risks posed  
10 by the liquid high-level wastes are large accidents such  
11 as explosions that can spread radioactive contamination,  
12 threatening both site workers and the public at the site  
13 boundary.

14           Other risks include waste leaks and spills that  
15 can present chemical hazards, inhalation hazards, and  
16 direct-radiation hazards to site workers.

17           Regarding leaks, the primary barrier is the  
18 integrity of the high-level waste tanks and the waste  
19 transfer piping. However, as I mentioned earlier, some of  
20 the high-level waste tanks at the Savannah River Site are  
21 more than 55 years old.

22           Underground carbon steel tanks like those at  
23 the Savannah River Site were expected to have service  
24 lives of about 40 years when they were built. Many of the  
25 oldest tanks are known by DOE to have cracks and leak

1 sites in the tank walls, but the full extent of the cracks  
2 is not known, due to the limitations in DOE's ability to  
3 inspect all surfaces of the tank walls.

4 This situation is well illustrated by the  
5 events of 2000 and 2001 that led the Board to issue  
6 Recommendation 2001-1, *High-Level Waste Management at*  
7 *Savannah River Site*.

8 Briefly, DOE's contractor had decided to store  
9 wastes in one of the oldest tanks, Tank 6, that they  
10 thought was sound and not leaking. However, shortly after  
11 waste transfers began, operators discovered waste leaking  
12 through cracks in the walls of Tank 6.

13 Subsequently the Board recommended several  
14 corrective actions, including the removal of waste from  
15 Tank 6 to a level below all known leak sites, acceleration  
16 of the waste salt -- salt waste processing capability, and  
17 the development of a better integrated tank space  
18 management program.

19 DOE has taken action to restrict waste storage  
20 in tanks with known leak sites and to improve the  
21 chemistry control program to prevent new leak sites from  
22 developing. DOE also performs inspections of tank walls,  
23 looking for new leak sites, an effort the Board has  
24 suggested should be expanded to include a much larger  
25 percentage of the tank wall surfaces.

1           Regarding postulated large accidents at  
2 Savannah River Site, earthquakes can lead to explosions in  
3 the high-level waste tanks, releasing significant  
4 quantities of radioactive material. DOE estimates that  
5 these accidents, if unchecked, could lead to radiation  
6 exposures to the public exceeding the DOE limit of 25 rem  
7 at the site boundary.

8           The Board and DOE remain focused on careful  
9 evaluation of these accidents and on the identification  
10 and implementation of adequate controls to protect the  
11 workers and the public. Overall, the high-level wastes at  
12 the Savannah River Site continue to pose significant  
13 safety risks to the site workers and the public.

14           Although DOE maintains several controls to  
15 prevent and mitigate potential accidents, the most  
16 definitive long-term solution is the removal and  
17 stabilization of the high-level wastes in the tanks.

18           I believe the Board and DOE are firmly in  
19 agreement regarding this course of action. As a high  
20 priority, DOE should direct all necessary resources to  
21 improving waste retrieval and treatment processes.

22           At this point, I will move to a discussion of  
23 areas that the Board believes need improvement, and I'll  
24 highlight three areas needing improvement: salt waste  
25 processing, Saltstone operations, and DWPF operations in

1 conjunction with tank space management.

2 As I noted earlier, more than 90 percent of the  
3 tank waste volume consists of salt wastes. For several  
4 years, the Board has urged DOE to accelerate the  
5 development and implementation of salt waste processing  
6 capabilities. Today, DOE's efforts in this regard include  
7 the operation of the ARP/MCU process and the design and  
8 construction of the Salt Waste Processing Facility.

9 Generally, the ARP/MCU process has been  
10 successful in demonstrating the technology to be used by  
11 the Salt Waste Processing Facility. However, DOE has  
12 experienced a number of technical problems with the  
13 process that have limited its efficiency and its flow  
14 rate.

15 For example, after startup, DOE had expected a  
16 flow rate of approximately 40 [sic] gallons per week at  
17 ARP/MCU. At times, DOE met this goal for short periods,  
18 but during fiscal year 2011, the average flow rate has  
19 been about 20,000 gallons per week.

20 Additionally, the ARP/MCU process has  
21 experienced difficulties in removing organic materials  
22 from the product stream that goes to the DWPF, which has a  
23 low tolerance for organic materials.

24 The Board continues to urge DOE to follow these  
25 developments, determine causes and solutions, and ensure

1 that all lessons learned are communicated to its  
2 contractor building the Salt Waste Processing Facility.

3 When the Salt Waste Processing Facility begins  
4 operations, it is expected to be the main workhorse of the  
5 high-level waste system, quickly removing salt waste from  
6 the tanks and therefore achieving the fastest risk  
7 reduction.

8 However, this Facility, too, has experienced a  
9 number of delays, some programmatic and some technical.  
10 To illustrate this, in 2005, DOE planned startup in four  
11 years. In 2008, DOE planned startup in four years. And  
12 today, DOE has committed to startup in 2015, still four  
13 years away.

14 Although DOE has not delayed the startup since  
15 the beginning of construction in 2009, the Board cannot  
16 emphasize enough that DOE must apply appropriate resources  
17 and oversight to the Salt Waste Processing Facility to  
18 ensure that further delays do not occur.

19 DOE also faces challenges at the Saltstone  
20 Production Facility. For the past three years, operators  
21 at Saltstone have experienced many operational problems  
22 such as clogged process lines, fluctuations in flow rates,  
23 and unplanned shutdowns.

24 In order to support the Salt Waste Processing  
25 Facility, Saltstone must process more than 11 million



1 gallons per year. However, overall flow rate at Saltstone  
2 during the past three years has been less than 2 million  
3 gallons per year.

4 The Board continues to urge DOE to make  
5 improvements in Saltstone operations and demonstrate as  
6 soon as possible that Saltstone can operate at a higher  
7 flow rate.

8 Finally, I'll address DWPF and tank space  
9 management. DWPF has been one of DOE's more consistent  
10 and productive facilities in the high-level waste system.

11 It has achieved significant risk reduction by converting  
12 more than 70 million curies of sludge waste into stable  
13 glass form, suitable for disposal in a deep geologic  
14 repository.

15 The downside of DWPF is that it creates more  
16 waste volume than it removes. This volume increase is due  
17 to many steps of waste washing and chemical adjustment  
18 necessary to prepare the waste for treatment.

19 The DWPF waste stream contains low  
20 concentrations of radioactivity, but puts a continuing  
21 strain on the available space in the Tank Farms. For  
22 example, one of three evaporator systems in the Tank Farms  
23 is dedicated solely to reduce the volume of DWPF waste  
24 stream.

25 In response to the Board's Recommendation

1 2001-1, DOE has implemented actions to minimize the  
2 impacts of DWPF operation on available tank space. An  
3 example of these actions is the beneficial reuse of the  
4 waste stream to dissolve saltcake in the high-level waste  
5 tanks.

6           However, when the Salt Waste Processing  
7 Facility begins operations, the volume of the DWPF waste  
8 stream will increase significantly, and DOE will have to  
9 plan carefully to manage this waste.

10           DOE can also improve tank space management  
11 through gains in evaporator efficiency and by making Tanks  
12 48 and 50 available for high-level waste service. These  
13 two tanks are newer 1.3 million gallon tanks, and their  
14 return to service would add operational flexibility and  
15 space for emergency leak response in the Tank Farms.  
16 However, DOE managers recently suggested that they might  
17 not return Tank 48 to service until 2021.

18           In closing, I'll reiterate that I believe the  
19 Board and DOE clearly have the same goal with regard to  
20 the high-level waste system at the Savannah River Site;  
21 that is the expeditious removal and treatment of the tank  
22 wastes, thereby achieving stabilization of one of the  
23 largest inventories of radioactive material in DOE's  
24 nuclear weapons complex.

25           The goal is clear, but progress has been slow,

1 and the Board urges DOE to make improvements in many  
2 areas. Complicating the path forward are several factors,  
3 including aging tanks and infrastructure, poor reliability  
4 of some processing systems, and heavy reliance on an  
5 aggressive schedule that leaves little room for error.

6 Because many of the systems and facilities are  
7 closely coupled, if any major operating system or planned  
8 system fails, nearly all waste processing will stop. This  
9 could significantly lengthen the time the wastes are  
10 stored in the aging and degrading tanks.

11 This completes my prepared testimony. I would  
12 be happy to answer any questions from the Board.

13 DR. WINOKUR: Do the Board Members have any  
14 questions for Mr. Ogg?

15 DR. MANSFIELD: Not at this time.

16 MR. BADER: No.

17 DR. WINOKUR: Hearing none, thank you, Mr. Ogg.

18 I'd like to introduce the panel of witnesses  
19 from DOE and its contractor organizations for the topic of  
20 liquid waste processing to take their seats.

21 (Pause.)

22 DR. WINOKUR: Let me introduce them.

23 Mr. Terrel Spears is the Assistant Manager for  
24 the Waste Disposition Project at DOE's Savannah River  
25 Operations Office.

1           Mr. Michael Mikolanis is the Acting Chief  
2 Engineer at DOE's Savannah River Operations Office.

3           Mr. David Olson is the President and Project  
4 Manager for Savannah River Remediation.

5           Mr. Wyatt Clark is the Interim Operations and  
6 Deputy Project Manager for Savannah River Remediation.

7           And Mr. John Dickenson is the Senior Technical  
8 Advisor for Savannah River Remediation.

9           Does any member of the panel wish to submit  
10 written testimony at this time?

11           (No response.)

12           DR. WINOKUR: Seeing none, let me say that the  
13 Board will either direct questions to the panel or  
14 individual panelists, who will answer them to the best of  
15 their ability.

16           After an initial answer, other panelists may  
17 seek recognition by the Chair to supplement the answer,  
18 but what I'd hope is that the panel member who responds to  
19 the question would be the person who's most prepared to  
20 provide a qualified answer to the question.

21           We have a lot of questions and a lot of  
22 material to cover.

23           MR. SPEARS: Mr. Chairman?

24           DR. WINOKUR: Yes?

25           MR. SPEARS: Mr. Chairman. Do I get an

1 opportunity for an opening statement, sir?

2 DR. WINOKUR: Yes. I'm getting to that in a  
3 moment.

4 MR. SPEARS: Thank you.

5 DR. WINOKUR: If panelists would like to take a  
6 question to the record, the answer for that question will  
7 be entered into the record of this hearing at a later  
8 time. With that, we will continue with an opening  
9 statement by Mr. Spears.

10 Mr. Spears, the Board will accept your written  
11 testimony. I'd ask you to keep your opening statement to  
12 a length of ten minutes or less.

13 MR. SPEARS: Thank you. Good afternoon to you,  
14 Chairman Winokur and to other Members of the Board, the  
15 Board's staff, and the members of the public present here  
16 today.

17 I appreciate the opportunity to discuss with  
18 you the accomplishments we have made in the liquid waste  
19 program here at the Savannah River Site. As the Federal  
20 Project Director for the Liquid Waste Project, I'm  
21 responsible and accountable to execute the liquid waste  
22 mission safely, efficiently, and effectively.

23 I wish to assure you that I place an emphasis  
24 on safety above all and am committed and devoted to  
25 fostering a culture of planning safety into everything we

1 do and then executing all our work safely.

2 I wish to note here that the Department's  
3 contractor for execution of the liquid waste mission,  
4 Savannah River Remediation, Limited Liability Company,  
5 received just this last month recertification of its Star  
6 status under the Department of Energy's Voluntary  
7 Protection Program, commonly known as the VPP.

8 As you know, VPP Star status connotes the  
9 highest level of safety and health performance recognized  
10 by the DOE Office of Health, Safety & Security [HSS]. I  
11 commend SRR for its excellent safety and health record as  
12 demonstrated by receipt of this prestigious award.

13 In the time available for my remarks today, I  
14 wish to touch on just a few of the highlights associated  
15 with the significant progress that we've made in  
16 remediating tank waste at the Savannah River Site.

17 Our Defense Waste Processing Facility continues  
18 to perform a workhorse role in immobilizing the high-  
19 activity fraction of sludge and salt waste through  
20 vitrification and then pouring the vitrified glass waste  
21 form into stainless steel canisters.

22 We have produced over 3100 canisters at DWPF so  
23 far, slightly more than 40 percent of the estimated life  
24 cycle total. Following the retrofit of four argon bubbler  
25 systems into the DWPF melter last September, we have seen

1 a substantial increase in melter throughput capacity, such  
2 that the time to fill a canister has been reduced from  
3 somewhat more than 30 hours to approximately 20 hours.

4 Other planned improvements at DWPF will further  
5 increase the capacity of this facility to process sludge  
6 and salt waste as part of our ongoing effort to effect  
7 improvements in the local waste system to accelerate waste  
8 processing and complete the liquid waste mission as early  
9 as we possibly can.

10 As you are well aware, the total amount of  
11 curies in tank storage are approximately evenly split  
12 between two waste types: sludge and salt, yet salt waste  
13 comprises approximately 90 percent of the stored tank  
14 waste by volume.

15 You also know that the DWPF has spent much of  
16 its operational period processing sludge waste only.  
17 Therefore, while DWPF has made a substantial contribution  
18 to risk reduction and stored tank waste by immobilizing  
19 sludge waste in glass, the processing of sludge waste  
20 alone has not appreciably reduced the total volume of  
21 stored waste in the Tank Farms to facilitate tank emptying  
22 and closure.

23 Thus, commencing salt waste processing  
24 activities while awaiting the start of operations of the  
25 Salt Waste Processing Facility was a DOE imperative and

1 led us to develop an interim salt waste processing  
2 capability in the form of our Actinide Removal Process and  
3 Modular Caustic-Side Solvent Extraction Unit, generally  
4 referred to as ARP/MCU.

5 I'm most pleased to report that our ARP/MCU  
6 facilities have performed in excess of our expectations.  
7 While our design for ARP/MCU was established to receive a  
8 decontamination factor, or DF, of 12, for the predominant  
9 source of radioactivity in our salt waste, cesium 137, our  
10 operational experience has far surpassed this goal by  
11 routinely achieving DFs above 100 and at times exceeding  
12 400.

13 This means that substantially more of the  
14 radioactivity associated with the salt waste processed by  
15 ARP/MCU went to DWPF for immobilization in canisters, and  
16 substantially fewer of the curies went to the Saltstone  
17 Facility for disposal in the form of grout waste in  
18 on-site vaults.

19 I also note that we have achieved a 50 percent  
20 increase in the processing rate at MCU, which now operates  
21 nominally at six gallons per minute, and we've processed  
22 more than 1.7 million gallons of salt waste since ARP/MCU  
23 startup in 2008.

24 While this level of performance is noteworthy,  
25 we are constantly seeking opportunities to improve upon



1 our current performance. To that end, we have plans to  
2 introduce a new solvent into the MCU flow sheet, which  
3 promises even better DF performance than is currently  
4 being experienced.

5 This new solvent, which we refer to as the  
6 next-generation solvent, is the product of past  
7 investments made by the Office of Environmental Management  
8 in the development of new waste treatment technologies.

9 This new solvent holds the promise of achieving  
10 a higher DF and operational throughput in the ARP/MCU and  
11 the SWPF in the future.

12 This is but one example of where the efforts of  
13 the overall DOE Office of Environmental Management,  
14 coupled with those of the DOE Savannah River Operations  
15 Office, have brought a singular focus on improving liquid  
16 waste processing operations to the benefit of the Liquid  
17 Waste Project at Savannah River Site.

18 Aside from the benefit of dispositioning salt  
19 waste through the operation of ARP/MCU, a further benefit  
20 is being realized through the record of operational  
21 experience at these facilities, since the SWPF utilizes  
22 the same technologies employed in ARP/MCU, only on a much  
23 larger scale, to support much greater waste throughput  
24 rates.

25 This operational record provides the SWPF

1 project with a wealth of technical data which the SWPF  
2 project team is capitalizing on to increase confidence in  
3 the effective and efficient future operation of this  
4 facility.

5 All the progress I've described thus far has  
6 contributed greatly towards getting waste out of our old-  
7 style tanks and achieving the tank closure commitments set  
8 forth in our Federal Facilities Agreement with the  
9 Environmental Protection Agency [EPA] and the State of  
10 South Carolina.

11 We presently have more tanks engaged in the  
12 tank closure process -- fully 15 tanks -- than has ever  
13 been the case until now. We have two tanks, Tank 18 and  
14 19, that are ready to close.

15 We have declared bulk waste efforts completed  
16 in four tanks, and we are poised towards readying more  
17 tanks for closure in the near future as we continue in our  
18 efforts to remove and process sludge and salt waste.

19 I would like to turn now to a topic with which  
20 the Board is also quite familiar, and that's  
21 Recommendation 2001-1, entitled *High-Level Waste*  
22 *Management at the Savannah River Site*, wherein the Board  
23 expressed concern with what it termed the critical  
24 shortage of tank space in the high-level waste system.

25 In response to the issuance of this

1 recommendation in 2001, the Department issued an  
2 implementation plan wherein it made commitments to execute  
3 actions aimed at addressing the Board's concerns.

4 Over the years, the Department has made good on  
5 a multitude of its commitments, proposed new commitments  
6 to account for changing status in the Liquid Waste Project  
7 over the years, and in so doing revised and resubmitted  
8 the implementation plan to the Board accordingly.

9 While DOE has not yet reached a point where all  
10 commitments have been fulfilled such that the Board can  
11 consider the recommendation to have been fully addressed  
12 and resolved, substantial progress has been made, and the  
13 current state of tank waste availability in the Tank Farms  
14 is much improved over the circumstances that existed in  
15 2001.

16 That said, the process of preparing sludge and  
17 salt waste for removal from tanks, preparation for feeding  
18 to treatment facilities, and associated interim storage  
19 means that we will be continuing to make use of tank space  
20 for these purposes, while ensuring the availability of  
21 sufficient tank space to permit the transfer and storage  
22 of waste from a tank, should a leak be experienced.

23 The Department remains committed to resolving  
24 the concerns underlying Recommendation 2001-1, and I look  
25 forward to our further interactions toward that end.

1           In my brief remarks here today, I've sought to  
2 feature some of our recent successes and also to tout the  
3 real progress being made at SRS in remediating tank waste.  
4 Our ultimate goal -- that is, the processing of all tank  
5 waste into glass at DWPF or into grout at the Saltstone  
6 Facility -- and the closure of the tanks and the Tank  
7 Farms will be the ultimate safety achievement for the  
8 Department and for the public, and I'm committed to  
9 achieving this goal as safely and as soon as possible.

10           Thank you.

11           DR. WINOKUR: Thank you, Mr. Spears.

12           With that, we'll continue with questions from  
13 the Board Members to the full panel, and we'll begin with  
14 Mr. Bader.

15           MR. BADER: I think the first question that  
16 probably would be good to direct towards Mr. Spears, at  
17 least to start with.

18           You talked about the performance of ARP/MCU,  
19 yet in 2009 you processed 622,000 gallons, and in 2010  
20 that dropped to 475,000 gallons. Could you comment on  
21 what you understand is the reason for the decrease and  
22 what's being done to reverse that?

23           MR. SPEARS: Yes, sir, Mr. Bader. I would like  
24 to give an opening response to that and refer it to one of  
25 my colleagues as well for some substantial detail there.

1           But I will tell you that we have a dual  
2 purpose, as you perhaps are aware, for the ARP/MCU, one of  
3 which was, starting at 2008, to provide an operational  
4 capability to begin treating salt waste at Savannah River.

5           As correctly noted in 2001-1, there were  
6 significant space issues; we needed space in order to  
7 process, so it was important that we get a start on salt  
8 processing to gain that space so we could continue  
9 operating DWPF and we could also begin to free up tank  
10 space to be able to begin emptying old-style tanks, clean  
11 them, and close them.

12           So we started that facility up, number one, to  
13 gain some processing capacity at a fairly low level,  
14 recognizing that we would not be able to make substantial  
15 progress in terms of emptying tanks until the Salt Waste  
16 Processing Facility became available.

17           But the second purpose of the ARP/MCU, and one  
18 that we also have found to be very valuable, is that of  
19 gaining operational experience with the Actinide Removal  
20 Process and, moreover, the Caustic-Side Solvent Extraction  
21 process.

22           Never been operated in practice before, so in  
23 that sense we consider ARP/MCU to also be a pilot facility  
24 that leads and informs the operations and, in some cases,  
25 the design of the SWPF.

1           So while you are correct that we experienced  
2 some operational issues, in fact, all through the life  
3 cycle, up unto last year and in fact currently we continue  
4 to experience some operational issues, upsets, and  
5 anomalies that we have to explore, we consider those not  
6 to be necessarily impediments but value-added situations,  
7 because as we learn from those, we use them to inform  
8 SWPF.

9           That being said, we did experience issues that  
10 were both chemical in nature and mechanical in nature, and  
11 in each of those we stopped, of course, resolved those  
12 issues, and proceeded ahead with operations so we could  
13 continue to gain tank space and process in order to gain  
14 tank space to empty tanks, but also continued, as we  
15 experienced those things, to learn from them and to  
16 communicate that learning to the SWPF project team.

17           And there are a number of instances where  
18 they've learned things that have affected the design as  
19 well as the future operations, so I can give you more  
20 detail regarding the specific instances, if you like, but  
21 that's the general response.

22           MR. BADER: Well, let me continue, because I  
23 have a couple of questions in this regard. You've also  
24 had a drop in your DF, in your decontamination factor.

25           MR. SPEARS: Yes, sir.

1 MR. BADER: Is that something that you have a  
2 good explanation for so far?

3 MR. SPEARS: We have studied that. In fact, we  
4 are considering that to be one of the learnings.  
5 Generally speaking, we consider, I believe, that  
6 there's -- as you continue to operate with the -- with  
7 what's commonly known as the BOB Calix solvent, the  
8 solvent that extracts the cesium from the waste, it  
9 continues to age.

10 So I think we're seeing some aging phenomenon  
11 there, but for a detailed response I'd like to ask Wyatt  
12 Clark to step in here and give you some details on that  
13 from an engineering perspective.

14 DR. WINOKUR: I would ask you, though -- I know  
15 you want to give us a detailed response, but let's try to  
16 be concise also. We do have a lot of questions, so we  
17 really want a good exchange of information, but, you know,  
18 try to balance that need here in the hearing. Okay?

19 MR. SPEARS: Thank you, Chairman.

20 MR. BADER: Yeah, we have a long way to go in a  
21 short time.

22 MR. CLARK: I do understand.

23 Thank you, Terry. [Terrell Spears]

24 Mr. Bader, you pointed out a good observation  
25 with respect to performance of MCU. This year alone we're

1 on target for a million gallons of production. In fact,  
2 if you look at the last three weeks, all three weeks have  
3 run well over 40,000, and we even have demonstrated a  
4 50,000 week, which is a record performance for MCU.

5 Recognizing that it's a test bed, as stated by  
6 Mr. Ogg earlier, we have gained quite a bit of information  
7 that we have passed on to SWPF. I can give a very lengthy  
8 dissertation on the number of modifications or benefits,  
9 but I'm not sure that's necessarily where you want to head  
10 here, so as it relates to the DF specifically, Terry  
11 [Terrell Spears] indicated that we believe we may be  
12 observing an early indication of aging.

13 One of the features we've gained from MCU is to  
14 recognize life expectancy of components and additional  
15 benefits, chemistry adjustment, solids management. Those  
16 were directly of benefit to SWPF, and we are integrating  
17 that in the flow sheet going forward with salt management.

18 We expect that the knowledge that we're gaining  
19 on organic management, including the pause in operation  
20 that we had last year, as it relates to organic  
21 management, will directly benefit SWPF as well.

22 All of those lessons are communicated; they are  
23 evaluated fully, and in the case of our DF, we are coupled  
24 up with SRNL, working through detailed analysis of the  
25 solvent that's in play.



1           We develop a thorough path forward, reach a  
2 conclusion, as is the case for the modifications we've put  
3 in place, and then pass them back.

4           So we do believe we may be seeing an aging-  
5 related issue with the solvent. We also believe we may be  
6 seeing a contaminant in the solvent. Both of those  
7 clearly beneficial to long-term performance. I will  
8 emphasize that, even in its current condition, it's  
9 running a DF of 100, well above the design of the process.

10           MR. BADER: If I look at this and take all of  
11 your comments into consideration on this being a test bed,  
12 yet with the delay in SWPF, at some point you're going to  
13 have to run ARP/MCU really almost in a production mode for  
14 about three years, given the current schedules.

15           Have you made any conscious effort to figure  
16 out what modifications and changes you have to make to run  
17 this really in a production mode?

18           MR. SPEARS: Yes, sir, we have. As a matter of  
19 fact, we do have a program that's underway and more work  
20 planned on service-life extension for ARP/MCU. As you  
21 correctly point out, the SWPF has in fact now established  
22 a start date of -- our planning purposes is 2014. The  
23 range they have on their schedule, of course, is between  
24 2013, 2015.

25           Currently the project is on track to start up

1 in 2014, and we're planning around that, so we're planning  
2 to extend the service life of ARP/MCU to bridge that gap,  
3 as you correctly point out.

4 MR. BADER: Yet it's beyond its design basis or  
5 design life at that point.

6 MR. SPEARS: Yes, sir. It's beyond the  
7 expectation that we went into. In fact, I think I would  
8 like to call on John Dickenson to give us some specifics  
9 there, because we have a lot of detail around that. We'll  
10 give you a summary of that detail specifically related to  
11 the design life.

12 MR. DICKENSON: Thank you, Terry. [Terrell  
13 Spears]

14 As you point out, the ARP/MCU was originally  
15 placed in service with an expectation for a three-year  
16 service life. When the system planning got to the point  
17 where we needed to extend the operational life of ARP/MCU,  
18 we conducted a comprehensive evaluation of the experience  
19 we've had at the facility, the parameters that surrounded  
20 the original design of the facility and the original  
21 construction.

22 And we've put together a plan to go address  
23 those things that need to be addressed in order to give us  
24 the confidence we need to extend the service life until  
25 the startup of SWPF.

1           Very briefly, the kinds of things that are  
2 incorporated in that comprehensive plan are implementation  
3 of process and equipment upgrades and improvements;  
4 further evaluation of the need for spare parts; the  
5 procurement of those parts, so that we have them on hand;  
6 the necessary revisions to preventive maintenance  
7 schedules, so that we do the necessary surveillances and  
8 ensure that the equipment is continuing to perform as  
9 designed; increased equipment performance monitoring  
10 during the extended life period; and then of course  
11 obtaining all the necessary regulatory approvals to  
12 continue to operate the facility.

13           MR. BADER: I'd ask one more question. Have  
14 you -- you've experienced, I would say, higher than normal  
15 exposure doses to people doing maintenance.

16           DR. WINOKUR: Excuse me. Can we track down  
17 what that -- what's going on here; what these thumps are?  
18 They're a little annoying. I don't know if the audio  
19 folks can give a little thought to that or pinpoint that  
20 for us. It would be appreciated. Thank you.

21           MR. BADER: Have you considered what you need  
22 to do in order to reduce the dose rates to the maintenance  
23 people? It went with your planned performance of  
24 maintenance.

25           MR. SPEARS: Wyatt [Wyatt Clark], why don't you

1 take that one.

2 MR. CLARK: Thank you.

3 One of the key aspects of MCU is a facility  
4 that was, as you stated earlier, built for a short period  
5 of performance.

6 MR. BADER: Yeah. Now you have to use it as a  
7 production --

8 MR. CLARK: Yes, sir.

9 MR. BADER: -- mode facility.

10 MR. CLARK: It was built modular; it was built  
11 with a design that allowed us to do maintenance but  
12 required us to do a significant amount of prep to get  
13 ready to do maintenance.

14 John [John Dickenson} identified a number of  
15 activities that we were going after as it relates to the  
16 extension of operations. One of the key aspects is to go  
17 after some of the components that have given us the  
18 most -- the largest amount of maintenance work.

19 I specifically point to the coalescer and the  
20 pumps. Those are two of the key components that we've  
21 gone into. The modifications that we'll install will give  
22 us the ability to remotely remove the coalescers and  
23 replace them without entering the cell. That's a  
24 significant improvement to the workers.

25 I'll emphasize that one of the key aspects to

1 the approach we've taken to do maintenance on MCU as a  
2 whole is to build some fairly unique maintenance stands,  
3 bridges that could be installed, shielding that could be  
4 installed, flushes that we would get the rates down.

5 But entering the cell contributes to that  
6 exposure, so our objective was to hit those two critical  
7 maintenance items, coalescers being one, the other one  
8 being pumps.

9 The original design used a Lutz pump strategy,  
10 and our experience so far has shown that pump to be less  
11 reliable than we would like, requiring us to enter the  
12 cell more frequently.

13 We've redesigned that pump. Within the outage  
14 we're planning to take on, we'll go in and replace those  
15 pumps with a much more robust pump, similar to what we use  
16 on pump tanks throughout the Tank Farm.

17 The third focus that we're taking as it relates  
18 to reducing exposure would be to rebuild the contactors to  
19 support the new solvent that was discussed earlier. While  
20 we're in that repair, our plan is to address the active  
21 components, the bearings, and set those up for an extended  
22 run.

23 So our target is hit the key items; we've  
24 looked at that in our pereta perspective; we've  
25 incorporated it in our plan.

1 DR. WINOKUR: Okay. Thank you for that. I  
2 think we'll turn to Dr. Mansfield now. Thank you.

3 DR. MANSFIELD: Thank you, Mr. Chairman.

4 Just one question, Mr. Clark. The high --  
5 unexpectedly high Isopar carryover, was that related in  
6 any way to the lifetime of the chemicals involved, or what  
7 seems to have caused that?

8 MR. CLARK: It's a twofold answer. Probably  
9 the most targeted answer would be we allowed the solvent,  
10 though it was still in band, still in our specification,  
11 that lower limit of specification allowed the solvent to  
12 not separate as well as we would expect.

13 The separation then affected its ability to be  
14 coalesced and then decanted, so it moved towards the strip  
15 effluent side, towards DWPF.

16 We went back and added a number of features to  
17 address that. First is quality control. We've tightened  
18 the bands with respect to the quality we run on the  
19 solvent.

20 The other is to actually go in and add in  
21 features for the operators, to give them indications if  
22 they saw an upset condition. So we did not just rely on  
23 that; we added those features, which were -- are pretty  
24 significant.

25 DR. MANSFIELD: Would that be like a

1 differential pressure measurement on the coalescer or  
2 what?

3 MR. CLARK: The coalescer differential pressure  
4 is not a good indicator of that condition, no, sir. In  
5 fact, some of the better conditions would be to look at  
6 flow rates, especially those systems that are contributing  
7 to the balance of flow at the contactors.

8 DR. MANSFIELD: Do you think you'll have to  
9 redesign coalescers in any way to stay in your band of  
10 acceptance?

11 MR. CLARK: We do not plan on redesigning  
12 coalescers, outside of the remotability discussion I said  
13 earlier.

14 DR. MANSFIELD: Yes.

15 MR. CLARK: Now, we are looking at an  
16 alternative to extend the size of the coalescers to give  
17 us more capability to handle solids management as we go  
18 through, but that's not a function of the organic; it's  
19 really a function of us trying to get increased attainment  
20 in the plant between maintenance outages.

21 DR. MANSFIELD: All right.

22 Thank you, Mr. Chairman.

23 DR. WINOKUR: Let me just go back and make sure  
24 I understood what you said. You said that you're planning  
25 for the fact that you're going to extend the life of the

1 system and that you know that you're going to need to  
2 eventually replace pumps and other components. Is that  
3 true?

4 MR. CLARK: That is correct, sir.

5 DR. WINOKUR: And you've made these  
6 procurements, and you have this all set up and ready to  
7 go.

8 MR. CLARK: That is correct, sir.

9 DR. WINOKUR: Thank you.

10 I wanted to start to talk a little bit about  
11 another component here, and that's Saltstone, I know a  
12 topic, Mr. Olson, you're very interested in.

13 And I note that the volume of waste processed  
14 through Saltstone fell about 48 percent between 2009 and  
15 2010. I know it's been a very challenging system to work  
16 with.

17 What are the causes of this decline, and what  
18 did you do to reverse that trend?

19 MR. SPEARS: Wyatt [Wyatt Clark], why don't you  
20 respond to that.

21 MR. CLARK: Thank you.

22 You've properly characterized our attention on  
23 Saltstone. In fact, as stated earlier, we've only  
24 produced 4.7 million gallons of saltstone since operation.

25 I will emphasize that this very weekend we



1 tripped a million gallons within this fiscal year, so  
2 we've shown a significant attention to reliability.

3           Some of the briefs that we've done earlier  
4 focused in that area, and last year, knowing we needed  
5 increased demand from Saltstone, we stood up a technical  
6 group, independent, to assess the plant, the process, and  
7 the features we'd need to include to ensure increased  
8 reliability, as well as increased throughput. Clearly 1  
9 million is good; it's not near the capacity we need for an  
10 SWPF operation.

11           Three elements contributed to the 1 million  
12 gallons this year, of which has significantly improved  
13 reliability. The first was to include some  
14 instrumentation into our dry feed system, so that we get a  
15 better appreciation for how dry feeds are conveyed into  
16 the process.

17           I should lead that with just a little bit of  
18 information for the public, in that the Saltstone Facility  
19 is really two segments. There's a processing facility,  
20 which takes decontaminated salt solution from the Tank  
21 Farm and mixes it with a grout solid to have a flowable,  
22 nonhazardous material that is then transferred to the  
23 disposal facility, where it sets up on a monolithic  
24 saltstone hardened concrete.

25           Flowability and monitoring the flowing

1 conditions of the grout going into that liquid stream is  
2 very important, so adding that instrumentation gave us the  
3 ability to gain new information and new knowledge.

4 The second feature that we included as a result  
5 of the independent review -- and probably the most  
6 significant -- is the ability to have a smart transition.

7 Historically, the vast majority of problems we  
8 have in terms of setting up hardened material in the line  
9 come from the transition at the end of a production run,  
10 where you're flowing material and you're backing away from  
11 that to secure the process.

12 The smart transition approach took four key  
13 parameters to monitor the acceptability of our flush on  
14 the end of that transition or to make sure that the flush  
15 occurred on a transition where we shut it down, to ensure  
16 the line was adequately clean.

17 Previously it was very time sensitive; we used  
18 time. Now we use four parameters that measure really the  
19 quality of the material flowing through the line.

20 The third element was to install real-time  
21 system monitoring. Now, that is system health monitoring  
22 by engineers post each run, so when we perform a Saltstone  
23 run, we grab the data associated with that run, evaluate  
24 it with the knowledgeable subject-matter experts, and make  
25 a decision, "Are there things we should do? Do we see

1 indicators? Should we make changes before the next run"?

2 Those three changes have been significant in  
3 reliability. In fact, we've had no hardening, no rock-up  
4 events in the line since we've implemented that.

5 Now, those really only address short-term  
6 changes to give us increased reliability for the short  
7 duration. We have a plan, similar to the MCU extension,  
8 to improve the performance of that facility, and that's  
9 incorporated in the ELAWD [Enhanced Low Activity Waste  
10 Disposal] strategy going forward.

11 DR. WINOKUR: What would you consider to be the  
12 reliability of this system today?

13 MR. CLARK: We've measured that since we've  
14 brought it back on line, and if you evaluate the  
15 reliability, recognizing we wanted at least a four-hour  
16 run when we brought it up into service, after Tank 50 sent  
17 material to Saltstone, it's been 90 percent reliable.

18 DR. WINOKUR: So you're planning on it being 90  
19 percent reliable?

20 MR. CLARK: We will increase reliability and  
21 throughput through ELAWD performance.

22 DR. WINOKUR: I don't know if this is included  
23 in the long-term planning, but one of the things we had  
24 heard back in Washington was that one of the challenges of  
25 this facility was that it wasn't really being run on a

1 continuous basis; that the frequent starting and stopping  
2 of the system could present challenges to you and that you  
3 might demonstrate with a four-day run, 24 hours a day,  
4 four days in a row, you might demonstrate a number that  
5 might be more reflective of the actual reliability of the  
6 system when SWPF begins to operate.

7 MR. CLARK: Chairman, may I pass the question  
8 to John Dickenson? He would characterize the ELAWD  
9 process and some of the --

10 DR. WINOKUR: Okay.

11 MR. CLARK: -- That we have -- improvements.

12 DR. WINOKUR: I would like a brief answer,  
13 though; thank you.

14 MR. DICKENSON: Very briefly, Mr. Chairman.  
15 The modifications that we're making fall into two  
16 categories. The first category is equipment upgrade; the  
17 second category is staffing increase.

18 The facility is currently staffed to run day  
19 shift only, and part of our plan is to increase the  
20 staffing so that it will be fully staffed with qualified  
21 personnel to operate 24 hours a day, seven days a week.  
22 That in itself will expand the capability and throughput  
23 of the facility.

24 The equipment upgrades -- let me just speak to  
25 a couple of them very briefly, and then I'll get

1 specifically to your question.

2           One of the things we're going to do is the  
3 grout hopper in the facility today currently has a working  
4 volume of 12 gallons, and our plan would replace that with  
5 a much larger grout hopper with the capability to agitate,  
6 which will get at these pluggage issues we've been having  
7 and give us significantly greater capability and  
8 reliability in that area.

9           The other thing we're going to do to address  
10 those kinds of issues is expand the capacity and the reach  
11 and extent of the flushing Facility, or the flushing  
12 capability that's built into the facility.

13           Thirdly, we're going to significantly improve  
14 dry feeds flow and the metering capability for dry feed  
15 addition, one of the areas that Mr. Clark spoke to  
16 earlier.

17           We're confident that the combination of those  
18 equipment upgrades that we're going to go install over the  
19 next couple of years, coupled with increasing the staffing  
20 to support 24x7 operation will give us the full  
21 reliability and throughput capacity that we need at  
22 Saltstone to support bringing SWPF on line and the other  
23 things that we have in our system plan.

24           Now, directly to your question about how do we  
25 confirm that reliability. Saltstone has recently, as Mr.

1 Clark said, demonstrated significantly higher processing  
2 rates, and the ability to achieve annual rates in the 6 to  
3 8 million gallon per year range have been demonstrated  
4 recently in short-duration runs.

5 For example, in December we processed about a  
6 half a million gallons in one month. Also, in April of  
7 2011, in an eight-day period, we processed almost 240,000  
8 gallons.

9 So for a couple of short-duration runs that  
10 we've done in the recent past, we have seen reliability.  
11 Now, what we plan to do going forward over the next couple  
12 years, the facility will, for parts of the year for the  
13 next two or three years, be in an outage to do the  
14 upgrades I just mentioned.

15 For those periods of the year where the  
16 facility is in operation, not supporting one of those  
17 outages, we will have accumulated a significant volume of  
18 decontaminated salt solution in the hold tank and feed  
19 tank for Saltstone, and our intent will be to perform  
20 several what I'll call demonstration runs over not too  
21 short a period, but weeks period, where we can demonstrate  
22 the capability to sustain operation over that period of  
23 time and process several hundred thousand gallons in a run  
24 that would then give us confidence that when we  
25 extrapolate that rate, we can do the kinds of annual

1 throughputs that the facility will have to support.

2 DR. WINOKUR: Thank you for that.

3 Let me ask one more question on this. Am I  
4 right to assume that Saltstone could be the long pole in  
5 the tent when it actually comes to running SWPF, because  
6 obviously a lot of things have to work well to process the  
7 salt waste.

8 Mr. Spears, this sounds like you want to answer  
9 that question. Please.

10 MR. SPEARS: Yes, sir. I don't know if I'd  
11 characterize as the long pole in the tent, but I would  
12 characterize it as a critical facility going forward,  
13 absolutely.

14 The large volumes of salt waste, the low-  
15 activity waste coming from SWPF, and perhaps other  
16 treatment capabilities in the Tank Farm -- small-column  
17 ion exchange, et cetera -- will certainly exceed the kinds  
18 of volumes that have ever been processed through that  
19 facility in the past.

20 So you're absolutely right; we are focused on  
21 that and the reliability of that facility and  
22 demonstrating that reliability. The 24/7 operations I  
23 believe is critical going forward, so very keen  
24 observation.

25 I did want to add one or two other quick points

1 to some of the questioning that you've provided thus far  
2 on Saltstone.

3 The Department is also focused on reliability  
4 of Saltstone and demonstrating that improved reliability.

5 I will say that we have metrics in place now, as well as  
6 performance incentives for SRR to focus on and improve and  
7 demonstrate improved reliability.

8 We've recently reviewed some of the metrics  
9 associated with that and, you know, I think there's a  
10 couple of factors here.

11 And one is that we've seen an improvement based  
12 on the instrumentation and the data gathering and the  
13 observations associated with the plant as it does operate,  
14 in order to make sure we're making decisions on improved  
15 reliability, improved equipment, and improved processing  
16 capability that are based on data rather than just  
17 haphazard guessing.

18 So we're getting a lot of data inputs into the  
19 decisions that are informing, so we believe that that's  
20 helping to provide or make sure that the right equipment  
21 and so forth is being installed.

22 I'll also tell you that the reliability has  
23 been measured in a way that demonstrates that both prior  
24 to receipt of waste from Tank 50 into Saltstone we have  
25 seen improvements in that.



1           We have seen the tendency in recent -- over the  
2 last several months, anyway, to take corrective actions  
3 associated with early indicators, as the process is being  
4 started up, that helps avoid the need to shut down for  
5 extended periods and deal with rock-ups associated with  
6 real waste in there.

7           And as a result of that, most of the early  
8 shutdowns that we've seen in recent months has been during  
9 that initial, I call it, startup phase before waste is  
10 received into the process.

11           Secondly, after that waste transfer from Tank  
12 50, there have been, I believe, only one -- I could be  
13 wrong, but very, very few, certainly, and I believe the  
14 answer is one -- failure associated with once waste has  
15 been received in the facility.

16           So we've seen a trend of improvement there with  
17 respect to reliability. There is more to do.

18           DR. WINOKUR: Thank you.

19           MR. DWYER: Mr. Chairman, could I just follow  
20 up with that?

21           DR. WINOKUR: Yes. Actually you'll have the  
22 next question, so feel free to follow up.

23           MR. DWYER: So if I understood what you just  
24 said, Mr. Spears, the -- part of the reason for your  
25 improved reliability is, if you're going to have a

1 problem, you're catching it before introducing waste, and  
2 so you're able to stop the startup, if that's the proper  
3 way to phrase it.

4 MR. SPEARS: Take early action, yes.

5 MR. DWYER: Take early action. Okay. So a  
6 reliability number of 90 percent, I believe Mr. Clark  
7 said, would argue that there'd be very few of those, but  
8 you're talking as if there are several. Can you help  
9 me --

10 MR. SPEARS: Yes. I think, as I mentioned,  
11 there's a distinction between once waste has been  
12 introduced into the process and then prior to that, we are  
13 running on the water flushes and so forth to get the  
14 system primed and operational early on.

15 And so I think what I'm referring to is that  
16 during that early phase, before waste is introduced, we've  
17 experienced a number of conditions that have caused us to  
18 stop after we started that startup process, go back,  
19 regroup, figure that out, and then start again.

20 But as we process waste, once we've introduced  
21 that waste, we've had very few. And, again, I agree with  
22 Wyatt's [Wyatt Clark] 90 percent. It's on the order --

23 MR. DWYER: So --

24 MR. SPEARS: -- of 90 percent

25 MR. DWYER: -- So --

1 MR. SPEARS: -- success.

2 MR. DWYER: -- 90 percent reliability means  
3 once I've committed to waste --

4 MR. SPEARS: Yes.

5 MR. DWYER: -- I'm 90 percent reliable.

6 If I said, "Well, how many times do I pause in  
7 my startup and address a problem?" what would the  
8 reliability number be?

9 MR. SPEARS: I would say approximately 70  
10 percent. And I've got some numbers on that. We do have  
11 metrics that we could share.

12 MR. DWYER: Okay. And that's measured -- I  
13 guess that's data since you made these upgrades.

14 MR. SPEARS: Yes, that's correct.

15 MR. DWYER: So data since November, since  
16 January, since --

17 MR. OLSON: It's August of last year.

18 MR. SPEARS: That's data since August of 2010.

19 MR. DWYER: Since August of last year?

20 MR. OLSON: Yes.

21 MR. DWYER: Okay.

22 MR. OLSON: Yes, sir. Saltstone operation,  
23 like a lot of batch plants, if you bring the plant up, get  
24 it stable on cold feeds, start generating a grout stream,  
25 and then introduce the hot feed, the radioactive feed --

1 it's during those -- stabilization during the startup mode  
2 that we've seen some transients. Not to the point of  
3 rock-up, but enough instability to shut back down, re-  
4 establish, and then go again.

5 MR. DWYER: And then just to finish drawing out  
6 the conclusion, before you made these enhancements, you  
7 would not have seen the anomalies as clearly, and you  
8 would have, in those cases, not been able to take action  
9 before committing to waste.

10 MR. OLSON: That's correct.

11 MR. DWYER: So with the outage that you have  
12 planned and the further improvements -- so you're  
13 expecting to go further along in the reliability -- are  
14 you expecting to have less trouble with the anomalies and  
15 adjustments, or are you talking about working on the 90  
16 percent reliability number once you're actually processing  
17 waste?

18 MR. SPEARS: I believe I'd characterize the  
19 future improvements to be additional improvements to  
20 enhance reliability, to either maintain or improve upon  
21 the 90 percent factor, to go beyond that if at all  
22 possible.

23 MR. DWYER: So, again, that would argue getting  
24 into steady-state operations and trying to maintain that  
25 as long as possible. That's your best bet.

1 MR. SPEARS: Yes.

2 MR. DWYER: Okay.

3 DR. WINOKUR: Thank you. We have one more  
4 question on this topic, and then we'll move on.

5 Mr. Bader?

6 MR. BADER: If I look at the planned  
7 improvements, a number of these, to me, are critical to  
8 being able to have a high reliability over a sustained  
9 period of time.

10 How high are these on your infrastructure  
11 improvement list for actual funding?

12 MR. SPEARS: Mr. Bader, I believe that would be  
13 in my area.

14 MR. BADER: Yes.

15 MR. SPEARS: They're very high on our screen.  
16 They are important, as I said, because of the critical  
17 nature of Saltstone going forward, so they're things that  
18 we certainly want to preserve, even in the face of perhaps  
19 reduced budgets going forward. Those are areas that we  
20 need to make progress on.

21 MR. BADER: Thank you.

22 DR. WINOKUR: Mr. Dwyer.

23 MR. DWYER: Yes, sir.

24 Mr. Spears, I believe you said you had some  
25 numbers on the reliability. If I could ask you to submit

1 those to us afterwards, that would be great.

2 MR. SPEARS: Yes, sir. We'll be glad to do  
3 that.

4 MR. DWYER: Okay. Thank you.

5 I was going to move on to DWPF, Mr. Chairman,  
6 if that's --

7 DR. WINOKUR: Please do.

8 MR. DWYER: We heard some indication of  
9 improvement in DWPF that has led to a higher throughput,  
10 and that's good. I wonder if you could walk me through a  
11 little bit of further improvements that you have planned  
12 there.

13 MR. SPEARS: Yes. I think for that I'd like to  
14 call on John Dickenson to talk to some of these future  
15 improvements with DWPF.

16 MR. DICKENSON: At the DWPF, the sludge  
17 processing capacity is essentially a function of Tank Farm  
18 sludge preparation capability, DWPF batch preparation  
19 capability once the material gets in, the facility, and  
20 then, of course, melter processing capacity.

21 Now, we're going to go -- deal with each of  
22 those in what I'll describe as a two-step process for  
23 enhancements.

24 The first step of these enhancements was  
25 retrofitting the existing melter in DWPF with what we call

1 bubblers, which basically bubble argon gas into the melt  
2 pool to keep it circulated.

3           We have completed that first step. Those  
4 bubblers were installed in the melter last September. We  
5 now have some operating experience in the plant with those  
6 bubblers in operation, and we have increased the overall  
7 capacity at DWPF from what nominally was a 200-canister-  
8 per-year rate to what we would now say is about a 3- to  
9 325-canister-per-year rate, just by this first step of  
10 introducing the bubblers into the melter.

11           And in fact we -- the truest measure of a  
12 melter pour improvement is that on average what used to  
13 take about 36 hours to fill a canister from the melter,  
14 now we're averaging about 20 hours to fill a canister. So  
15 you can see the improvement that's been made in the melter  
16 pour rate step. That's the first step of the  
17 enhancements.

18           The second phase of the enhancements deal with,  
19 as I mentioned, the ability to batch the material, get it  
20 into the facility, and then within the facility feed it to  
21 the melter at a rate that would take advantage of this  
22 increased capacity in the melter.

23           What we plan there are a couple of things.  
24 I'll mention just a few. We're going to use an alternate  
25 reductant; we plan to use an alternate reductant.

1 Replacing or minimizing formic acid with a alternative  
2 reductant will reduce the catalytic hydrogen generation,  
3 allowing for an increase in evaporation rate and cycle  
4 time reduction of up to about 20 percent in that unit  
5 operation that prepares the material to be fed to the  
6 melter.

7           Secondly, we're going to improve our process  
8 for adding frit into the mix. We're going to replace the  
9 current slurry-fed transfer design with a dense-phase dry  
10 conveying system, which will result in a cycle time  
11 reduction, we calculate, up to about 7 percent and yield a  
12 reduction of about 250,000 gallons per year in the volume  
13 of recycle that is returned from DWPF back to the Tank  
14 Farm.

15           Thirdly, we're going to also deal with reducing  
16 DWPF recycle back to the Tank Farm through water  
17 separation. We intend to install new equipment to remove  
18 wastewater from decontamination frit slurry, and we  
19 believe that will result in a cycle time reduction of  
20 about 20 percent and will yield another 15,000 gallon a  
21 year reduction in the amount of recycled water that comes  
22 back from DWPF to the Tank Farm.

23           And then thirdly, we want to install capability  
24 to route the cesium strip effluent stream that's coming in  
25 from MCU and, in the future, will come in from SWPF, so



1 that we have the capability to take that stream to either  
2 of our main batch preparation vessels, the sludge receipt  
3 and adjustment tank or the slurry mix evaporator, either  
4 one.

5 By doing that, it will allow us to more  
6 balance -- more appropriately balance the evaporation load  
7 in DWPF so that we can fully feed the melter to take  
8 advantage of the full capability that it has.

9 We predict that when these enhancements are  
10 fully installed, the overall capability of the facility  
11 will be raised to approximately 400 canisters per year.

12 MR. DWYER: And as I understand, what you said  
13 is just by the bubblers alone you've gone from 200 to 325.

14 MR. DICKENSON: Yes, sir.

15 MR. DWYER: So when do you expect to be able to  
16 reach 400?

17 MR. DICKENSON: The installation of the  
18 equipment that's involved with the enhancements I just  
19 described will require a several-month outage in the DWPF  
20 processing schedule in order to accomplish that  
21 installation.

22 Our system plan evaluated what is the best  
23 timing of that outage. Should we go ahead and plan a  
24 separate outage to do that, or should we coincide that  
25 outage with an outage we're going to have to take when

1 SWPF facility is ready to be tied in to the system?

2 The end result of that evaluation was that the  
3 timing would be best, in terms of maximum overall canister  
4 production over the life of the program, if we coincide  
5 those two outages.

6 So right now, we plan to have that outage in  
7 early 2014 in anticipation of SWPF coming up later in  
8 2014, so that by mid to latter part of 2014, DWPF then  
9 would be at full capacity of the 400 projection.

10 MR. DWYER: Okay. But by doing that -- I  
11 realize by doing it that way you're trying to maximize the  
12 system throughput, but you're trying to bring up new  
13 systems in DWPF at the same time you're trying to bring up  
14 a new facility at SWPF. Doesn't that complicate your  
15 picture?

16 MR. DICKENSON: Not necessarily. The system  
17 plan anticipates several things that need to happen in the  
18 next couple of years.

19 I mentioned the SWPF tie-in. I mentioned the  
20 outage at DWPF to support installation of these processing  
21 enhancements. And we are always evaluating the  
22 operational capability of the current melter installed in  
23 the facility at DWPF, and we're always projecting when we  
24 think the next melter replacement may need to happen.

25 So the system plan continues to look at that on

1 a real-time basis, and ideally what would happen is those  
2 three things I just mentioned -- the SWPF tie-in, the DWPF  
3 processing enhancements, and the replacement of the  
4 melter -- would all occur concurrently, so that we could  
5 minimize the overall outage time of the facility, and it's  
6 well within our capability to handle all that work  
7 simultaneously.

8 MR. DWYER: So when you installed the bubblers,  
9 from start of outage until completion and optimum  
10 operation, how long would you say that took?

11 MR. DICKENSON: The outage to install the  
12 bubblers was approximately two weeks.

13 MR. DWYER: And -- but then you started up and  
14 there was some learning process to optimize the throughput  
15 at that point.

16 MR. DICKENSON: That -- we were pleased that  
17 that was rather minimal. In fact, when we brought the  
18 facility back up after installing the bubblers, I would  
19 say we almost saw an instantaneous increase in the pour  
20 rate of the melter, recognizing that's just the first step  
21 of the overall two-step program I described to you.

22 MR. OLSON: The modeling at VSL, Vitreous State  
23 Lab at Catholic [University of America], along with the  
24 mockup facility there, that university was able to deploy  
25 bubblers almost in the identical configuration and at the

1 flow rates; that gave us a pretty good predictor of what  
2 would happen in DWPF. So it was almost instantaneous, a  
3 0.8 gallon per minute to about a gallon and a half per  
4 minute operational change.

5 MR. DWYER: Okay. And So you're expecting that  
6 the upgrades that you're planning -- the options you're  
7 giving yourself on routes for strip effluent, the change  
8 in the reductant, all of these things will have been  
9 tested out at Catholic, or are you -- are you concerned  
10 that there's going to be some learning curve on the new  
11 systems at DWPF?

12 MR. OLSON: We're not going to test those at  
13 Catholic, but I believe there will be very little learning  
14 curve. These are basic engineering applications. We're  
15 not developing new technologies, new R&D. It's a dry  
16 conveyance system, just mechanical transfer; jumper  
17 rerouting within the DWPF. It's basic --

18 MR. DWYER: Okay.

19 MR. OLSON: designs we've done before, just  
20 applied in this particular situation.

21 MR. DWYER: And, Mr. Spears, if I can ask --  
22 and DOE is satisfied and has no concerns about all three  
23 outages coinciding?

24 MR. SPEARS: I believe there's always risk  
25 associated with changing a process, of course, but, you

1 know, the question is whether or not the changing of those  
2 activities in parallel during the same outage would  
3 increase that risk. I don't believe that it would.

4 I'd also like to point out that, you know,  
5 we've also had some experience in changing out a melter,  
6 so, you know, we experienced a, you know, a fairly smooth,  
7 seamless outage. We've got the lessons learned from that  
8 now that we can apply to the next outage associated with  
9 melter change-out. And also the ramp-up to operations  
10 post-outage, as I recall, was very smooth and seamless as  
11 well.

12 So I believe the risk is relatively low.

13 MR. DWYER: Thank you.

14 Thank you, Mr. Chairman.

15 DR. WINOKUR: We're going to move to Dr.  
16 Mansfield in a moment. I think Mr. Bader may have one  
17 more question on this topic.

18 MR. BADER: All of these things you're doing  
19 with the melter increases the duty on the melter. Have  
20 you developed a way to monitor the remaining lifetime?  
21 Because they're likely to accelerate the time to failure  
22 of the melter.

23 MR. SPEARS: Wyatt [Wyatt Clark], would you  
24 take that question, please? Or John [John Dickenson] are  
25 you more prepared? I'm sorry. I'm trying to pick the

1 most prepared.

2 MR. DICKENSON: I'll be glad to.

3 MR. SPEARS: Thank you.

4 MR. DICKENSON: Thank you, Terry [Terrel  
5 Spears].

6 Yes, sir. We -- with the advent of  
7 installation of the bubblers, we commensurately have our  
8 engineers monitoring the melter performance. And indeed  
9 during a planned overall steam outage of the plant  
10 recently, within the last couple of months, DWPF facility  
11 had to be down, obviously, because of that outage.

12 During that outage window, we actually went  
13 into the plant, pulled the bubblers out of the melter,  
14 inspected the bubblers for actual wear versus what our  
15 engineering projections had been, looked at some of the  
16 systems that support that, just to give you an example of  
17 the kinds of things that we're doing in terms of  
18 monitoring the plant as we're making these enhancements.  
19 So, yes, sir.

20 MR. BADER: You can run that facility even if  
21 the bubblers have been eroded to the point where they're  
22 not functioning, but I'm concerned about the melter  
23 itself. Are you prepared to replace the melter earlier  
24 than planned? Do you have a spare melter?

25 MR. DICKENSON: Yes, sir. Our policy with

1 respect to DWPF, because it's such an integral part of the  
2 system and vitrifying the high-level waste is clearly an  
3 activity that we don't want to have a significant  
4 unplanned outage in, in addition to the one operable  
5 melter that's in the plant today operating, we have a  
6 spare melter on standby at the site, equipped and ready to  
7 go in in short order if something happened to the one  
8 that's operating today.

9 We also have another melter in the pipeline of  
10 the procurement process to be delivered to the site in the  
11 near future.

12 DR. WINOKUR: Dr. Mansfield?

13 DR. MANSFIELD: Thank you, Mr. Chairman.

14 I wanted to ask a few questions about tank  
15 inventory. You have -- over the last ten years you've  
16 removed quite a bit of material from the tanks, especially  
17 the old-style tanks.

18 How many curies have been removed from the old-  
19 style tanks and, presumably, put into glass?

20 MR. SPEARS: Well, as you know and as you  
21 correctly point out, we are focused on removing waste from  
22 the old-style tanks to meet our Federal Facilities  
23 Agreement commitments to the State and to the EPA, so we  
24 are focused on that and, as a result, utilize our new-  
25 style tank space as processing capacity to allow that

1 waste to come in there to be treated and dispositioned  
2 appropriately.

3           As far as the amount of curies that we've  
4 dispositioned from our old-style tanks during that  
5 process, I think I'd like to ask, John [John Dickenson],  
6 can you field that question, please?

7           MR. DICKENSON: Yes, sir. Be glad to. Thanks,  
8 Terry. [Terrel Spears]

9           Since the start of DWPF operation, we have  
10 placed a little over 37 million curies of activity into  
11 glass through the DWPF facility.

12           The vast majority of those curies came from  
13 old-style tank inventory. The process for retrieval,  
14 adjustment, and treatment of waste, we have priority on  
15 retrieving waste from old-style tanks, moving it through  
16 the disposition facilities, so the vast majority of 37  
17 million curies came from old-style tanks.

18           I will tell you that in order to move the  
19 material from the old-style tanks to the vitrification  
20 facility, we did have to create some working space in the  
21 newer-style tanks, so we actually dispositioned some  
22 volume of waste that was in the new-style tanks to create  
23 space to get the waste out of the old-style tanks, but the  
24 vast majority of 37 million curies came from old-style  
25 tanks.



1 MR. SPEARS: If I could add just one thing --  
2 and I agree with the number; thank you.

3 But of that, most of that is, of course, sludge  
4 curies. Since about 2008, of course, we've been  
5 processing salt and probably have somewhere in the  
6 neighborhood of 400,000 curies of that 37 million that is  
7 also from salt.

8 DR. MANSFIELD: Yes. But just that -- that's  
9 several million gallons, I suspect. That's several  
10 compliant tanks, so that's pretty good.

11 That's all I have, Mr. Chairman.

12 DR. WINOKUR: Let me ask this Question. You  
13 said a couple of times that ARP/MCU -- I think you might  
14 have said it in your comment, Mr. Spears -- allowed you to  
15 increase the available Type III tank space, and yet in  
16 discussions we've had with Savannah River Remediation, I  
17 didn't think that was the case, that you were obviously  
18 processing waste with ARP/MCU, but it really wasn't  
19 significantly increasing the Type III available tank  
20 space. Am I misunderstanding that?

21 MR. SPEARS: I think perhaps, Mr. Chairman,  
22 we're both correct, SRR and yourself, in that the gain in  
23 tank space is not altogether apparent.

24 As I mentioned earlier, we utilize Type III  
25 tank space more or less as a commodity. It's something

1 that we gain but then we utilize in order to be able to  
2 move waste out of old-style tanks and into the new-style  
3 tanks. Basically, if it's salt waste, so-called unzip it  
4 or prepare it for transfer to treatment facilities like  
5 ARP/MCU and on to Saltstone and then preparing sludge from  
6 those old-style tanks for feed to DWPF.

7 So as we gain that space, we utilize it by  
8 basically taking the waste out of the old-style tanks and  
9 moving it to the new-style tanks.

10 While we've gained some space, the amount --  
11 the significance of that is not altogether apparent,  
12 because we tend to use it as a commodity.

13 DR. WINOKUR: So you are using it  
14 operationally, but you're not really increasing effective  
15 Type III tank space. I guess that's my understanding.

16 What I'm trying to get at is, are you  
17 comfortable with the risk associated with the amount of  
18 Type III tank space you have right now in the Tank Farms?

19 MR. SPEARS: Yes. I think -- comfort is a  
20 relative thing. We want to basically make progress in  
21 removing, treating, and dispositioning waste. We'd like  
22 to continue to see that progress accelerate.

23 Part of the reason is, obviously, because of  
24 the risk that that mobile source term in our tanks poses  
25 to the public. Now, as you mentioned, and correctly so,

1 and as Mr. Ogg mentioned in his opening statement, the  
2 fact that we have that mobile source term and that we  
3 have -- you know, we don't have -- we have operating space  
4 that I believe is sufficient to minimize that risk at the  
5 time. Our goal is to continue to process waste, get the  
6 waste out of the environment as quickly as we possibly can  
7 and, at some point, begin to turn the corner on gaining  
8 space.

9           Now, let me also say that as we -- I want to  
10 clarify, because we believe we have sufficient space.  
11 Okay? And I believe that as we go through the life cycle  
12 of the tank farm, for much of that we'll maintain  
13 sufficient space for operations, but we won't gain  
14 excessive space, and that is that beyond necessary for  
15 what I consider to be safe operations, as well as to have  
16 that emergency space, should we have a tank leak, because  
17 as we close old-style tanks, as we transition then from  
18 that, our goal will be to empty, clean, and close new-  
19 style tanks.

20           And, of course, as we empty a tank and as we  
21 close that tank, that space won't be available for  
22 operations as well.

23           Now, I would see a margin gained, but I won't  
24 say that we're going to basically empty a lot of tanks and  
25 have them sitting there. Our goal is, once they're empty,

1 to clean them and close them.

2 DR. WINOKUR: So in your opinion, or your  
3 judgment, 2 million gallons is sufficient to -- and you're  
4 comfortable with the risk associated with that.

5 MR. SPEARS: I am reasonably comfortable with  
6 that, but I would say we have some margin above that that  
7 we don't normally report that's in tanks that we utilize  
8 for processing and so forth in the Tank Farms.

9 We don't report that as available space, but it  
10 is in fact empty space, so we have a little beyond that  
11 what we normally report as available, useful space in the  
12 Tank Farms that we could rely on, should we have to. But  
13 I'm reasonably comfortable with the available volume that  
14 you mentioned there, the available space, the useful space  
15 in the Tank Farms, because it enables our continued  
16 processing while at the same time allowing us to empty,  
17 clean, and close tanks.

18 DR. WINOKUR: And the additional space you're  
19 referring to, that was not Type IV tank space; that's  
20 still other Type III tank space. Is that correct?

21 MR. SPEARS: Yes. It is other Type III tank  
22 space.

23 DR. WINOKUR: Okay. And, Mr. Olson, you have a  
24 comment?

25 MR. OLSON: If I could add one item to that,

1 the technical risk and risk involved in Tank space  
2 management is a constant item of attention. Terry [Terrel  
3 Spears] and I co-chair a risk management board that meets  
4 monthly in that regard.

5 And I would tell you we do have another  
6 decision point coming up, as we do periodically. Mr. Ogg  
7 mentioned operational flexibility with tank 50. Tank 50  
8 will be available, mechanically, to put back into high-  
9 level waste service, if we so chose to, this coming  
10 January or February.

11 We're choosing today, however, for flexibility  
12 to keep it used as a decontaminated salt solution  
13 collection point ahead of Saltstone, because Saltstone  
14 today just has in front of it a 4,000-gallon feed tank, so  
15 not much capacity between it and tank 50.

16 Recovery Act is putting in place two 60,000-  
17 gallon tanks in front of Saltstone. They'll be ready  
18 about the same time as Tank 50. So, again, it will be a  
19 conscious choice: Are we okay with where we are relative  
20 to tank margin, or do we think it's appropriate to put  
21 that tank 50 Type III Tank into that margin relative to  
22 tank space?

23 That's an ongoing thought process, decision-  
24 making process we go to on a continuum.

25 DR. WINOKUR: All right, Mr. Bader?

1           MR. BADER: Always interesting to talk about  
2 tank space. Let me give you a variant on that. You've  
3 decided not to work on Tank 48 to add to that tank space.

4       For some period of time you've looked at alternatives.

5           As part of that process, have you looked at  
6 what risks there might be to simply leaving Tank 48 with  
7 its contents untouched for what I would have to say at  
8 this point is an undefined period of time?

9           MR. SPEARS: Yes, sir. We have looked at that,  
10 and we're continuing to look at options for remediating  
11 Tank 48 as well.

12           And I'd like Mr. Olson to address the question  
13 specifically, if you don't mind.

14           MR. BADER: Okay.

15           MR. OLSON: Your question was specifically what  
16 are the safety risks inherent --

17           MR. BADER: Yeah.

18           MR. OLSON: -- in leaving Tank 48 in as-is  
19 condition.

20           MR. BADER: It's going to continue to sit for  
21 an undefined number of years. Have you looked at the risk  
22 of allowing it to do that with the contents from --

23           MR. OLSON: Yes, we have. It is covered within  
24 our safety basis. When I'm finished, I'll let Michael  
25 Mikolanis expound upon that.

1           We manage the chemistry within the tank. It is  
2 a stainless steel tank that it's resident in. It is not  
3 emitting benzene at any measurable quantity at this point  
4 relative to organic management. And the source term is  
5 one that is manageable in that -- the state that it's in.

6           So it is safe as is. It's being managed safely  
7 within the safety basis and could stay resident that way  
8 for a lengthy period.

9           Michael [Michael Mikolanis], you want to --

10           MR. MIKOLANIS: Sure.

11           Okay. To give you a little bit more detail  
12 regarding that, the controls that were in place for the  
13 operation when the in-tank precipitation process was going  
14 to work are still in place in the Documented Safety  
15 Analysis [DSA], so we still have the inerting capability;  
16 we still have the monitoring for flammable gas  
17 capabilities.

18           The larger risk due to just leaving it to store  
19 in the tank would be the degradation of the  
20 tetraphenylborates in the tanks, and we're not seeing a  
21 lot of that in the -- in this gas samples that we have  
22 taken.

23           The structural integrity of the tanks. The  
24 tank is still under the structural integrity program for  
25 the site, so its chemistry control is still maintained.

1 It still gets the structural integrity inspections, which  
2 includes visual as well as ultrasonic inspections that  
3 measure the thickness of the tanks.

4 And those two programs have shown us that over  
5 the years, although the tanks were designed with a 40-  
6 year, 50-year lifetime, there has not been any significant  
7 degradation of the -- or thinning of the tank walls due to  
8 the general corrosion.

9 The phenomenon that you alluded to earlier,  
10 some of the opening remarks of cracks and some of the  
11 tanks have been cracked -- the phenomenon associated with  
12 that is well understood from the initial fabrication  
13 process, and those types of cracks are not present or  
14 those types -- those types of manufacturing issues were  
15 not associated with Tank 48.

16 DR. WINOKUR: Was it the Department's decision  
17 at this time to not pursue cleaning out Tank 48? Was that  
18 your direction to the contractor?

19 MR. SPEARS: Yes, sir. First -- our first step  
20 was to ask Savannah River Remediation to evaluate, given  
21 the circumstances today, progress that we've made in the  
22 Tank Farms, as well as our system planning aspects,  
23 technology development, and other factors. Go back and  
24 take a look and see what alternatives might exist today,  
25 given those circumstances, that might be advantageous to



1 us to shift to or not for remediation of Tank 48.

2           So we asked for a recommendation first,  
3 received that recommendation from our contractor some time  
4 back, and based on that, have evaluated that and have  
5 determined that there are feasible alternatives that look  
6 like make good sense from the standpoint of economic  
7 resource stewardship, as well as from a standpoint of  
8 availability of tank space and ability to continue on our  
9 tank waste treatment mission that it would make sense to  
10 shift to.

11           So we have in fact provided direction to SRR to  
12 suspend the Tank 48 fluidized bed steam reforming project  
13 at this time, and we are now embarked on looking at and  
14 maturing particularly an option on chemical destruction  
15 and with a sort of a backup technology of direct  
16 vitrification of the waste from Tank 48.

17           And we can speak on those in more depth if  
18 you'd like, sir.

19           DR. WINOKUR: Do you have any sense for me --  
20 and I know we don't have a lot of time left in the  
21 hearing -- as to the Department, I guess, begins one of  
22 these projects, and they have Tank 48, and they look at  
23 one particular process and they look at, I don't know,  
24 chemical -- there was a process, and then there was the  
25 other approaches, steam bed reforming, and now a new

1 process.

2                   Why so many false starts? Why so many attempts  
3 at cleaning this tank? Why is it so difficult to say,  
4 "We're going to clean this tank; this is the technology  
5 we're going to use. We're going to mature it and  
6 execute?"

7                   Because, you know, it's been -- I'm sure it's  
8 been frustrating for you that this tank is still in  
9 service, and there have been so many attempts to clean it.  
10 Can you give some insight to that?

11                   MR. SPEARS: I agree. It is -- it has been  
12 frustrating; we have had a number of starts and stops, but  
13 I think the interest here is in doing the right thing for  
14 the taxpayer and for the Tank Farm and in order to  
15 basically support our mission in the most optimum way  
16 possible, using what I see as scarce resources.

17                   So I would like to think that we have utilized  
18 good systems engineering judgment with every one of those  
19 starts and stops; that they weren't frivolous starts and  
20 stops.

21                   And I think -- I can't -- I can't -- I haven't  
22 analyzed all the conditions that kind of led us to the  
23 number of approaches that we've taken to deal with Tank  
24 48, but I think with time, circumstances change.

25                   And so I think it behooves us periodically to

1 go back and look at what our alternatives are and make  
2 sure we are on the right path.

3 In fact, if you look at our directive system  
4 and in particular DOE Order 413.3(B) [Program and Project  
5 Management for the Acquisition of Capital Assets], it  
6 leads one to those constant -- I would say constant --  
7 periodic alternatives analyses.

8 In fact, at every critical decision (CD), you  
9 know, you're pretty much driven to an alternatives  
10 analysis to verify that you remain on the right path.

11 We simply have executed that, and particularly  
12 in this particular case with Tank 48. Prior to CD-2, we  
13 look at alternatives, and we've determined there are very  
14 highly feasible alternatives that would suggest that we  
15 can remediate Tank 48 using technology that's emerging and  
16 do it in a manner that's much more economical than  
17 building a \$180 million fluidized bed steam reformer.

18 So that's the basis for why we've changed  
19 directions in this particular case, and I believe it was  
20 based on fairly sound engineering study and judgment.

21 DR. WINOKUR: Dr. Mansfield, you have a  
22 question?

23 DR. MANSFIELD: One short one. Is it solely a  
24 question of this has turned out to be too expensive; go  
25 find something cheaper?

1           MR. SPEARS: No, sir. It was not solely a  
2 question of finances; however, you know, resources are  
3 very scarce and becoming scarcer, so it certainly was a  
4 factor. It was a key factor, but it was not the only  
5 factor.

6           DR. WINOKUR: I think we have a couple of  
7 questions remaining. I'll ask one of them.

8           Can you talk a little bit about the risk of  
9 seismically induced waste explosions that could exceed the  
10 evaluation guideline and where you are in that analysis  
11 right now about what the potential off-site dose  
12 consequences are in that scenario?

13          MR. SPEARS: Yes.

14          Wyatt [Wyatt Clark], could I call on you to  
15 respond to that?

16          And then perhaps, Michael [Michael Mikolanis],  
17 you could comment on that from a DOE perspective as well.

18          MR. CLARK: Chairman, as with everything, we  
19 start very much with an ISM (Integrated Safety Management)  
20 approach of looking at hazards. In 2002, we developed a  
21 DSA that clearly looked at that natural phenomena and then  
22 from that established a protocol to mitigate, make sure  
23 that we have identified the appropriate components that we  
24 needed to have structural integrity, laid in the processes  
25 to ensure that we control flammable vapor within the

1 tanks, laid together a emergency preparedness program to  
2 respond to it, and then had post-seismic activities that  
3 we would take following that kind of activity.

4 Last year, the Department of Energy asked us to  
5 go one step further and take that analysis and do a more  
6 thorough job, look at the conservatism, try to establish  
7 an approach that takes into account the realism of our  
8 real waste in the facility.

9 And we're coming close to the completion of  
10 that. In fact, it will be issued in the July-August time  
11 frame. Your representatives have been part of watching us  
12 go through that and will be available for you at that  
13 time. We'll submit it to the Department for approval.

14 DR. WINOKUR: Do you know what the number is  
15 today?

16 MR. CLARK: Yes, I do, sir.

17 DR. WINOKUR: What would that be?

18 MR. CLARK: As earlier, Mr. Ogg stated that it  
19 would exceed off-site guide of 25 rem. Today our  
20 response -- the analysis that we've laid in, considering  
21 some conservatism, getting to a realistic evaluation,  
22 taking into account the material that's in our tanks, we  
23 have significantly reduced that.

24 DR. WINOKUR: Are you committed to driving that  
25 to a small fraction of that 25 rem evaluation guideline?

1           MR. CLARK: We're committed to giving the  
2 appropriate value. So as we have gone through this  
3 review, we're going to give it the right analytical review  
4 to ensure that what we present is correct. Giving our  
5 conditions, we're going to report the correct value.

6           DR. WINOKUR: Let's say you report the correct  
7 value and it's 23 rem. Would you continue to apply  
8 controls to reduce that?

9           MR. CLARK: I can assure you that our initial  
10 analysis is far from that, so the hypothetical question  
11 you're presenting to me is much -- is much further from  
12 what we're dealing with.

13          DR. WINOKUR: So, can you give me a sense,  
14 again, of what you -- where you think you are today.  
15 You're saying it's much lower than 23 rem. What do you  
16 think it is?

17          MR. CLARK: We are in the neighborhood of one  
18 to three rems.

19          DR. WINOKUR: One to three rem.

20          MR. CLARK: Yes, sir.

21          DR. WINOKUR: Thank you.

22                 Do you want -- okay. Dr. Mansfield has a  
23 question.

24          DR. MANSFIELD: I just want to raise a  
25 complication that I know we'll deal with. The only

1 control you have for a seismically induced tritium  
2 container -- a fire affecting tritium containers -- is the  
3 emergency preparedness program.

4 Without any mitigation, you have estimated that  
5 has an off-site dose of 6200 rem, so you're counting  
6 entirely on the emergency preparedness program. We're  
7 going to be talking about that very soon, but just to show  
8 you how important this is, it's the only control you have,  
9 as I understand it, and it depends on your emergency  
10 preparedness program working; in other words, the firemen  
11 getting there in time.

12 MR. SPEARS: Dr. Mansfield, that's not within  
13 our area, within liquid waste.

14 DR. MANSFIELD: No, I know, but it's --

15 MR. SPEARS: But I understand your point. I  
16 mean, it is a very important area.

17 And, Michael [Michael Mikolanis], would you  
18 like to add anything? I saw you trying to add a couple of  
19 things just now. If you'd indulge us, sir.

20 MR. MIKOLANIS: Yes, sir.

21 Mr. Chairman, you were asking some questions to  
22 get a sense of how we've reduced that risk, and I would  
23 like to expand on a couple of points.

24 When the Department first accepted the accident  
25 analysis that where we concluded the off-site consequences

1 to the public could exceed 25 rem, that was predicated on  
2 a couple of items: one, that we believed the -- that we  
3 had the ability to prevent it with portable ventilation  
4 and that there was a lot of conservatism in the -- in the  
5 analysis.

6           When -- as we were challenged to go relook at  
7 and justify that, the commitment we made then was to go,  
8 "Okay, let's prove that that conservatism was really  
9 there." And that's the reanalysis that Mr. Clark was  
10 talking about.

11           We've done two different analyses that take a  
12 look at what the likelihood of the -- what the  
13 consequences would be from a tank deflagration. We took a  
14 single tank with a bounding supernate, and that gives you  
15 the couple rem range that Mr. Clark referred to.

16           We also then did some sensitivity runs,  
17 assuming that some of the tanks cannot deflagrate or  
18 explode following a seismic event; there's just not a  
19 flammable content in the tank to do that.

20           Taking the remaining tanks that do or could  
21 become flammable, that have some stored flammable gases  
22 with it, we ran those up to deflagrable or detonable  
23 ranges to get a sense of what would happen, what would the  
24 concentration be, and then ran some sensitivity parameters  
25 such as what would happen if you changed the height to get



1 them to detonation levels.

2           And the total dose for the Tank Farm then would  
3 only be if all the tanks that could deflagrate would  
4 deflagrate, it was only a couple rem, using nominal --  
5 using current -- today rates and material risk within the  
6 tanks themselves.

7           So the risk is much lower, even more favorable  
8 than we had hoped for when we first accepted the greater-  
9 than-25-rem for a single tank exploding.

10           DR. WINOKUR: All right. Thank you.

11           Mr. Bader, do you have a final comment?

12           MR. BADER: Again, looking at this as a system,  
13 the entire Tank Farms, waste treatment system, if you  
14 will, and looking at -- you've got a mix of very old  
15 facilities and new facilities coming on line, including  
16 SWPF, that are going to be relied upon to empty these  
17 tanks in a reasonable period of time.

18           Have you done -- you do integrated system  
19 planning. Have you looked at the risk of this integrated  
20 system as a whole and looked at things like what happens  
21 if SWPF is delayed a year or two years, or what happens if  
22 the evaporators fail, and looked at the system as a whole  
23 from a risk point of view?

24           MR. SPEARS: Yes, sir. We absolutely have.

25 Some of those studies regarding sensitivity, for example,

1 to SWPF viability and when it starts up, we incorporate  
2 directly into the system plan, but we also have a very  
3 robust, I believe, risk management process within the  
4 liquid waste program at Savannah River Site.

5 We actively manage that, as Mr. Olson mentioned  
6 to you; we have frequent interactions between contractor  
7 and Department of Energy, where we review specific actions  
8 that should be underway to address risk.

9 We have looked at specific things such as  
10 failure of key facilities in our flow sheet and their  
11 impact on our ability to successfully implement our  
12 missions and what is necessary to mitigate those risks, to  
13 allow us to manage those risks down to some minimal level.

14 So the short answer is, yes, we do look at  
15 that; we look at it in a variety of ways, particularly  
16 through our risk management program. But I would like  
17 also to have Mr. Olson comment from his perspective, if  
18 you don't mind.

19 MR. BADER: Before we ask Mr. Olson to do that,  
20 let me go one step further with that question and say,  
21 have you looked at that risk management plan given the  
22 dramatic increase in tempo of operations that will be  
23 required when Salt Waste Processing Facility comes on  
24 line?

25 MR. OLSON: Yes. Part of the annual update to

1 integrated system plan is an annual renewal and refreshing  
2 of all of the program risks resident in that planning  
3 assumption basis, and it's resident in infrastructure's  
4 ability to get waste from one facility to the other,  
5 influent and effluent, the ability of the -- or the  
6 capacity, reliability, predictability of each of the  
7 elements, each of the machinery that supports it, whether  
8 there are spare parts available, redundancy available, and  
9 that kind of thing; and whether the chemistry is  
10 compatible between the facilities to do that.

11 And Chairman Winokur's comment earlier about  
12 Saltstone will be a difficult row to hoe, because it has  
13 yet to prove sprint capability on a sustaining basis. We  
14 still have a few years to demonstrate that. The lessons  
15 learned from MCU/ARP that are fed to SWPF so it can attain  
16 its design capacity.

17 And the ability of DWPF to handle the cesium  
18 effluent from SWPF, we're still working through the  
19 impacts of that. And then also resident in that will be  
20 the small-column ion exchange supplemental salt treatment  
21 and its influents and effluents and infrastructure on the  
22 Tank Farms to support it.

23 All those risks are identified, handling  
24 strategies put in place, pre- and post-mitigation  
25 consequence understood, and that's where, in our risk

1 board we're applying our energies and efforts and  
2 finances, to make sure that that integrated sheet does  
3 work at the max rates when 2014 or -15 arrives.

4 MR. SPEARS: May I add one thing as well, sir?

5 Mr. Bader, one other thing I wanted to add to  
6 what Mr. Olson said was that is a robust process. As you  
7 know, we're currently operating under our system plan  
8 revision 16 that was issued late last year.

9 That is the accelerated pace that we envisioned  
10 for the future, so it represents that. We've just issued  
11 risk management plan revision 7, which is coincident with  
12 our system plan rev 16.

13 And we'd be happy to dialogue that and to  
14 discuss further in detail with your staff as time permits  
15 later our system plan rev 7 [sic] and how it integrates  
16 well and covers the activities that you're suggesting with  
17 respect to our accelerated program.

18 MR. BADER: Have you also looked at the next  
19 step, which is, are you going to have sufficient trained,  
20 competent people to operate at that higher level?

21 MR. SPEARS: That is certainly our intent, and  
22 I would like Mr. Olson to answer that.

23 MR. OLSON: One of the few back items from the  
24 ISMS (Integrated Safety Management System) revalidation as  
25 a new contractor that was done in the last two years,

1 reinforced by the VPP certification that Mr. Spears talked  
2 about, was a challenge to us to look at the demographic of  
3 our workforce and that we were pushing average age 55 to  
4 56 and worrying then about attrition and being able to  
5 staff the watch bill when you got to those high-capacity  
6 runs in 2015.

7 We hired in 2010 roughly 120 workers, different  
8 age demographic than I have today, and are putting them  
9 through their two-year qualification cycle, get them  
10 proficient.

11 So we believe we not only will have the  
12 numbers, but we'll have the ability to deal with  
13 attrition, so I've got a qualified, capable, proficient,  
14 and with the numbers, a workforce to manage the next  
15 decade of high-level waste work.

16 MR. BADER: My last question is directed back  
17 to Mr. Spears. Are you comfortable with the risks that  
18 are -- you've seen in this risk management plan 7?

19 MR. SPEARS: Yes, sir, I am.

20 DR. WINOKUR: Well, I would end with a final  
21 comment before we say goodbye and dismiss this panel, and  
22 that is to be sober about it, you've removed 38 of 350  
23 million curies to date, and you have a very challenging  
24 task in front of you.

25 You say you're going to learn lessons from

1 ARP/MCU that are going to feed into SWPF. It's got to  
2 work, and you don't really have it demonstrated yet to  
3 work effectively.

4 Saltstone maybe -- you don't really know what  
5 the reliability of that system's going to be. It's 90  
6 percent when it's running, but if it has starts and stops,  
7 that can be problematic.

8 The evaporators have to work. A whole lot of  
9 things have to work very well for you in the future to  
10 really finally turn the corner and get away from the fact  
11 that you only have 2 million gallons of available tank  
12 space in Type III tank space.

13 So we're hearing a lot of encouraging things,  
14 and I think that's good, but I'm telling you, to -- just  
15 to be, as I said, sober about it, I think that is -- there  
16 is a fair amount of risk here, and concern about whether  
17 or not you're really going to be able to really turn that  
18 corner you want to turn. And we're certainly very  
19 committed to seeing you do that, and hopefully you're  
20 going to continue to apply the resources necessary to make  
21 that a reality.

22 You have a final comment, Mr. Spears?

23 MR. SPEARS: I just wanted to thank you for the  
24 opportunity today, Mr. Chairman, to speak with you and, on  
25 behalf of the panel, thank you very much.

1 DR. WINOKUR: Thank you, Mr. Spears, Mr.  
2 Mikolanis, Mr. Olson, Mr. Clark, and Mr. Dickenson. Thank  
3 you, and we'll begin with the next panel immediately.

4 Thank you.

5 (Pause.)

6 DR. WINOKUR: We're going to resume this public  
7 meeting and hearing to discuss the topic of emergency  
8 preparedness.

9 At this time, I'd like to introduce Mr. Mark  
10 Sautman, who will provide testimony from the Board's  
11 staff.

12 Mr. Sautman, I will accept your full written  
13 testimony into the record. Please summarize your comments  
14 in ten minutes or less.

15 MR. SAUTMAN: Good afternoon, Mr. Chairman and  
16 Members of the Board. For the record, my name is Mark  
17 Sautman. I am one of the Board's Site Representatives  
18 responsible for overseeing the Department of Energy's  
19 activities at the Savannah River Site.

20 I would like to submit my full written  
21 testimony for the record and present an abbreviated  
22 version.

23 In this meeting, the Board is considering the  
24 state of emergency preparedness, or EP, at the site. I  
25 will discuss the Site Representatives' perspective on how

1 well DOE has prepared for natural phenomena hazards.

2           While previous Board concerns included incident  
3 scene response and drill scenario quality, site senior  
4 management has made significant improvements in the  
5 program recently.

6           The existing EP program also continues to  
7 adequately prepare workers to respond to anticipated  
8 events like spills, medical emergencies, and fires, as  
9 well as more unlikely events like explosions.

10           In May 2010, the Site Representatives began to  
11 review DOE's preparations for natural phenomena hazards,  
12 or NPH, including earthquakes, tornadoes, and hurricanes.

13           While the seismic risk at the site is much less  
14 than that around the Pacific Rim, earthquakes are still a  
15 credible accident for South Carolina. In 1886, Charleston  
16 experienced an earthquake that caused structural damage as  
17 far away as central Alabama and Ohio. This spring also  
18 demonstrated the hazards posed by tornadoes to the  
19 southeastern United States.

20           The SRS Documented Safety Analyses include  
21 credible NPH design basis accidents that have significant  
22 dose consequences to the site workforce and the public.

23           Seismic events can damage structures and  
24 vessels that are not seismically qualified, causing a loss  
25 of confinement or an exhaust stack to topple onto a



1 location storing radioactive material.

2           Seismic events can also damage electrical  
3 equipment. This can lead to a fire that may be harder to  
4 extinguish if the fire suppression or water supply systems  
5 are also damaged.

6           For example, Building 235-F is an inactive  
7 facility with a significant inventory of plutonium-238 in  
8 its hot cells. This material is very respirable, and  
9 minute amounts can cause a large dose. A seismically  
10 induced fire at 235-F could result in large doses to the  
11 construction workers at the nearby Mixed Oxide Fuel  
12 Fabrication Facility or the Waste Solidification Building  
13 unless adequate controls are in place.

14           At the Tritium Facilities, the reinforced steel  
15 encased safes that normally protect tritium containers  
16 against impacts by falling structures are vulnerable to  
17 tornado and seismically induced fires.

18           The EP program is currently the only control  
19 credited in the Documented Safety Analysis for a seismic  
20 event plus fire at the Tritium Facilities.

21           A seismic event can also cause a loss of power.

22       If the fuel tank for the emergency diesel generator is  
23 not seismically qualified, this can cause a loss of  
24 ventilation to storage tanks and process vessels like  
25 those in H-Canyon.

1           When radioactive materials are in proximity to  
2 water or other organic material, the radiation can  
3 generate hydrogen and other flammable gases. Hydrogen is  
4 extremely easy to ignite. A static spark from a person is  
5 sufficient.

6           As the Fukushima reactors demonstrate, hydrogen  
7 gas can be ignited even during an electrical blackout.  
8 The subsequent deflagration or detonation may then release  
9 radioactive material present in the tank or vessel.

10           One of the unique challenges of NPH is that  
11 they have the potential to affect multiple facilities  
12 simultaneously, as well as the site's infrastructure.  
13 This can dramatically increase the radiological  
14 consequences and severely strain the available emergency  
15 response resources.

16           A loss of power, fire water supplies,  
17 communication systems, or the presence of damaged roads  
18 and support facilities could slow down emergency  
19 responders and inhibit the communication of protective  
20 actions across the site.

21           The staff completed our initial review last  
22 summer and identified four vulnerabilities. Our first  
23 concern was that DOE was conducting extremely few  
24 emergency drills and exercises anymore that focused on the  
25 recovery from credible NPH events.

1           While tornado and seismic scenarios were  
2 frequently conducted in the 1990s and early 2000s, they  
3 all but disappeared from the site-level exercises after  
4 2002.

5           While some facilities continued to perform  
6 small-scale NPH drills, many of these were focused on just  
7 sheltering or evacuating, versus recovery from the event.  
8 Meanwhile, H Tank Farms had not practiced deployment of  
9 their emergency purge ventilation equipment since 2003.

10           DOE stopped conducting drills for inactive  
11 facilities like 235-F, although the hazard did not vanish  
12 once daily operations ceased.

13           A second issue was the emergency procedures and  
14 drill scenarios did not acknowledge the NPH events can  
15 impact multiple facilities. While the prescribed  
16 protective actions may make sense in isolation, this can  
17 lead to situations where the response actions are  
18 incompatible.

19           For example, H-Canyon, H Tank Farms and the  
20 Tritium Facilities are located close to each other. DOE  
21 needs to ensure that the emergency procedures are  
22 integrated so that the protective and emergency response  
23 actions taken by one facility would not cause workers to  
24 inadvertently enter the plume from another facility.

25           Complicating matters is the fact that the

1 Savannah River Site is more complex than it used to be.  
2 NPH events have the potential to affect facilities that  
3 are operated by multiple contractors.

4           New facilities like the Mixed Oxide Fuel  
5 Fabrication Facility, the Waste Solidification Building,  
6 and the Salt Waste Processing Facility are being built  
7 next to operating nuclear facilities.

8           At the time of our review, DOE was not  
9 conducting any drills that involved the multiple  
10 contractors or that involved both operating facilities and  
11 construction sites.

12           A third concern was the lack of attention paid  
13 by DOE to recovery planning and implementation. This  
14 concern applies to all types of emergency scenarios, not  
15 just NPH accidents.

16           As recent events like the Deepwater Horizon oil  
17 spill and the Fukushima reactor accident have shown, the  
18 development and implementation of an effective recovery  
19 plan can be much harder than the initial response.

20           The few existing recovery plans at SRS have  
21 limited scopes. Site drills and exercises usually  
22 terminate once the immediate actions to stabilize the  
23 incident scene have been completed or the Emergency  
24 Director approves a recovery plan outline.

25           While some of these recovery plan outlines

1 include proposed actions, others are not much more than a  
2 plan for a plan. The one exception to this was a three-  
3 day emergency exercise in 2002, where a recovery plan was  
4 implemented along with a reentry.

5 The response to a 2010 leak of plutonium-238  
6 contaminated liquid from a drum at the Solid Waste  
7 Management Facility illustrates the challenges that even a  
8 relatively small event can pose.

9 Initial responders had to twice evacuate the  
10 incident scene because they lacked the proper equipment  
11 and training. The facility was unable to effectively  
12 respond to the spill for several days, until the necessary  
13 equipment and supplies were located and additional  
14 training was conducted.

15 The Board's staff had several discussions with  
16 DOE after the event, and the contractor is now maintaining  
17 a core group of facility emergency responders with the  
18 necessary training and keeping a trailer full of emergency  
19 personnel protective equipment and contamination control  
20 supplies.

21 The Board's staff believes that DOE would  
22 benefit from having site-wide plans for dealing with large  
23 NPH events. The emergency response organization also  
24 needs more opportunities to practice the development and  
25 implementation of other recovery plans.

1           The fourth staff concern is that the emergency  
2 scenarios rarely acknowledge that the site infrastructure  
3 may be damaged by an NPH event. Where credible, some of  
4 the NPH scenarios need to reflect the potential evacuation  
5 of control rooms or the loss of key communication systems,  
6 power, and other infrastructures.

7           In general, the DOE and contractor response to  
8 our observations has been positive. Our discussions have  
9 not focused on whether these vulnerabilities should be  
10 addressed, but on how best to have the various federal and  
11 contractor organization resolve these common EP issues.

12           Drills that had lapsed for years at 235-F and  
13 Tank Farms were resumed by the contractors last year.  
14 Recent drills at H Tank Farm simulated the loss of the  
15 primary control room.

16           At this time, major efforts are ongoing at Tank  
17 Farms, H-Canyon and HB-Line, and the Tritium Facilities to  
18 develop credible seismic drill scenarios and train the  
19 facility staff on the expected response action.

20           DOE plans to conduct graded drills at both the  
21 facility and area level. In April, the contractors in  
22 F-area worked together to conduct a coordinated drill that  
23 involved multiple operating and construction facilities.

24           While the above initiatives are encouraging,  
25 other issues need more attention. DOE's efforts on

1 recovery plan have mostly been limited to seismic events.

2 While DOE recovered the risk -- reduced the risk of a  
3 Building 235-F stack collapse by shortening the stack, DOE  
4 suspended efforts to further reduce the risk by removing  
5 the plutonium held up in the shielded hot cells.

6 In light of the Japanese earthquake, DOE also  
7 has launched a complex-wide initiative to examine beyond-  
8 design-basis accidents. This effort is still in the data-  
9 collection stage, so it is too early to tell if this  
10 initiative will result in any changes at SRS.

11 Today, one of our biggest concerns is whether  
12 DOE will have the necessary resources to improve the EP  
13 programs and maintain the fire department's health.  
14 Budgets are tight today and expected to get tighter in the  
15 future.

16 The emergency management organization is  
17 already lean. While the missions in parts of the site  
18 have declined or ended, the mission scope in other parts  
19 of the site is increasing, as shown by the construction of  
20 the Salt Waste Processing Facility, the Waste  
21 Solidification Building, and the Mixed Oxide Fuel  
22 Fabrication Facility.

23 Firefighting at the site is challenging and  
24 physically demanding due to the site's size, the size and  
25 the height of its nuclear facilities, and the hot, humid

1 weather.

2           The Board's staff is interested in hearing  
3 today how DOE plans to maintain adequate staffing to  
4 conduct the required drills and exercises, improve the EP  
5 program, and ensure that the size and quality of the fire  
6 department are adequate to support a prolonged response.

7           In 2009, the Board's staff reviewed the site's  
8 fire department. In the Board's letter to DOE, the Board  
9 noted that all of the major fire equipment at the site had  
10 exceeded the normal 15-year life expectancy. DOE took  
11 action to address this concern, and two new fire engines  
12 arrived on-site earlier this year, replacing engines that  
13 were 21 and 32 years old. Unfortunately, plans to replace  
14 the other 16- to 21-year-old fire apparatus have stalled.

15           This completes my prepared testimony. I would  
16 be happy to answer any questions from the Board.

17           DR. WINOKUR: Thank you, Mr. Sautman.

18           Do the Board Members have any questions for Mr.  
19 Sautman?

20           DR. MANSFIELD: Not at this time.

21           MR. BADER: No.

22           DR. WINOKUR: Hearing none, thank you very  
23 much, Mr. Sautman.

24           I now would like to invite the panel of  
25 witnesses from DOE and its contractor organizations for



1 the topic of emergency preparedness to take their seats as  
2 I introduce them.

3 Mr. Kevin Hall is the Deputy Manager of DOE's  
4 Savannah River Site Office.

5 Mr. Michael Mikolanis is the Acting Chief  
6 Engineer at DOE's Savannah River Operations Office.

7 Mr. Robert Edwards is the Director of the  
8 Office of Safety and Quality Assurance at DOE's Savannah  
9 River Operations Office.

10 Mr. Geoff Reynolds is the Deputy for  
11 Environmental Safety, Health, and Quality at Savannah  
12 River Nuclear Solutions.

13 Mr. Lee Schifer is the Director of the Tritium  
14 Integrated Supply Chain at Savannah River Nuclear  
15 Solutions.

16 Mr. Wyatt Clark, welcome back as the Interim  
17 Operations and Deputy Project Manager at Savannah River  
18 Remediation.

19 Mr. Fred Dohse is the Executive Vice President  
20 and Chief Operating Officer at Savannah River Nuclear  
21 Solutions.

22 And Mr. David Freshwater is an Emergency  
23 Management Specialist at the Office of Emergency  
24 Management and Policy for DOE.

25 Do any members of the panel wish to submit

1 written testimony at this time?

2 (No response.)

3 DR. WINOKUR: Seeing none, as before, the Board  
4 will either direct questions to the panel, or individual  
5 panelists will answer them to the best of their ability.  
6 After that initial answer, other panelists may seek  
7 recognition by the Chair to supplement the answer as  
8 necessary.

9 If panelists would like to take a question for  
10 the record, their answer to that question will be entered  
11 into the record of this hearing at a later time.

12 With that, we'll continue with an opening  
13 statement by Mr. Mikolanis.

14 Mr. Mikolanis, we'll accept your written  
15 testimony into the record, so I please ask -- I ask that  
16 you please keep your opening statement to less than ten  
17 minutes. Thank you.

18 MR. MIKOLANIS: Yes, sir. Thank you.

19 Good afternoon, Chairman Winokur, other Members  
20 of the Defense Nuclear Facilities Safety Board, the  
21 Board's staff, and members of the public.

22 We appreciate this opportunity today to discuss  
23 with you the status of emergency preparedness at the  
24 Savannah River Site.

25 Emergency planning for our nuclear facilities

1 begins with design and continues through facility  
2 operations. Facilities at the Savannah River Site are  
3 designed and built to performance criteria to help ensure  
4 that emergency situations do not result in hazardous  
5 material releases that may present a significant danger to  
6 the surrounding population.

7           As the Board is very familiar with the  
8 requirements associated with nuclear facility design, I  
9 will summarize some of the significant points for members  
10 of the public present at this meeting.

11           During design, potential nuclear facility  
12 hazards are analyzed and, where possible, minimized or  
13 eliminated entirely. Industrial hazards such as high-  
14 pressure gas cylinders are managed by invoking commonly  
15 accepted industry standards. The remaining hazards are  
16 then conservatively analyzed to identify those that may  
17 pose a significant risk to either the public, workers, or  
18 environment.

19           For these hazards, engineers design safety  
20 features to minimize or eliminate them entirely, and  
21 additional design and quality assurance requirements are  
22 specified to ensure their reliable operation. In short,  
23 we design to minimize or prevent release of materials.

24           Once safety systems have been identified and  
25 operability conditions defined, emergency preparedness

1 programs are then established to ensure the Savannah River  
2 Site is prepared to respond to any disaster to protect our  
3 workers, the public, and the environment.

4           These programs include measures such as the  
5 development of facility emergency response procedures and  
6 the establishment of command and control functions  
7 necessary to guide facility and site-wide response to  
8 abnormal events and operational emergencies, regardless of  
9 the source or initiating event.

10           The Savannah River Site emergency management  
11 program is based upon the fundamental concepts of the  
12 National Incident Management System and the guiding  
13 principles of Integrated Safety Management.

14           The National Incident Management System is  
15 implemented through our internal command and control  
16 structure, ensuring that all responders, whether site  
17 personnel, responders from surrounding communities, or  
18 assets dispatched under the national response framework,  
19 can work together safely and effectively.

20           All contractors on-Site use the guidance  
21 provided in the site's emergency plan as the basis for  
22 their response actions. To that end, all site personnel  
23 are trained to the same basic set of response techniques.

24           These techniques allow responders to take  
25 action based on the general release mechanism instead of

1 the initiating event. Responders, particularly those in  
2 command and control positions, are encouraged to use their  
3 own judgment and experience to adapt action plans to best  
4 utilize the information available at that time.

5 This flexibility is a key aspect of our  
6 emergency management program and allows us to take  
7 appropriate actions in establishing site-protective  
8 actions, mitigation, and recovery from an event.

9 It also allows the emergency response  
10 organization to handle a wide range of events involving  
11 chemical spills and radioactive releases which may be  
12 caused by process upsets, security threats, or natural  
13 phenomena hazards or other events.

14 The requirements associated with the National  
15 Incident Management System program are documented in the  
16 site's emergency management plan, which has been evaluated  
17 by external assessments as being fully compliant with the  
18 requirements of DOE Order 151.1C. [Comprehensive  
19 Management System]

20 The DOE order sets requirements along three  
21 basic functions: planning, preparedness, and response.  
22 The planning function is accomplished by identifying the  
23 hazards present and establishing a program suitable for  
24 the level and the nature of hazards present.

25 A hazard survey is performed for facilities

1 with chemical or radiological hazards and, depending on  
2 the outcome of that hazard survey, an emergency planning  
3 hazards assessment may be performed to qualitatively  
4 evaluate the possible release paths. This then becomes  
5 the basis for our emergency planning actions for the  
6 affected facility.

7           It's worth noting that there are significant  
8 differences between the emergency planning hazards  
9 assessment that I just mentioned and the previously  
10 mentioned hazards assessment performed for design.

11           Whereas a hazards assessment evaluates a  
12 facility to identify the controls necessary to prevent or  
13 safely mitigate a radiological or chemical release, the  
14 emergency planning hazards assessment evaluates the  
15 facility with the safety controls in place.

16           The emergency planning hazards assessment then  
17 postulates an initiating event with a failure of the  
18 system, noting that these systems are designed to remain  
19 operable during those design basis emergencies, in order  
20 to create a release that tests the ability of the facility  
21 operators and the command and control systems to respond  
22 to such an emergency.

23           Preparedness is accomplished by ensuring that  
24 the plans and procedures adequately guide the response to  
25 emergencies, primarily through training program and

1 conducting drills and exercises to test the plans,  
2 procedures, and capabilities of the emergency responders.

3 As implemented, the current program is  
4 consistent with DOE policy and requirements. Drill  
5 scenarios are developed to evaluate the response efforts  
6 of one major facility at the site, versus exercising  
7 several facilities simultaneously.

8 Although this has been a longstanding practice  
9 at SR [Savannah River] and other DOE sites, we recognize  
10 this practice needs to be reevaluated as part of our  
11 ongoing efforts to continually improve the site's response  
12 capabilities.

13 Finally, response includes the actions taken  
14 during an emergency to resolve the situation, as well as  
15 those recovery and reentry actions needed to return the  
16 affected area to normal operations.

17 Drills at both the site level and the facility  
18 level ensure facility operators and personnel assigned to  
19 emergency response organization command and control  
20 functions remain proficient in the actions necessary to  
21 safely respond to an emergency.

22 We recognize that natural phenomena hazard  
23 events present a unique challenge to emergency  
24 preparedness. Through implementation of the emergency  
25 response plan, the Savannah River Site is prepared to

1 respond to disasters to protect workers, the public, and  
2 the environment and return the facility or site to a safe  
3 condition.

4           Although our plan is fully compliant, we have  
5 identified a few areas we are evaluating for continuous  
6 improvement.

7           The first I'd like to talk about is developing  
8 facility drill scenarios that more fully address  
9 situations where a single event such as earthquake could  
10 affect multiple systems.

11           Such scenarios train operators to respond to  
12 multiple problems within a facility, such as a fire  
13 concurrent with a chemical spill.

14           The second point I'd like to discuss is  
15 defining and making better use of facility drill anomalies  
16 that simulate conditions that might be encountered during  
17 a natural phenomena event, such as the loss of site  
18 communications or a radioactive release from a nearby  
19 facility that affects -- outdoor actions that have to be  
20 taken by the facility being tested.

21           And finally, I'd like to mention expanding the  
22 exercise of command and control functions to address  
23 coordination of incidents at multiple facilities which  
24 involve different operating contractors.

25           To summarize, although implementation of the



1 Savannah River Site Emergency Response Plan is fully  
2 compliant with the DOE requirements, we have identified  
3 opportunities for continuous improvement of our program.

4           These improvements would make consistent use of  
5 drill sets to simulate more than one system failure, as  
6 well as anomalies that are representative of conditions  
7 that may be encountered during a natural phenomena event.

8           Furthermore, we are closely monitoring  
9 headquarters policy-making action in response to the  
10 reactor accident at Fukushima, and we are evaluating  
11 exercising command and control functions for multiple  
12 facilities and contractors.

13           With this said, Mr. Chairman, the panel is  
14 ready to receive comments and answer questions from the  
15 Board. Thank you.

16           DR. WINOKUR: Thank you, Mr. Mikolanis. With  
17 that we will continue with questions from the Board  
18 Members to the full panel, and we will begin, once again,  
19 with Mr. Bader.

20           MR. BADER: Would you start out, Mr. Mikolanis,  
21 by summarizing what, according to your Documented Safety  
22 Analysis, would be the impact to the public, site workers  
23 and the facilities from a seismic event that involved Tank  
24 Farms, Tritium Facilities, H-Canyon, 235-F, and so on, and  
25 what controls you have in place to address the hazards.

1 MR. MIKOLANIS: How much time do we have to  
2 answer that question, sir?

3 (General laughter.)

4 MR. BADER: Short answer, please.

5 MR. MIKOLANIS: The short answer for the  
6 facilities you asked for, the Tank Farms, as we discussed  
7 during the last panel, our current safety analysis says  
8 the public impact would be greater than -- would be  
9 greater than 25 rem. Our preliminary analyses show that  
10 it will be significantly less for a single-tank, or even  
11 multiple-tank, explosion.

12 When you add it all together for the current  
13 seismic releases, it'd be about 18 rem for a seismic event  
14 in the Tank Farms. The site worker impact and facility  
15 worker impacts are less than 100 rem.

16 For the H-Canyon, I believe that was one you  
17 mentioned --

18 MR. BADER: Yeah.

19 MR. MIKOLANIS: -- it -- the mitigated dose is  
20 less than a rem, .36, and the worker doses are less than  
21 100 rem as well.

22 DWPF, I believe was -- I didn't write them all  
23 down. The Defense Waste Processing Facility, the  
24 mitigated dose is 2.1 rem, and the facility worker and  
25 collocated worker are less than 100 rem as well.

1           And with respect to tritium, I would like to  
2 ask Mr. Lee Schifer to answer that after I finish with the  
3 other systems that you've discussed.

4           Without going facility by facility -- and we  
5 can submit a detailed response for the record, if you  
6 would like, Mr. Bader --

7           MR. BADER: I would appreciate that.

8           MR. MIKOLANIS: I will do so. I will take that  
9 action.

10           In general, what these facilities rely upon in  
11 order to protect the public and the workers is -- are  
12 confinement systems and ventilation systems. Those are  
13 the primary ones. Fire control systems, where they're  
14 credited for putting out fires, and also as well many  
15 administrative controls, such as we discussed in the  
16 opening remarks.

17           The 235-F facility, the hazard analysis for  
18 that particular facility presumed a full facility fire  
19 which released the plutonium that Mr. Sautman mentioned.  
20 One of the safety programs we rely upon there was to  
21 deinventory the facility to the maximum extent possible,  
22 to remove that combustible materials in order to not have  
23 the full facility fire that the hazard analysis assumed.

24           I believe that would -- and any other  
25 confinement system, such as piping, vessels, those would

1 be credited for maintaining their structural integrity  
2 during a natural phenomena event such an earthquake or a  
3 tornado or protecting the safety-related equipment by  
4 missile barriers during natural phenomena events such as a  
5 tornado.

6 DR. WINOKUR: I guess, Mr. Schifer, you're  
7 going to make a comment on the Tritium Facility for us,  
8 please?

9 MR. SCHIFER: Yes, sir. The mitigated doses  
10 for the Tritium Facilities for the off-site worker or the  
11 public would be less than 12 rem, for the on-Site worker  
12 and the colocated worker is less than 100 rem.

13 As far as the controls for the facility, the  
14 primary control is the emergency preparedness program for  
15 the Tritium Facilities.

16 Obviously there are a suite of basic robust  
17 controls that we have in the facility, being the  
18 facilities themselves, fire protection programs,  
19 combustible control programs, radiological control  
20 programs.

21 We've talked somewhat about highly invulnerable  
22 encased safes, so there are many different robust pieces  
23 in the facility.

24 DR. WINOKUR: How does an emergency  
25 preparedness program get you from 6200 rem down to below

1 100? I mean, there are no engineering controls you're  
2 talking about. Is that correct?

3 MR. SCHIFER: True. I think if you look at  
4 the -- if you were talking specifically about the 6200,  
5 that's to the collocated worker. It's an extremely  
6 conservative bounding number for the Tritium Facility.

7 It essentially takes into account the maximum  
8 possible inventory of the Tritium Facilities. And let me  
9 back up just a little bit.

10 The Tritium Facilities is -- essentially we  
11 have five hazard category 2 facilities, three hazard  
12 category 3 facilities, all within about a 28-acre complex.

13 For this bounding event I have an inventory for all of  
14 those facilities. It's about 40 kilograms of tritium.

15 My bounding event essentially is a seismic  
16 event followed by full-on secondary fire that would  
17 oxidize 100 percent of that inventory. We consider this  
18 extremely conservative and bounding.

19 If you look at what the facility has  
20 additionally, the main inventory centers in the Tritium  
21 Facilities are Vault 217-H, our 233-H facility. Both were  
22 designed to seismic specifications, when they were  
23 originally constructed, about .2 G peak ground  
24 acceleration.

25 Our Tritium Extraction Facility is a PC-3

1 [Performance Category-3] facility also, so they're  
2 expected to survive some levels of seismic activities.

3 We have robust containers. The individual  
4 containers for which we keep much of our inventory is  
5 safety significant, is robust. We have in our vaults  
6 highly invulnerable encased safes, as Mr. Sautman was  
7 talking about, that protects it from falling debris, from  
8 a stack fall of some sorts.

9 Then we have some programmatic features, which  
10 combustible control programs, radiological control  
11 programs, those different types of things.

12 If I start talking about the emergency  
13 preparedness program itself, we have changed, through the  
14 year plus, significantly. We've been working with the  
15 facility reps, both Mr. Sautman and Mr. Burnfield. We  
16 performed four NPH seismic events drill scenarios last  
17 year.

18 We've changed dramatically, after the Fukushima  
19 event, how we do drills within our facility. Primarily,  
20 before the Fukushima event, we would have a casualty in  
21 one of our main facilities.

22 We have three separate control rooms in our  
23 facilities, and we'd have one main casualty where all the  
24 other facilities would then respond to it.

25 Since that time, we've gone to more of the

1 full-facility casualty event where you'll have multiple  
2 casualties in multiple facilities. We've gone through  
3 seven of those drills so far this year; we have nine more  
4 scheduled.

5 For the phases for the drills, if you want --  
6 would like to know that, we've pretty much split them up  
7 into four. We started off with tabletops, with seminars,  
8 basically to bring all the individuals together, working  
9 on communication, working on resource management,  
10 allocation of resources to the individual facilities.

11 The second set of drills that we've gone  
12 through have been our simulator drills. We're lucky we  
13 have three separate simulators in the Tritium Facilities,  
14 so we can staff up our own control rooms in these separate  
15 simulators.

16 We will go through the full evolutions in those  
17 simulators that allows us to learn. All of this I  
18 consider just the basis of ISM. We are running through  
19 the drills, learning, then fixing them and changing them.

20 Second -- or thirdly, we will start coached  
21 drills, so we'll actually go down into the facilities  
22 within three weeks, is when we start the coached drills,  
23 and we'll run through four cycles of coached drills in the  
24 facility, making sure that we all understand our aspects  
25 and get the full facility response of our personnel.

1           Lastly, before the end of the calendar year, we  
2 will also have four graded drills, which is very similar,  
3 but you'll run through the evolution where there is no  
4 coaching, and it's how do you perform; "How do all the  
5 personnel in the facility perform; how do the individual  
6 facilities perform, and how does our facility emergency  
7 coordinator perform?"

8           So that's the basis for our programs. Kevin  
9 [Kevil Hall] --

10           DR. WINOKUR: So -- you want to make a quick  
11 comment, Mr. Hall, and then I'll finish up.

12           MR. HALL: Yes. Specifically, Chairman  
13 Winokur, you asked how the emergency preparedness program  
14 took us from 6200 rem collocated worker dose to a  
15 qualitative assessment of less than a hundred rem.

16           DR. WINOKUR: I did.

17           MR. HALL: We use -- our contractor does --  
18 when they prepare their Documented Safety Analysis, the  
19 DOE Order Standard 2009 [DOE-STD-3009, Preparation Guide  
20 for US DOE Nonreactor Nuclear Facility DSA] and Guide 1189  
21 [DOE-STD-1189, Integration of Safety into the Design  
22 Process]. That allows you to take -- to do a qualitative  
23 risk assessment, and when we take into account in that  
24 Qualitative Risk Assessment, you take a look at those  
25 factors such as the robust containers that the tritium is



1 stored in, the highly invulnerable storage mechanisms, the  
2 seismically qualified buildings at the time of design, the  
3 other features associated with the facilities, and then  
4 that qualitative assessment comes up less than 100 rem,  
5 and that's where we go from 6200 to less than 100 rem.

6 So the credited control in the DSA is the  
7 emergency preparedness program, but we're allowed by the  
8 standard and the guide to make a qualitative assessment of  
9 where we stand post-accident.

10 DR. WINOKUR: Can you provide an explanation of  
11 that for the record so we could just take a little closer  
12 look at it? We appreciate your comments.

13 MR. HALL: We'd be happy to do that.

14 DR. WINOKUR: Thank you.

15 Mr. Bader?

16 MR. BADER: I'll leave it to you who answers  
17 this, but what I'm looking at in the Tritium Facility is  
18 the container is designed to withstand the physical insult  
19 of the seismic event. It doesn't survive the fire. Is  
20 that a correct set of assumptions?

21 MR. HALL: It -- well, there is no container.  
22 There are thousands of containers, but that's germane to  
23 the discussion, because there's thousands of --

24 MR. BADER: Well --

25 MR. HALL: -- container's dispersed in a wide

1 variety of rooms and buildings throughout the facility.

2 So we're talking really about separate  
3 facilities separated by air, geographic location, and  
4 different structures.

5 MR. BADER: But the container designed to  
6 survive the seismic event, wherever it's located.

7 MR. HALL: That's correct. It's a code-  
8 compliant vessel that we would expect would survive the  
9 seismic event.

10 MR. BADER: But not the insult of a fire --

11 MR. HALL: The specific --

12 MR. BADER: -- that would be involved.

13 MR. HALL: Depending on the specifics of the  
14 fire, so it would depend on the temperature, the duration,  
15 and how long it were exposed to it.

16 MR. BADER: When you submit this information  
17 for the record, I would appreciate seeing in there how all  
18 this training that you're going through stops those  
19 particular containers from being involved in the fire. I  
20 assume that's the assumption. Is that correct?

21 MR. HALL: No. The training that Mr. Schifer  
22 was referring to is that we're trying to make sure, in  
23 accordance with what Mr. Sautman discussed, in NPH space,  
24 if we're involved in a multiple facility accident at  
25 Savannah River Site, associated with an earthquake,

1 tornado, et cetera, that we would be able to properly  
2 respond from an operations crew standpoint.

3 MR. BADER: But if you're breaching the  
4 containers, I'd like to understand how that --

5 MR. HALL: Yes, sir. So how our operator --

6 MR. BADER: How are you preventing the release,  
7 and how does that work?

8 MR. HALL: I understand your question. In the  
9 event of physical phenomena taking place, the particular  
10 vessels that are involved, they react through physics, not  
11 through the training of our operators.

12 MR. BADER: No. But somehow you're preventing  
13 the dose to the workers rising to anywhere close to 6200,  
14 and you're going to spell out exactly how you get there in  
15 your response. Right?

16 MR. HALL: We'll spell out how we go from the  
17 6200 unmitigated dose to the colocated worker to the  
18 Tritium Facilities to a qualitative analysis of less than  
19 100 rem to the colocated workers. Yes, sir.

20 MR. DWYER: Before you leave that subject so --  
21 the seismic drill at the Tritium Facilities includes the  
22 subsequent fire?

23 MR. SCHIFER: Yes. Yes.

24 DR. WINOKUR: I think we'll be interested to  
25 learn more about this qualitative nature of things, but we

1 have a fair amount of experience as you do with the  
2 analysis that needs to occur to understand what the dose  
3 is to the collocated worker, so we'll look forward to that  
4 response.

5 MR. DWYER: Joe?

6 MR. BADER: Are you ready to shift?

7 DR. WINOKUR: Yeah.

8 MR. BADER: All right. Let's shift to the  
9 impact of a seismic event on the spent -- at the spent  
10 fuel pool at the L-area.

11 Could you discuss the current preparations for  
12 handling a seismic event and recovery from a seismic event  
13 at the L-basin?

14 MR. DOHSE: Thank you, sir. I would be happy  
15 to do that. The disassembly basin at the L-area reactor  
16 building is a seismically qualified facility, as are the  
17 fuel racks.

18 And the -- in the event of a seismic event, we  
19 would anticipate a crack might develop in the three-foot-  
20 thick cement walls of that pool. That pool is located  
21 below grade or at grade, and the pool is below grade, so  
22 if a crack developed, our engineers -- our structural  
23 engineers believe a leak on the magnitude of about 10  
24 gallons per minute might develop.

25 The pool contains 3.4 or 3.5 million gallons of

1 water. That would give us about 10 days if -- to react to  
2 that before any fuel would be exposed.

3 Now, it's important also to understand that  
4 most of that fuel arrived at L-area in a dry condition or  
5 in casks that were shipped without water in them. The  
6 decay heat considerations for that fuel is extraordinarily  
7 or very, very low.

8 The water that that fuel sits in is not for  
9 decay heat considerations, but for radiation protection  
10 for the workers that we have in that facility, just to  
11 minimize their exposure and the dose that they might  
12 receive in working with that fuel.

13 So to summarize, if a seismic event occurred  
14 and there was a leak, we would have about 10 days to react  
15 to that leak before any fuel was exposed. Even if the  
16 fuel was exposed, I would not anticipate that it would be  
17 damaged in any way, shape, or form, because, again, it is  
18 shipped to us in a dry condition.

19 But we would respond within that 10-day period  
20 to refill that pool to keep the radiation levels in that  
21 facility at as low a level as we possibly could.

22 MR. BADER: Have you done any emergency  
23 response drills with regard to the pool to practice how  
24 you would get equipment and people there to --

25 MR. DOHSE: Specific drills involving that, no,

1 we have not, because in my estimation, 10 days gives us  
2 adequate time in order to respond to that.

3 There are plenty of other drills on the site  
4 that we would run ahead of that one.

5 DR. WINOKUR: Well, do you have a plan in place  
6 for how you would refill --

7 MR. DOHSE: Oh, absolutely. Yes, sir. We have  
8 a plan in place, and we have identified the sources of the  
9 water. We've got three seismically qualified tanks that  
10 we would look to initially. Each of those three tanks  
11 holds over half a million gallons of water.

12 So there is a plan in place. The exercising of  
13 that plan is not something that's -- that we've done.

14 DR. WINOKUR: And the tanks are seismically  
15 qualified?

16 MR. BADER: Peter, one comment.

17 DR. WINOKUR: Yeah.

18 MR. DOHSE: Yes, sir. That's correct.

19 DR. WINOKUR: Okay.

20 MR. BADER: Do you include things like an  
21 emergency pump that you can bring in, portable pump?

22 MR. DOHSE: My first choice would be to use the  
23 fire department pumpers as the pump, but we would also --  
24 now, again, I have 10 days, and I know that that first 10  
25 days those firemen are going to be very, very busy. I

1 understand that.

2 But, yes, I would look for an emergency pump,  
3 and we do have those available also.

4 MR. BADER: Okay.

5 DR. WINOKUR: Dr. Mansfield?

6 DR. MANSFIELD: I was just going to reinforce  
7 that comment. There's a lot of competition for resources,  
8 perhaps even off-site.

9 MR. DOHSE: Yes, sir. That is correct.

10 DR. MANSFIELD: And an exercise is the only  
11 way, I believe, to satisfy yourself that conflicting  
12 requirements for trucking water, for instance, can be  
13 satisfied for the worst case of all the users after a  
14 seismic event.

15 MR. DOHSE: I accept your comment, sir, and  
16 we'll look into the opportunity to do that.

17 DR. MANSFIELD: That's all I had, sir.

18 MR. BADER: I think you might find that some of  
19 those resources that you expect to be sitting there, if it  
20 was really that large an accident, might be borrowed by  
21 other people, and they might forget to return them.

22 MR. DOHSE: Thank you, sir.

23 DR. WINOKUR: Dr. Mansfield.

24 DR. MANSFIELD: Mr. Chairman.

25 I want to -- my questions are about site-wide

1 blackout. The length of a site-wide blackout isn't very  
2 accurately predictable for large earthquakes.

3           Granted you've got a mature distribution  
4 system, et cetera, but you can have lots of outages  
5 everywhere, and it's not clear to me that you should be  
6 very optimistic about getting power back.

7           What are the big impacts if you have a long  
8 site-wide blackout -- the impacts that you have to guard  
9 against?

10           MR. MIKOLANIS: Let me take a -- Dr. Mansfield,  
11 let me take the first cut at that, and then I'll invite  
12 any of the panel members to add on as necessary.

13           Primarily the facilities of Savannah River  
14 don't require active power to achieve and maintain a safe  
15 state. There are exceptions. For example, the ventilation  
16 systems for the high-level waste tanks.

17           Where those are needed, we have  
18 seismically qualified -- we have generators and fans,  
19 portable fans as well as connections that are stored in a  
20 seismically qualified building so that it won't collapse  
21 during an earthquake to fall upon it.

22           For equipment such as the Defense Waste  
23 Processing Facility, the ventilation system, which is  
24 relied upon to protect the colocated worker, we have  
25 safety-significant diesel generators that have a four-day



1 supply of diesel fuel oil on the site in a -- in a -- in a  
2 -- tanks and a transfer system that are qualified to  
3 withstand the design-basis earthquake.

4           The Canyon also requires -- for the most part  
5 it's purge -- these systems are needed either to run  
6 ventilation systems if they're being relied upon, or for  
7 purge systems to purge process vessels where the decay of  
8 radioactive liquids will disassociate -- will cause  
9 radiolysis of the water into oxygen and a flammable gas,  
10 hydrogen.

11           At the Defense Waste Processing Facility,  
12 that's accomplished by a nonsafety-related compressor that  
13 supplies the air, and if the earthquake damages that, we  
14 have a safety-class grade nitrogen system with a four-day  
15 supply of nitrogen there as well.

16           Within the Canyon the process -- the purge air  
17 is only needed for a very short time until they're  
18 started, and there's a safety-related diesel generator and  
19 a system to be able to supply that as well.

20           DR. MANSFIELD: And their fuel tanks are  
21 seismically qualified?

22           MR. MIKOLANIS: The fuel tanks for the Defense  
23 Waste Processing Facility are seismically qualified.  
24 The -- I don't recall for -- can I get some help possibly  
25 with -- I'll have to go and look up the -- what the

1 classification is for the supplies for H-Canyon.

2 My background before coming here was in waste  
3 disposition. As the Acting Chief I'm learning these other  
4 facilities, but my -- if any of the other panel members  
5 know, I'd invite that --

6 MR. DOHSE: H-Canyon's diesel providing power  
7 to the exhaust fans is seismically qualified, as well as  
8 its supply tank.

9 DR. MANSFIELD: Okay. That's all I had, Mr.  
10 Chairman.

11 DR. WINOKUR: Mr. Dwyer?

12 MR. DWYER: I guess the thing I'd like to go  
13 back to is for the site emergency drills and exercises.  
14 We talked briefly about tritium. Your seismic drill  
15 includes the subsequent fire basically across the site, so  
16 maybe, Mike [Michael Mikolanis], you might want to start  
17 with this one.

18 How many site emergency drills or exercises  
19 include some natural phenomena aspect?

20 MR. MIKOLANIS: Actually I'm going to ask Mr.  
21 Reynolds to answer that. He's got more of a detailed  
22 knowledge of that than I do.

23 MR. REYNOLDS: From a site-wide basis -- and  
24 Mark [Mark Sautman] mentioned this in his opening remarks,  
25 as well -- I'm just going back in time to give you some

1 examples.

2           Every year we go and prepare for hurricanes, so  
3 we go through a hurricane drills. This March or last  
4 March we did have a shelter drill in F-area that include  
5 sheltering the contractors, both the F and H Laboratory  
6 there, as well the F Tank Farm folks participated in that,  
7 and others. As I go back in time, we do a lot of those  
8 types of drills every year.

9           As far as other areas on seismic drills, Lee  
10 [Lee Schifer] mentioned what was happening in the Tritium  
11 Facilities. We're doing a similar effort in the H Tank  
12 Farm, going through their drill program. Again, those  
13 have started off in the last several months, so we're  
14 coming up to speed.

15           So we're in that process of learning and going  
16 -- doing these seismic drills as we currently are talking.

17           In the past, Mark [Mark Sautman] mentioned one of the  
18 major drills was back in 2002. I know that was a while  
19 back, but that was significant. That was a three-day  
20 drill called a joint venture.

21           We spent a lot of time, over 800 folks  
22 participated in part of that drill. They had three days  
23 of both off-site interaction with Federal Radiological  
24 Monitoring and Assessment Center, headquarters out at  
25 Graniteville, South Carolina, and also did recovery

1 planning and actions and implementation on-site with the  
2 high-level Tank Farm.

3 So we have practiced that -- those drills. And  
4 I believe the other big participant would be high-level  
5 waste, and Wyatt Clark can give some examples, if you'd  
6 like.

7 MR. MIKOLANIS: If I could, before Mr. Clark --  
8 we could submit, Mr. Dwyer, for the record, some of the  
9 information I'm about to summarize here, but your question  
10 was how -- if I understood it -- how many times or how  
11 frequently have we exercised at a site level the  
12 seismic- or NPH-type drill.

13 As I mentioned in the opening remarks, the --  
14 and you may be wondering a little bit why the Chief  
15 Engineer's talking about emergency preparedness. And I  
16 own the operations part, which would include the  
17 operations facility level drills, as opposed to Mr.  
18 Reynolds, who manages the command and control above the  
19 facility level. That's why we're passing the microphone  
20 back and forth a little bit here.

21 The command and control -- we may not be  
22 exercising the command and control at the site level as  
23 frequently, but at the facility level, where the actions  
24 need to be taken and the facilities need to be put in a  
25 safe condition, I can assure you that those -- that some

1 of those drills are being performed.

2 And as I mentioned in the opening remarks, we  
3 need to be more consistent about how many of those we're  
4 running in a year, how we're simulating nearby facilities  
5 releasing a plume.

6 So the better answer to that we'll probably be  
7 providing you for the written record how many NPH drills  
8 we've run in some of the facilities in the last year.  
9 Would that be a better answer for what you're asking?

10 MR. DWYER: That's along the lines, but let me  
11 get a little bit more specific.

12 For example, Mr. Reynolds, you mentioned  
13 shelter-in-place drills at F and H Lab. So is that the  
14 extent of the drill? You said, "All right, let's declare  
15 a tornado watch, everybody shelters in place." That's the  
16 end of the drill? Or did we actually say, "Tornado  
17 strikes this facility, damage as follows, response is as  
18 follows, recovery is as follows."

19 There's a difference between -- I mean, we've  
20 all had the annual shelter-in-place drill at headquarters  
21 where you all go outside to the rally point, and that's  
22 the extent of the exercise. We're talking about something  
23 else here.

24 MR. REYNOLDS: Right. In that particular  
25 example, that's what that was, is a shelter in place. The

1 one I mentioned back in 2002 was the one that we did what  
2 you just asked for, and that was the actual response to  
3 the event.

4           There was a high-level waste release. It was  
5 both ground and plume release. We took actions on that to  
6 mitigate that, and then we did go into recovery plan for  
7 three days' worth of drill.

8           MR. DWYER: Okay. And so 2002 is recognized as  
9 that was an extensive effort; as I recall, three days of  
10 considered exercise.

11           Is there something similar to that planned in  
12 the near future?

13           MR. REYNOLDS: As far as our plans in the near  
14 future for NPH-type events, what we have is the collective  
15 efforts that you've been hearing. Lee [Lee Schifer]  
16 started. We've done similar drills in H-Area.

17           Wyatt Clark has done similar drills in H Tank  
18 Farm. And so we're just starting with that process  
19 through the ISMS, learning about the earthquake, learning  
20 about how those programs are handling that natural  
21 phenomena hazard, and we plan on later this calendar year  
22 to get together and learn those lessons collectively from  
23 each other and factor that into the program as well.

24           MR. MIKOLANIS: Mr. Sautman indicated, you  
25 know, we've had a recent uptick in some of the tempo. I

1 would like to ask Mr. Clark, who's chomping at the bit  
2 over here a bit, to discuss some of the seismic -- or some  
3 of the NPH-related drills that we have run in the Tank  
4 Farms recently, and please include some of the --

5 DR. WINOKUR: Let me point out, before you go  
6 too much further, 2002 was a decade ago.

7 MR. MIKOLANIS: Yes.

8 DR. WINOKUR: I mean, it's certainly not  
9 something you'd want to hang your hat on -- right?

10 MR. MIKOLANKIS: No.

11 DR. WINOKUR: -- in terms of your ability to  
12 respond to anything. That would be true? I mean, I just  
13 want to be frank about it. That's a long time ago.

14 MR. MIKOLANIS: For exercising the site-level  
15 command and control, the 2002 not only exercised the site  
16 level, it also exercised the external connections. Yes,  
17 sir. But we have run NPH type events within the  
18 facilities to ensure that the facility workers, the  
19 operators, understand what to do following an NPH-event,  
20 and I can -- we will submit something for the record if  
21 you wish, but Mr. Clark can outline some of what we've  
22 done more recently than ten years ago.

23 DR. WINOKUR: Well, let's continue the  
24 discussion. I think you're giving us information which is  
25 good, but in the end the question I'll have for you is

1 just how comfortable you feel right now about the ability  
2 of the site to respond to a very significant emergency.

3 We've seen in the press tornadoes and the kinds  
4 of things that can happen. I mean, they're really  
5 devastating and shocking. And it's my gut sense that this  
6 is very difficult to do, what we're talking about here,  
7 especially at a site this complex.

8 But in the end I'll certainly be interested in  
9 getting a sense of just where you think you are in this  
10 process right now.

11 MR. CLARK: Chairman Winokur, if you would,  
12 the -- your comment about 2002 being a decade ago, from a  
13 response perspective, that's very factual.

14 I had the privilege of being the TSR [Technical  
15 Safety Requirement] coordinator during that drill, and I  
16 can tell you that the learning that you gain, not only the  
17 fact that my plant was the contributor of multiple  
18 releases, injuries, contaminated resources, et cetera, but  
19 our recovery effort, we worked through turnover in that  
20 drill; we did recovery.

21 We reworked our recovery program as a result of  
22 that. I'll tell you that that learning process has  
23 continued to be passed along and incorporated. I still am  
24 a TSR coordinator, so that gives you a feel from that  
25 process.



1           Your site rep is very active, and he is very  
2 much involved in oversight and encouraging us in areas  
3 where we've got some opportunity to grow.

4           I stated in the last session that we really do  
5 embrace the ISM, and part of that's continuous  
6 improvement. The fact is there were some areas we could  
7 improve on as it relates to SRR and the high-level waste  
8 program.

9           As a result of that, we became very active in  
10 not only developing drills that we needed to, focusing in  
11 two areas; one being cell-oriented, so that we could put  
12 our cells together and build a bigger drill future --  
13 thinking to the future; but also thinking about  
14 portability.

15           Historically our drills have been somewhat  
16 focal-oriented in a given area: the event would occur  
17 here. We began building a more generic drill set so that  
18 we could then move that drill around, have that event  
19 occur in many areas, and then challenge the workforce  
20 accordingly.

21           We focused on ventilation deployment. As we  
22 talked about previously, ventilation is an important  
23 aspect. Even in the blackout scenario, we rely on  
24 ventilation.

25           We developed that scenario, and then we worked

1 through all of the deployment shifts and now that is a  
2 quarterly drill for us, so we resurrected the importance  
3 of that effort, recognizing the significance.

4 Control room evacuation: our control rooms are  
5 not designed to withstand a full earthquake. We expect  
6 that they may be, but we plan for them not to be there.  
7 Therefore we deploy away from the control room and we take  
8 the actions accordingly.

9 We took and developed drills that not only  
10 moved us out of the control room, did a full evacuation,  
11 but handled the operations at an increased tempo that we  
12 had to, to do do to shutdown, and we added to that some  
13 additional difficulties; i.e., we took away phone and cell  
14 phone, so all we had to really to use was a radio.

15 I will tell you that we are learning as we go  
16 through. Since 2010, if I went back and looked at those  
17 cell-related drills, thinking in terms of high wind,  
18 tornado, seismic event, deployment of ventilation,  
19 evacuation, in the Tank Farms, DWPF, and Saltstone, we've  
20 run 26 drills.

21 I'll also tell you that as part of our effort  
22 to integrate and position ourselves to be more efficient  
23 with our resources, making sure that we can use our people  
24 efficiently, we've begun to move functional  
25 responsibilities to incorporate drill response across the

1 facilities.

2 More specifically, in the area of F and H Tank  
3 Farm, we now respond to one facility with resources out of  
4 the other, and we drill that.

5 In fact, the nine high-wind events included OSC  
6 [Operations Support Center] activation in an opposite -- I  
7 should say a significant portion of those used the  
8 resources from another facility to respond in order to be  
9 able to ensure that we had the ability to move those  
10 resources back and forth.

11 So to your answer, sir, 26 of what we've worked  
12 through that period; a lot of that as a result of the  
13 improvement process that we've been encouraged to look at.

14 DR. WINOKUR: All right. Mr. Bader, Mr.  
15 Mansfield, and we know you're still asking questions, Mr.  
16 Dwyer.

17 MR. BADER: Have you taken the Mixed Oxide  
18 Facility into account? Do they participate in these?

19 MR. CLARK: As it relates to the Tank Farm  
20 facility, no, we have not, sir.

21 MR. BADER: Have you -- when you look at --  
22 when you do these drills and you talk about taking  
23 resources from other people, does that include NNSA-  
24 controlled facilities?

25 MR. CLARK: Our resources to date have only

1 moved resources within the SRR organization.

2 MR. BADER: Don't you think when you're  
3 drilling on a site-wide event that you should include all  
4 site-wide facilities under one operating control?

5 MR. CLARK: I should back up and give you a  
6 little more information on that, Mr. Bader. The 2002  
7 event, that was fully site-wide. We did --

8 MR. BADER: But you've changed -- if you look  
9 at the contractors that are sitting there present with you  
10 today, they weren't here then.

11 MR. CLARK: I concur, sir. So as it relates to  
12 the drills we've run, they have been very cell-oriented,  
13 focused on those specific areas with an objective of  
14 growing them larger.

15 MR. MIKOLANIS: The facility drills that Mr.  
16 Clark is talking about are the building blocks of the  
17 emergency preparedness. The functions you're talking  
18 about that would cross between the contractors, that's the  
19 emergency response organization, and the Chairman asked me  
20 a question -- I guess we're going to get to it now -- of  
21 why is DOE comfortable that we have the capability to  
22 respond to that.

23 My comfort level -- and I'm also a qualified  
24 member of the emergency response organization, the  
25 technical support room -- my comfort level resides in the

1 fact that when we do run these drills, the command room,  
2 which is supported then by a technical support room and  
3 others, has them -- we demonstrate the ability to go  
4 coordinate, bringing in materials from other facilities  
5 for a single-facility event. I agree with -- I concede  
6 that point.

7           What we need to work on, an area that we've  
8 discussed internally and -- and is to make sure that we've  
9 got the logistics in place -- if we have a multiple event,  
10 it's the same operation; you just need another technical  
11 support room to be able to support the second facility and  
12 what actions are going on in there.

13           We have the space in the emergency operations  
14 center. We have the capabilities to do that. We do need  
15 to test that and actually exercise it to make sure we've  
16 got the books and the manuals and the procedures for them  
17 to use, but we need to test to make sure do we have the  
18 communications for that, and that is an area that our  
19 emergency response organization is looking at, as I  
20 mentioned during my opening remarks, as an area for  
21 continuous improvement.

22           That would not change the policy -- or would  
23 not be a policy-setting action to do something like that.

24           DR. WINOKUR: All right. Last comment. We  
25 have a question then from Dr. Mansfield.

1           You had one more thing you wanted to say, or  
2 something to add?

3           DR. MANSFIELD: You mentioned that you have  
4 portable emergency power for ventilation equipment. I  
5 suppose that means it's the Tank Farms.

6           MR. CLARK: Yes.

7           DR. MANSFIELD: If you have a multi-day loss of  
8 off-site power, you would power that with, what, portable  
9 generators?

10          MR. CLARK: The portable ventilation system  
11 is -- it does have portable generators.

12          DR. MANSFIELD: Portable generators. And are  
13 they gasoline or diesel?

14          MR. CLARK: They're gasoline.

15          DR. MANSFIELD: And do you have a seismically  
16 qualified gasoline fuel storage?

17          MR. CLARK: No, sir. The position that we took  
18 was that gasoline would be fairly readily available in the  
19 vehicles, so we actually staged equipment to be able to  
20 remove it from vehicles in order to fuel those generators.

21          DR. MANSFIELD: Okay. So you've got to have  
22 safety class siphons or something.

23          MR. CLARK: Well --

24          DR. MANSFIELD: No.

25          MR. CLARK: -- well, the siphoning equipment is

1 staged with the equipment and protective --

2 DR. MANSFIELD: Staged and everybody knows  
3 where it is.

4 MR. CLARK: That is correct.

5 DR. MANSFIELD: And it's compatible with modern  
6 emission-controlled fueling orifices?

7 MR. CLARK: We have -- we've looked at that,  
8 sir, and we feel like for the period of time we'd run it,  
9 it would be adequate, sir.

10 DR. WINOKUR: Is this the approach you want to  
11 use, to siphon gasoline from cars?

12 MR. CLARK: When we evaluated the option of  
13 staging gas and having gas there, working through it,  
14 making sure we don't have aged gas, changing out, et  
15 cetera, we thought that, given the availability of  
16 gasoline, given the number of vehicles there, as well as  
17 the potential to use gasoline at the site, we felt like  
18 staging the equipment to do that would ensure us the  
19 opportunity and the availability of the material.

20 So, yes, sir, that is what we chose to do.

21 DR. WINOKUR: Mr. Freshwater, let me engage  
22 you. We've been leaving you alone. You look kind of  
23 lonely down there. You're looking at this thing more DOE-  
24 wide. Right?

25 MR. FRESHWATER: Yes, sir.

1 DR. WINOKUR: Could you have any other  
2 solutions for how to get gas to those pumps, aside from  
3 siphoning them out of cars? Any sense of what other  
4 people in the Department are doing?

5 MR. FRESHWATER: Well, sir, the first part of  
6 that answer would be the site has mutual aid agreements  
7 with the off-site people. You have to consider what the  
8 event is and what the actual damage was done to the entire  
9 surrounding community. It's difficult to predict those in  
10 any situation.

11 What you do is you get then into a response  
12 that will really involve the national response framework,  
13 the national program to respond to an event, that we've  
14 seen with the tornadoes more recently in the country, all  
15 the way back through the national response framework  
16 generated after Hurricane Katrina.

17 Savannah River has the ability to contact us  
18 out through their -- in addition to their other  
19 communication systems. They're a node on the Emergency  
20 Communications Network [ECN] that DOE has. That  
21 connection is a landline connection, so there are certain  
22 situations where that connection would be vulnerable to  
23 being severed in a severe NPH event.

24 DOE does have the ability to deploy an ECN node  
25 down to here. The equipment was used in Japan to support



1 our folks that were over there in Japan. It was equipment  
2 that we used during Katrina to bring the Strategic  
3 Petroleum Reserve back up in the Department.

4           Once you get those -- once you get  
5 communications back to us and we can get something down  
6 here, depending on what the infrastructure damage is,  
7 within about 24 hours, feeding the information back up to  
8 the headquarters allows us at the national level to start  
9 doing the influence at the national level to get them  
10 materials that they need, and if they've got the list of  
11 materials, that's part of the battle, to then start  
12 prioritizing those and getting the logistics pushed down  
13 into them.

14           DR. WINOKUR: All right. I'd be anxious to  
15 learn more about DOE's policies and directives and guides  
16 on siphoning gas from cars, but I guess -- I guess you'll  
17 give that to me later.

18           I would hope there might be a different  
19 solution. It's very, you know, it's very practical and  
20 pragmatic, but -- and maybe there are other things you can  
21 think about. I would just encourage you to do that, and  
22 see if there's something else you'd like to consider.

23           You want to comment? It does surprise me a  
24 little bit.

25           MR. MIKOLANIS: Yes, sir. I actually would

1 like to comment on that. If I was given the choice of  
2 spending several hundred thousand dollars or more and  
3 putting together a seismically qualified gasoline tank and  
4 then all of the attendant maintenance and surveillance  
5 requirements that would be associated with such, to make  
6 sure the gas remains fresh, et cetera, you need to do that  
7 kind of work for a diesel generator supplying emergency  
8 power to an entire facility.

9           When you're talking about these portable  
10 generators that have the capacity of, I don't know, half a  
11 gallon, a gallon or so -- they're typical of what you  
12 might pick up at Lowe's, but -- I would much rather spend  
13 that several hundred dollars plus the operating cost  
14 accelerating getting waste out of a tank when I have a  
15 readily supply of gasoline out in all the parking lots  
16 right around these facilities.

17           That makes a whole lot more common sense --  
18 it's a simplified solution rather than a complicated  
19 engineering solution, that frankly made sense to me.

20           DR. WINOKUR: Okay.

21           Mr. Dwyer, I think you're -- you're still up --  
22 do you still have some questions?

23           MR. DWYER: Yes, sir.

24           I guess the other part that I'd be interested  
25 in -- Mr. Bader briefly touched on in involving multiple

1 contractors. Is there any drive on the part of the DOE  
2 office to -- to foster any exercises that include multiple  
3 contractors?

4 MR. MIKOLANIS: At this point in time, there  
5 are no plans to run a site-level drill that would exercise  
6 the command and control functions between multiple  
7 contractors or multiple facilities beyond what we do  
8 already with the multiple contractors, if you will  
9 consider the security forces as well as the operating  
10 contractors of a particular facility.

11 We do exercise the command and control of  
12 multiple contractors in that respect, but I believe, Mr.  
13 Dwyer, your comment is more -- your question is more  
14 directed to multiple contractors that are operating  
15 facilities rather than the safeguards and security as a --

16 MR. DWYER: Correct.

17 MR. MIKOLANIS: -- as a second contract.

18 And we are working with -- and we are watching  
19 NA-40 [Associate Administrator for Emergency Operations]  
20 as they follow up to the Fukushima beyond-design-basis  
21 event data request that HSS is leading. NA-40 has the  
22 point of looking at the data there and determining whether  
23 there is going to be a policy change on doing multiple  
24 facilities and drilling on a multiple-facility or --  
25 contractor basis.

1           But until such a decision is made, we are -- we  
2 don't have any plans currently to go do something like  
3 that.

4           MR. DWYER: And how about across multiple DOE  
5 offices? We have NNSA and EM.

6           MR. HALL: The NNSA is a part of the  
7 Consolidated Emergency Response Framework for the site, so  
8 the NNSA officials on our staff are trained and qualified  
9 to the one SRS emergency response organization.

10           When the F-area drill was conducted last year,  
11 the Mix Oxide Fuel Facility played in that drill and  
12 sheltered in place, were associated with that.

13           We run on an area emergency coordinator,  
14 facility emergency coordinator concept, so for H-Area,  
15 even though the Tritium Facilities are in NNSA facilities,  
16 they would have a facility emergency coordinator who would  
17 be -- answer to the area emergency coordinator for H-Area,  
18 which happens to be H. Canyon.

19           So even though I've got DOE and NNSA facilities  
20 colocated different DOE management, I've got a single  
21 Savannah River Site emergency response structure, and our  
22 contractors -- contractors for those facilities are  
23 integrated through the overall emergency response  
24 organization we run with area emergency coordinators, and  
25 at the facility level we have facility emergency

1 coordinators.

2 MR. DWYER: Okay. And just -- you mentioned  
3 the Mixed Oxide Facility. So just briefly, 235-F is in  
4 proximity to the MOX Facility. In its existence it poses  
5 a hazard. Is there -- I know I'm a little bit off-subject  
6 here.

7 Is there any intent to do something about  
8 trying to reduce the risk, the static risk represented by  
9 that facility?

10 MR. DOHSE: The plan is being put in place --  
11 and just a little history, real quickly. The most -- the  
12 biggest vulnerability associated with 235-F was the stack  
13 that was located very close to that building, which in a  
14 seismic or perhaps a wind -- high-wind event, could  
15 collapse onto the building and create -- be the initiator  
16 for a follow-on event that could result in a release of  
17 some of that material.

18 That stack was removed with Recovery Act  
19 funding, done sometime in the past year, year and a half.  
20 So --

21 MR. DWYER: I'm sorry. Removed? Or the height  
22 was reduced?

23 MR. DOHSE: Reduced. I apologize. Removed  
24 from being capable of being the initiator because the  
25 height was lowered to a point that if the remainder of the

1 stack fell, it could not reach the building.

2 So the biggest problem associated with 235-F  
3 has been addressed and eliminated.

4 Now, still the question is out there: "What  
5 now do you do with the remainder of the building?" And it  
6 is the intent -- and perhaps Michael [Mikolanis] can  
7 address this a little further -- to try and put a funding  
8 line in the 2013 budget to go address the material that's  
9 held up in that facility and to eliminate that risk.

10 MR. MIKOLANIS: There were also two other  
11 measures taken to minimize the consequence that would  
12 occur. Mr. Dohse mentioned the stack height reduction.  
13 There was a also a movement of monitoring instrumentation  
14 to the manned control room so that the instrumentation  
15 within the facility that is active is now monitored within  
16 the F-area -- within an F-area control room that is  
17 manned, as well as the combustible material -- the  
18 deinventorying that I mentioned earlier.

19 There is a mark -- we have put a placeholder in  
20 the budget request for FY13 to be able to go and  
21 deinventory those hot cells. The hot cells that we talked  
22 about have 90 percent of the material-at-risk of, the  
23 plutonium-238. There is -- we do have a mark for that,  
24 and frankly, if the budgets don't work out, we would put  
25 it in the '14, the '15, whenever in the money would be

1 available.

2 We consider that to be a significant risk, and  
3 we'll continue to try and seek the money to remediate that  
4 risk.

5 MR. DWYER: So, Mr. Mikolanis, I understood  
6 that to be that you intend to promote it into the budget,  
7 but it's competing against the other priorities in the  
8 budget.

9 Are you optimistic that it's going to appear,  
10 or are you not sure? How far are you willing to commit  
11 here?

12 MR. MIKOLANIS: Well, committing to what  
13 Congress does? No, sir, I'm not going to extend my  
14 credibility that far.

15 MR. DWYER: That's not what I was asking.

16 MR. MIKOLANIS: I know, but what I am  
17 committing -- we have done, the hazard analysis for -- and  
18 the safety basis for the facility as is has a unmitigated  
19 consequence of significant, and there are no safety-  
20 related measures in place to go reduce that hazard to the  
21 worker.

22 The upgraded basis for interim operations, the  
23 new DSA that is coming out, makes those controls that I  
24 talked about -- the movement of the control -- the  
25 combustible material removal, that is now a safety-related

1 program. It's not implemented yet, but we've already --  
2 it's not implemented in the DSA, but we've already  
3 implemented that control in the facility to reduce those  
4 hazards.

5 The plutonium is released by a full-facility  
6 fire following that, and we've reduced the likelihood of  
7 such an event occurring, should the earthquake occur, and  
8 that's the best that we can do until those funds do become  
9 available.

10 DR. WINOKUR: All right.

11 MR. DWYER: Okay. Yes sir.

12 DR. WINOKUR: Are you done? Mr. Bader?

13 MR. BADER: Just pursuing the whole thrust of  
14 an integrated site response, have you considered in any of  
15 your recent drills or tabletop exercises the needs and the  
16 competencies available in the local communities and the  
17 fact that you're going to need to consider them if there  
18 is an NPH event that involves the entire site? -- because  
19 it's going to involve them also.

20 MR. MIKOLANIS: Is your question in terms of  
21 whether we would need theirs or whether we would be  
22 supplying the community?

23 MR. BADER: Yeah. I mean, have you just -- have  
24 you worked with the surrounding community to look at  
25 the --



1           MR. MIKOLANIS: Do you want to handle that? Go  
2 ahead, Mr. Reynolds.

3           MR. BADER: -- the competing requirements.

4           MR. MIKOLANIS: Yes. We have considered that.  
5 Mr. Reynolds?

6           MR. BADER: I mean that's where your people  
7 live.

8           MR. REYNOLDS: Right. From a competing  
9 requirements, we prioritize those as life safety first, so  
10 there would be that consideration, dependent on what the  
11 then is. We've had several mutual aid responses.

12                     Graniteville, South Carolina, happened in  
13 January 2005. We were the first responders on site. We  
14 took four of our firefighters. They were in the hazmat  
15 team, and actually saved a person from that situation,  
16 which happened to be at that time a chlorine spill on a  
17 tanker derailment.

18                     So we do participate in the community quite  
19 often, and they've also helped us. When our ladder truck  
20 goes down, they provide their ladder truck in reserve, and  
21 they know that we may be calling on their services, so it  
22 works both ways for us.

23           MR. BADER: Yeah. You've done this in specific  
24 circumstances, and I'm well aware of that, and it's  
25 commendable. What I'm considering here is something where

1 the site is involved in something like a seismic event.  
2 It's going to be impacting them, too, and you're going to  
3 have the same demands for help from them, and there's also  
4 some resources there.

5 So it would seem to me to make sense that you  
6 should be looking at a broader picture than just the site,  
7 and that's the question I'm asking.

8 MR. REYNOLDS: I understand the question. We  
9 don't have any plans for that magnitude. However, just so  
10 we know, in each one of our exercises, we involved places  
11 like the hospitals, as an example, and they practice on  
12 helping us go through the decontamination and physical  
13 needs that the hospital provides our people, so we  
14 practice with them. We practiced last June 8, as an  
15 example, going off-site with that.

16 But if I'm understanding the question, to a  
17 larger magnitude, we have not.

18 MR. MIKOLANIS: And, Mr. Bader, I'll take an  
19 action for the record, too. I don't know the answer to  
20 your question as to the extent that planning has been done  
21 to that. I will take an action to go out, find the answer  
22 to what has been done, planning, and if there are any  
23 plans to do such a planning effort.

24 MR. BADER: Yeah, Mike [Michael Mikolanis],  
25 because it goes to the safety of the site, because you're

1 going to have demands to help people if there's a site-  
2 wide event like a massive tornado or a seismic event that  
3 goes into the neighboring communities, more than likely.

4 MR. EDWARDS: If I could just add, with respect  
5 to involving the community, there is a local area planning  
6 commission that Savannah River Site participates in both  
7 the federal side as well as the contractors, and that does  
8 discuss the local responses in the area, the capabilities.

9 There is established protocols for mutual aid  
10 between the two. With respect to your question about  
11 everyone getting stressed, we recognize that that is  
12 something that's going to happen. That's why Savannah  
13 River Site principally would take care of Savannah River,  
14 initially.

15 We would, of course, provide any assistance  
16 off-site we could provide until the national response  
17 capability were to kick in. Those national resources  
18 would then come in and take care of the area outside of  
19 the Savannah River Site.

20 MR. BADER: Okay.

21 DR. WINOKUR: So let me ask: What do you have  
22 planned now? We've had a good discussion. What do you  
23 have planned in the next six months, year? What do you --  
24 what kind of exercises do you think you're going to be  
25 able to do?

1           MR. EDWARDS:  It's a part of -- and several  
2 people have touched on it in here.  A part of our process  
3 for anything that we do is the crawl, walk, run.

4           We readily admit that our exercise program, to  
5 this point, has been principally centered around  
6 individual facilities.  We are starting the process of  
7 expanding that to include multiple facilities involved in  
8 one event.

9           The liquid waste program, as already testified,  
10 is well along the way to that process.  The Tritium  
11 Facilities are well along the way to that process.  The  
12 next area of focus for SRNS is the H-Area, specifically  
13 nuclear materials facilities.

14           That will start with an area NPH tabletop  
15 exercise as a part of the crawl.  They are in the process  
16 of developing that tabletop exercise.  That tabletop will  
17 then go through a coached exercise, as Mr. Schifer  
18 discussed, followed by an actual graded exercise.

19           But we are in the early phases of the  
20 development of that.

21           DR. WINOKUR:  So you're going to be doing  
22 tabletops, which to me sounds like a very good idea.  And  
23 that's a tool you'll definitely be using.  Right?

24           MR. EDWARDS:  Yes, sir.  That's the first step,  
25 is the development of the exercise scenario, followed by a

1 tabletop in the coaching/learning phase.

2 DR. WINOKUR: My experience in life is that  
3 whenever these emergencies occur, nobody really planned to  
4 respond to them appropriately. Believe me, I think it's a  
5 very, very challenging -- and the reason I'm kind of  
6 discussing it here is that I think this is a very complex  
7 site, and it's going to be extremely challenging for you  
8 guys, with all these different facilities and hazards, to  
9 coordinate a response when there's something that really  
10 is site-wide and community-wide and you have to respond to  
11 it.

12 And I think Fukushima and other places, you  
13 know, teach you that. Things never do work out the way  
14 you think, so it's worth a lot of time.

15 MR. EDWARDS: Yes, sir. Let him respond to  
16 that.

17 DR. WINOKUR: Maybe that didn't require a  
18 response, just the same.

19 MR. EDWARDS: But I do want to touch that  
20 briefly. We do agree that it would be challenging. As a  
21 part of the lessons learned that are coming out of  
22 Fukushima, as we're walking through the areas, we  
23 recognize that the areas first will be the initial  
24 response. So, we're trying to ensure that anything that  
25 the area needs to respond for itself is taken care of

1 first.

2           So you mentioned the L-Basin. Mr. Dohse talked  
3 about the fire trucks. Another one of the actions that  
4 they're also looking at is the placement staging of  
5 emergency pumps that could be used, in full recognition  
6 that the fire department may not be available to respond  
7 to those events.

8           So as the lessons learned from Fukushima come  
9 out and we continue to walk through the individual  
10 facilities, as well as our emergency response facilities,  
11 we're trying to determine what improvements we need to  
12 make to better position ourselves to be able to: one, have  
13 the trained and qualified folks in the facilities take  
14 care of their own; two, improve our command and control  
15 structure so that we can respond to those individual  
16 facilities when their needs are exceeded by their  
17 capabilities.

18           DR. WINOKUR: Dr. Mansfield?

19           DR. MANSFIELD: I just want to point out that  
20 there were probably mutual aid agreements between  
21 communities at Fukushima, and it would be interesting to  
22 find out if they were effective at all.

23           MR. EDWARDS: Good point.

24           DR. WINOKUR: One additional question I have,  
25 and maybe we'll have a few more to follow up on those, is

1 in terms of the fire department folks and the emergency  
2 response personnel, are you maintaining those staffs, are  
3 you growing those staffs, are they increasing? -- because  
4 I do think that the -- you know, right now I think these  
5 things do require more attention.

6 Is that your sense of things, Mr. Mikolanis,  
7 that you're going to be able to, you know, work with the  
8 contractors to ensure that you've got the appropriate fire  
9 support, you've got the appropriate emergency planning  
10 people to help you with this?

11 MR. MIKOLANIS: The short answer to that is,  
12 yes, sir. I do know that Mr. Dohse -- and I'll ask him to  
13 expand on this after a moment, that as we closed some of  
14 the facilities, as we've shrunk some of the footprint, Mr.  
15 Dohse has challenged his organization to look at those  
16 infrastructure and the supporting functions on the  
17 facility to see whether those are right-sized. And the  
18 fire department was one of those.

19 Now, they were working a proposal that they  
20 were going to submit to DOE to see whether there was  
21 appropriate justification to downsize the fire department,  
22 but, yes, we will maintain the appropriate level of fire  
23 department support commensurate with the facilities and  
24 the hazards that we have within them.

25 Mr. Dohse?

1           MR. DOHSE: We just did spend \$1.4 billion of  
2 Recovery Act funds on the site to reduce the site  
3 footprint, and so I asked the question, "Do I need all the  
4 fire stations that we have?"

5           The answer that came back was, "Yes, you do.  
6 In fact, you're undermanned by three firemen. "And so, we  
7 have -- I think two weeks ago -- put out a notice to try  
8 and hire three additional firemen to make up for that  
9 delta where we were understaffed.

10           We were making that up with overtime, but you  
11 can only do that for so long before, you know, you wear  
12 your people out.

13           So the answer to that is, yes, I asked the  
14 question; it was me. And the answer that came back was,  
15 yes. I continue to need the three fire stations and the  
16 firemen at the manning levels that currently exist.

17           In fact, we were below the manning need that  
18 exists, and so we are hiring firemen.

19           DR. WINOKUR: I think you had shared that with  
20 Mr. Flowers when you came back to DC to see us once, so  
21 we're certainly supportive of that. I think you do need  
22 these folks, and they really have to be well trained to  
23 deal with the kinds of emergencies you're going to present  
24 to them.

25           MR. DOHSE: I understand and agree.



1 DR. WINOKUR: Yeah. I have one or two more, but  
2 do other Board Members have questions?

3 And then I'll -- All right. Mr. Bader.

4 MR. BADER: Mr. Reynolds was kind enough to  
5 remind me of a question I meant to ask, and that was on  
6 the hook and ladder truck. I think it was Mr. Reynolds.

7 MR. REYNOLDS: Yes, sir.

8 MR. BADER: Yeah. We've been interested in when  
9 that old machine is going to be replaced. Are there any  
10 plans to get a third new fire truck, namely that one?

11 MR. REYNOLDS: We did have that, also a light  
12 rescue truck and an ambulance, and we have that placed on  
13 the critical infrastructure list and expect that to be  
14 replaced in upcoming years.

15 MR. BADER: Thank you.

16 DR. WINOKUR: I have a question. And that is,  
17 I think in your testimony you talked about -- Mr.  
18 Mikolanis, about really what matters is kind of like the  
19 release mechanism: A fire is a fire, but the initiating  
20 event doesn't.

21 And I would ask you to rethink that a little  
22 bit. You may come up with the same conclusion, but it  
23 seems to me when these major tornadoes and earthquakes and  
24 things happen, that the initiating event really kind of  
25 provides the opening set of variables, constraints,

1 parameters that you're going to be forced to deal with, so  
2 I think a fire following a seismic event is a little more  
3 challenging than just a fire in a facility from  
4 combustibles.

5 Did I misunderstand you, or you want to comment  
6 on that?

7 MR. MIKOLANIS: Yes, sir, I would. No, I would  
8 agree with what you're saying. How we build the drills,  
9 how the -- how a particular facility at a facility level  
10 responds to it, no, it doesn't matter whether a heavy load  
11 fell on a radioactive waste transfer line and broke it  
12 open or if an earthquake shook it and caused the same  
13 breach to occur.

14 When you're starting to integrate and pull  
15 these together across multiple facilities, multiple  
16 contractors, yes, sir, I agree with you; the initiating  
17 event does matter.

18 The initiating event matters when you're  
19 defining the scope of the drill itself, but when you're  
20 actually exercising and implementing it, other than  
21 putting in some of the anomalies such as loss of  
22 communication, such as a plume from a nearby facility, the  
23 initiating event is not as important.

24 But, yes, sir, I did not mean to communicate  
25 it's irrelevant.

1 DR. WINOKUR: I think we're going to have to go  
2 on. We do have a public comment period. I want to thank  
3 you all very much, it's been a very good discussion.  
4 I know there's a few things for the record you're going to  
5 provide to us.

6 I think this site is, like I said several times  
7 already, really worthy of some attention in terms of  
8 emergency preparedness and management, because it is so  
9 complex, with so many different facilities and hazards,  
10 and it would kind of be nice in some ways if you guys  
11 could be the leaders for the complex in terms of how you  
12 do things, so other people could learn.

13 You have different contractors and different  
14 parts of DOE at the site participating, NNSA and EM, so  
15 you kind of have a mix of everything, and I think it's --  
16 it'll be a challenge and an opportunity for growth and for  
17 learning for everybody.

18 And with that, I'll thank you. I'll get these  
19 names right: Mr. Mikolanis, Mr. Dohse, Mr. Clark, Mr.  
20 Freshwater, Mr. Edwards, Mr. Schifer, and Mr. Hall. Hey,  
21 thanks a lot, and we're going to move right to the public  
22 comment period.

23 Thank you.

24 MR. MIKOLANIS: Yes, sir. Thank you.

25 (Pause.)

1 DR. WINOKUR: At this time, per the Board's  
2 practice, and as stated in the *Federal Register* notice, we  
3 welcome comments from interested members of the public.

4 A list of those speakers who have contacted the  
5 Board is posted at the entrance to this room. We have  
6 generally listed the speakers in the order in which they  
7 contacted us or, if possible, when they wished to speak.

8 I will call the speakers in this order and ask  
9 that speakers state their name and title at the beginning  
10 of their presentation.

11 There is also a table at the entrance to this  
12 room with a sign-up sheet for members of the public who  
13 wish to make a presentation but did not have an  
14 opportunity to notify us ahead of time.

15 They will follow those who have already  
16 registered with us, in the order in which they have signed  
17 up.

18 To give everyone wishing to make a presentation  
19 an equal opportunity, we ask that speakers limit their  
20 original presentations to five minutes. The Chair will  
21 then give consideration for additional comments, should  
22 time permit.

23 Presentations should be limited to comments,  
24 technical information, or data concerning the subjects of  
25 this public meeting and hearing. The Board Members may

1 question anyone making a presentation to the extent deemed  
2 appropriate.

3 The first speaker we have is the Mayor of  
4 Augusta, the Honorable Deke Copenhaver. Is the mayor  
5 here?

6 VOICE: He'll be here in about three minutes.

7 DR. WINOKUR: All right. We'll move on to the  
8 second speaker. And the second speaker is Mr. Ben Taylor,  
9 who is with the Honorable Joe Wilson, who's the  
10 Congressman from South Carolina's 2nd District.

11 Mr. Taylor?

12 MR. TAYLOR: Good evening. I welcome -- the  
13 Congressman wishes he could be here but wants to say,  
14 "Thank you all for coming down."

15 I want to welcome the Defense Nuclear  
16 Facilities Safety Board to the Central Savannah River  
17 area, and I'm grateful for this opportunity of dialogue on  
18 issues related to the public health and safety at the  
19 Savannah River Site, SRS, particularly nuclear materials  
20 disposition.

21 Additionally, I'm confident this hearing will  
22 yield more understanding of the unique capabilities at the  
23 site's H-Canyon facility and HB-Line. And I share the  
24 Board's concern over the Department of Energy's, DOE's,  
25 decision to suspend chemical processing at this facility.

1           As we are aware, H-Canyon continues to operate  
2 solvent extraction cycles to purify enriched uranium  
3 solution from dissolved unirradiated highly enriched  
4 uranium and blend down for the Tennessee Valley Authority  
5 [TVA], a limited mission.

6           The bulk of legacy spent fuel resides at the  
7 site's L-Area Basin, which continues to receive DOE-  
8 obligated material.

9           HB-Line is presently processing limited  
10 quantities of plutonium materials, specifically material  
11 that does not meet the mixed oxide, MOX, fuel  
12 specifications.

13           As the Board made clear to the Secretary Chu in  
14 its February 28th letter, the H-Canyon facility, including  
15 HB-Line, has proven to be an effective and valuable asset  
16 for safely processing fissile materials over several  
17 decades.

18           These H-Area facilities are the only active  
19 processing facilities having capability of interest in the  
20 United States and are DOE's only disposition path for  
21 processing these types of excess nuclear material  
22 inventory.

23           This begs the question: If H-Canyon and  
24 HB-Line do not process, what is DOE's disposition path for  
25 the spent fuel and non-MOX-able plutonium?

1           Until DOE demonstrates legitimate alternative  
2 disposition paths for its excess nuclear materials, I  
3 strongly advocate for the ongoing disposition of fissile  
4 materials at the H-Canyon facility.

5           Again, I greatly appreciate the opportunity to  
6 address the Board, and I sincerely thank you for your  
7 continued service.

8           Thank you.

9           DR. WINOKUR: Thank you, Mr. Taylor.

10           Is the Mayor present now?

11           (Inaudible comment from audience.)

12           DR. WINOKUR: Thank you. I don't know if he'll  
13 be speaking during this session, but Mr. Bernard Rusche,  
14 are you available to speak? Would you like to speak at  
15 this session?

16           (No response.)

17           DR. WINOKUR: Noting he's not present, I will  
18 move on to Mr. George Widener, who's the Chief of the  
19 Williston, South Carolina, Fire Department.

20           Is Mr. Widener present?

21           MR. WIDENER: Yes, sir.

22           DR. WINOKUR: Please. Thank you.

23           (Pause.)

24           MR. WIDENER: Thank you very much for the  
25 opportunity of speaking this afternoon, and I've got a

1 photo. I was raised that a photo is worth a thousand  
2 words and, if possible, I'd like to present this to the  
3 panel to review.

4 DR. WINOKUR: Thank you. I've got some free  
5 space in my office.

6 MR. WIDENER: Just to give a little brief  
7 background on myself, there again, my name is Milton  
8 Widener. I'm the Fire Chief of Williston, South Carolina.  
9 I've served some 38 years with the fire service; just  
10 recently became Chief this past April.

11 Emergency preparedness is something we do on a  
12 daily basis, being in the fire service. Over the years at  
13 SRS, I have personally witnessed the changes brought forth  
14 within the site as to the management, training, and  
15 capabilities.

16 Emergency preparedness covers many venues,  
17 especially when we look at the site: not only fire  
18 protection, emergency medical services, as well as site  
19 security, both physical and personnel.

20 As with any emergency organization, we train  
21 for the worst and hope for the best. On July 15th,  
22 1995 -- and I know we're kind of dated there, but the town  
23 of Williston experienced what we had always said would be  
24 our worst as firefighters.

25 We lost one-half of a city block to fire, and



1 it had not been for the Savannah River Fire Department  
2 responding mutual aid to Williston, who knows what the  
3 outcome might have been.

4 The ladder company set up on Main Street and  
5 provided a wall of water to help save our town. The fire  
6 safety engineers provided an invaluable service to the 25  
7 fire departments that responded to our time of need.

8 As Mayor Rivers quoted that day, "We went from  
9 downtown preservation to urban renewal within a matter of  
10 hours."

11 The Savannah River emergency preparedness  
12 organization, I will have to say, is one of the most  
13 capable groups in our nation. We all train, train, and  
14 train and hope we never experience what Japan has gone  
15 through the last several months.

16 As Fire Chief of the town of Williston, we say  
17 thank you to the site for all your support, not only to  
18 Williston, but to all the neighboring communities.

19 If ever needed, we vow, through our mutual aid  
20 agreements, to return the favor. Thank you very much.

21 DR. WINOKUR: Thank you very much, Mr. Widener.

22 Are you going to take your picture back?

23 (General laughter.)

24 VOICE: Aw, schucks.

25 DR. WINOKUR: Aw, schucks, right. Are we --

1 please just come right up and tell us when the Mayor's  
2 available. We do want to hear from him.

3 VOICE: He's here.

4 DR. WINOKUR: He is here? Thank you very much.  
5 So we do want to introduce the Mayor of Augusta, the  
6 Honorable Deke Copenhaver.

7 MR. COPENHAVER: Good afternoon. And I  
8 apologize for being late. It's been one of those days.  
9 But I'd like to thank the Board for giving me the  
10 opportunity to speak, and my comments will just be brief.

11 From a safety standpoint, Savannah River  
12 Remediation's work is critical. I definitely appreciate  
13 the job they're doing. Aging waste tanks hold high-level  
14 radioactive waste, waste that we don't want to see in the  
15 environment. Once it's outside a tank, it poses a threat  
16 to the safety and health of workers and the public.

17 The approved method of disposing of the SRS  
18 waste is turning the most radioactive waste into glass,  
19 while also taking the least radioactive waste and making  
20 saltstone out of it to leave at the site.

21 Once the waste is removed, the tank closure  
22 process can begin. The safest strategy for our community  
23 is simple: expedite taking the waste out of the tanks.  
24 To remove waste faster, SRR has discussed putting in place  
25 additional proven technologies into the mix of

1 technologies to ensure cleanup of the tanks can be done as  
2 quickly and safely as possible. Taking the waste out of  
3 the tanks is the only way to reduce the threat.

4 A real benefit of accelerating the cleanup is  
5 that the life-cycle cost of waste removal is shortened by  
6 years and the taxpayers save billions of dollars in life-  
7 cycle costs.

8 However, while that side benefit is  
9 significant, it is not as important as keeping our  
10 environment and people safe from waste left in the tanks  
11 long term.

12 Once again, thank you so much for having me,  
13 and thank you for allowing me to introduce this public  
14 comment into the record.

15 DR. WINOKUR: Thank you, Mayor, and thank you  
16 for spending some time with us today.

17 Our next speaker will be Dr. Marc Miller, who's  
18 the Vice Chairman of the Savannah River Site Community  
19 Reuse Organization.

20 DR. MILLER: Thank you. Good afternoon. I'm  
21 Marc Miller, the current Vice Chair of the SRS Community  
22 Reuse Organization [CRO], and I'm the Dean of Hall College  
23 of Business at Augusta State University.

24 It is in my capacity as the Chair-elect of the  
25 Savannah River Site CRO that I'm here this afternoon and

1 pleased to offer our comments to the Defense Nuclear  
2 Facilities Safety Board.

3           The CRO is a nonprofit community organization  
4 representing the five counties in Georgia and South  
5 Carolina, and these counties surround the DOE's Savannah  
6 River Site.

7           Our primary mission is to support economic  
8 development efforts and job creation and to promote new  
9 missions for SRS, and to serve as a unified voice for the  
10 region.

11           As a community, we are proud of the impressive  
12 safety record compiled by our region's largest employer.  
13 SRS is one of the safest sites in the DOE complex and one  
14 of the safest major industrial sites in the world.

15           The SRS's outstanding safety performance has  
16 not gone unnoticed. Both site contractors, Savannah River  
17 Remediation and Savannah River Nuclear Solutions, have  
18 received numerous safety awards from the National Safety  
19 Council, the South Carolina Manufacturers Alliance, the  
20 South Carolina Labor Licensing and Review Board, just to  
21 name a few.

22           In addition, the Savannah River National  
23 Laboratory is considered one of the safest national labs  
24 in the complex.

25           In our view as a nuclear community, SRS

1 management and its contractors are committed to protecting  
2 workers, the public, and the environment, as well as our  
3 national security interests.

4           The state of emergency preparedness and safety  
5 at SRS is not an issue that we worry about, and we support  
6 the job that they are doing.

7           As a group of communities throughout the  
8 region, we realize that the approximately 37 million  
9 gallons of highly radioactive liquid waste stored in large  
10 underground tanks can be and may be the primary potential  
11 threat to human health and the environment at SRS.

12 Therefore we have come together in a unified voice through  
13 the SRS Community Reuse Organization to express our belief  
14 that it is essential that high-level liquid waste be  
15 removed from the aging underground tanks at SRS in a safe  
16 and timely manner.

17           At the same time, however, we believe it is  
18 irresponsible for H-Canyon to be placed on standby or  
19 reduced operational status. All funding and site  
20 operational scenarios need to advance this two-prong  
21 approach, not one activity over the other.

22           We understand that safely closing waste tanks  
23 involves an intricate set of steps that include emptying  
24 the waste tanks of bulk waste and then removing much of  
25 the residual waste as practical through various

1 technologies and techniques.

2           The liquid waste contractor, SRR, provides the  
3 intellectual and technical know-how to accomplish this  
4 mission. They understand and embrace the common goals and  
5 values of the community, which is to emphasize risk  
6 reduction to the greatest degree, but in the way that  
7 protects workers, the public, and the environment.

8           We support their use of transformational  
9 technologies that will accelerate liquid waste mission  
10 completion, saving taxpayers' money and removing and  
11 cleaning tank waste ahead of regulatory commitments.

12           We are pleased that the Defense Nuclear  
13 Facilities Safety Board has provided this opportunity to  
14 shine light on this very important topic and for their  
15 technical safety oversight of the DOE's defense nuclear  
16 facilities and activities.

17           In closing, it appears to us that the  
18 community, SRR, SRS, and the DNFSB all agree: expediting  
19 the removal of radioactive waste from the SRS tanks is a  
20 good thing; it just needs to be done in a manner that  
21 protects the health and safety of the public and workers.

22           And we thank you very much.

23           DR. WINOKUR: Thank you, Dr. Miller.

24           Our next speaker is Mr. Brian Tucker, who is  
25 the President of the North Augusta Chamber of Commerce.

1 Mr. Tucker.

2 MR. TUCKER: Good afternoon. I'm Brian Tucker,  
3 President of the North Augusta Chamber of Commerce. The  
4 Greater North Augusta Chamber of Commerce represents the  
5 interests of the business community in the greater north  
6 Augusta area and the central Savannah River area.

7 The Chamber is funded by area businesses and is  
8 not a part of any city, county, or state government  
9 agency. The Chamber provides our members a voice in  
10 government and helps to improve the quality of life for  
11 all through participation in arts, education, and other  
12 important community issues.

13 Simply put, the North Augusta Chamber of  
14 Commerce operates to serve our members through promotion,  
15 education, and advocacy.

16 First, let me say that we are proud to be the  
17 home of the Department of Energy's Savannah River Site.  
18 SRS has played a major role in our national security for  
19 more 60 years and continues to serve America in the  
20 important areas of nuclear nonproliferation and spent fuel  
21 reprocessing.

22 As a community, we are convinced that SRS  
23 management and its contractors, both Savannah River  
24 Remediation and Savannah River Nuclear Solutions, are  
25 committed to protecting the workers, the public, and the

1 environment, as well as our national security interest.

2 In our advocacy role we appreciate your  
3 interest and oversight regarding safety and emergency  
4 preparedness at the Savannah River Site. Furthermore, we  
5 share your desire for risk reduction as it relates to the  
6 stabilization of high-level liquid waste and closure of  
7 high-level waste Tank Farms.

8 We believe that the large volume of  
9 radiological waste in the high-level waste tanks is the  
10 greatest risk at SRS, and tank closure is one of the most  
11 important activities at SRS. But it must be done safely.

12 Taking the waste out of the tanks and  
13 processing it into vitrified glass logs is the only way to  
14 reduce that risk. If only we had a final repository for  
15 that vitrified glass, but that's another topic for another  
16 day.

17 The goal should be to reliably complete  
18 radioactive liquid waste removal, safely manage the  
19 treated waste, and meet all regulatory commitments to  
20 close the liquid waste tanks, while at the same time  
21 incorporating new technologies and to enhance efficiency  
22 and save taxpayers' money as we go.

23 We believe Savannah River Remediation is  
24 accomplishing this mission, and we applaud their efforts  
25 and commitment to safety.



1           I will not be able to join you for Session II,  
2   so I would like to share our concerns about the lack of  
3   viable disposition paths for nuclear material, especially  
4   with the recent news about the operation reductions at  
5   H-Canyon and its facilities.

6           The H-Canyon facilities are a unique national  
7   resource. It's the only facility which can process  
8   research reactor spent nuclear fuel, surplus highly  
9   enriched uranium, and scrap plutonium for beneficial reuse  
10  and waste disposition.

11          Furthermore, we agree with the Community Reuse  
12  Organization it is irresponsible for H-Canyon to be placed  
13  in a standby or reduced operational status, and we agree  
14  with the two-prong approach for SRS, an operational  
15  scenario that supports both high-level liquid waste  
16  removal and H-Canyon facility operation.

17          In closing, I would like to thank you for your  
18  attendance here today and for the opportunity to express  
19  our position and for hosting this session. We support  
20  your technical safety oversight role, and I thank you for  
21  this opportunity.

22          DR. WINOKUR: Thank you, Mr. Tucker.

23          Our next speaker will be Mr. Moses Todd.

24          (Pause.)

25          DR. WINOKUR: Is Mr. Todd present? Oh, there

1 you are. Thank you.

2 MR. TODD: Thank you to the Board. My name is  
3 Moses Todd. I'm a former member of the SRS Citizen  
4 Advisory Board, a former member of the Augusta-Richmond  
5 County Commission, but I'm here today to speak as a  
6 citizen, Citizen Todd.

7 And my comments, Mr. Chairman, is let's talk  
8 about social exceptions, the \$15 billion DOE buzzword. I  
9 take exception to DOE's plan to terminate operations of  
10 H-Canyon.

11 I take exception to DOE's plan to extend  
12 storage of high-level nuclear materials at SRS. I take  
13 exception to DOE's plan to lay off 800 workers at SRS. I  
14 take exception to DOE wasting \$15 billion on Yucca  
15 Mountain.

16 I take exception to being illegally laid off  
17 because of my safety concerns by Watts Technical Service.  
18 And I'd like to present this into the record.

19 DR. WINOKUR: Yes. We will definitely accept  
20 it into the record. Please bring it down and give it to  
21 the Deputy Counsel, Mr. Schapira. Thank you.

22 We have two more people who will speak.  
23 They've handwritten their names, and their handwriting is  
24 probably equivalent to mine, so it's going to be a little  
25 challenging. And I hope I get this right, and if not,

1 please correct me.

2 Is it Sam Bodner?

3 MR. BOOHER: Booher. Good evening. My name is  
4 Sam Booher.

5 DR. WINOKUR: Thank you.

6 MR. BOOHER: I'm a retired Army infantry  
7 lieutenant colonel. I have been active with the Savannah  
8 River Site Citizen Action Board since before 1993, and  
9 have served on and participated on a lot of their  
10 committees and subcommittees.

11 I recently learned through the NEPA [National  
12 Environmental Policy Act] process that the Department of  
13 Defense [DoD] has already or will soon be signing a  
14 memorandum of agreement with the Department of Energy  
15 that's going to allow infantry-type training activities to  
16 take place on the Savannah River Site.

17 The main reason why I'm here before you today  
18 is that I'm concerned that DoD and the unit commanders  
19 that will be training on site may not have been informed  
20 of the streams and the sediment -- the condition of the  
21 streams and the sediment that have been used in past  
22 decades as a way to dispose of highly contaminated liquid  
23 waste.

24 I am aware that there are streams today on SRS  
25 that personnel are not allowed to enter unless they are

1 wearing protective suits, rubber gloves, rubber boots that  
2 are taped to the uniforms to keep any stream liquid out.

3 If soldiers are allowed to cross over or enter  
4 and travel up and down some of these same streams, they  
5 are going to be seriously contaminated.

6 I do know that these streams are not currently  
7 physically marked as off-limits. I do not know if DoD has  
8 been informed that these streams even exist. And I do not  
9 know if there are plans where unit commanders will be  
10 briefed on what streams to stay out of while their  
11 soldiers are training on-site.

12 So I'm here today asking for your assistance to  
13 protect our Army soldiers from unnecessary harm and  
14 danger. Thank you.

15 MR. SCHAPIRA: Mr. Booher, could you please  
16 spell your name for the record?

17 MR. BOOHER: Sure. B-O-O-H-E-R.

18 MR. SCHAPIRA: Thank you, sir.

19 DR. WINOKUR: Thank you for that statement.

20 And our final speaker would be Mr. -- well --  
21 Mr. Utley?

22 (Pause.)

23 DR. WINOKUR: Well, if I've pronounced that  
24 wrong, I'm sorry. Are there any other members of the  
25 public who wish to speak on the topic of liquid waste

1 processing or emergency preparedness at this time?

2 (No response.)

3 DR. WINOKUR: Well, seeing none at this time,  
4 the Chair calls a recess of this public meeting and  
5 hearing. We will reconvene at 7:00 p.m. tonight.

6 Thank you for coming.

7 (Whereupon, at 4:50 p.m., the public meeting  
8 and hearing was recessed, to reconvene at 7:00 p.m., this  
9 same day, Thursday, June 16, 2011.)

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# TRANSCRIPT OF PROCEEDINGS

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1 PUBLIC MEETING AND HEARING )  
2 )  
3 SAVANNAH RIVER SITE )  
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36 Pages: 1 through 294  
37 )  
38 Place: Augusta, Georgia  
39 )  
40 Date: June 16, 2011

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ATTENDEES:

Xavier Ascanio  
Wyatt Clark  
Dae Chung  
John Dickenson  
Fred Dohse  
Robert Edwards  
David Eyler  
David Freshwater  
Kevin Hall  
Steven Howell  
Pat McGuire  
Michael Mikolanis  
David Moody  
David Olson  
Geoff Reynolds  
Lee Schifer  
Terrell Spears



1 verbatim transcript and video recording.

2           The transcript, associated documents, public  
3 notice, and video recording, will be available for viewing  
4 in our public reading room in Washington, DC. In  
5 addition, an archived copy of the video recording will be  
6 available through our website for at least 60 days.

7           Per the Board's practice and as stated in the  
8 *Federal Register* notice, we will welcome comments from  
9 interested members of the public at the conclusion of  
10 testimony, approximately 8:30 p.m. for this session.

11           A list of those speakers who have contacted the  
12 Board is posted at the entrance to this room. We have  
13 generally listed the speakers in the order in which they  
14 have contacted us or, if possible, when they wish to  
15 speak. I will call the speakers in this order and ask  
16 that speakers state their name and title at the beginning  
17 of their presentation.

18           There is also a table at the entrance to this  
19 room with a sign-up sheet for members of the public who  
20 wish to make a presentation but did not have an  
21 opportunity to notify us ahead of time. They will follow  
22 those who have already registered with us in the order in  
23 which they have signed up.

24           To give everyone wishing to make a presentation  
25 an equal opportunity, we ask speakers to limit their

1 original presentations to five minutes. The Chair will  
2 then give consideration for additional comments, should  
3 time permit.

4 Presentations should be limited to comments,  
5 technical information, or data concerning the subjects of  
6 this public meeting and hearing. The Board Members may  
7 question anyone making a presentation to the extent deemed  
8 appropriate.

9 The record of this proceeding will remain open  
10 until July 18, 2011. I would like to reiterate that the  
11 Board reserves its right to further schedule and regulate  
12 the course of this meeting and hearing to recess,  
13 reconvene, postpone, and adjourn this meeting and hearing,  
14 and to otherwise exercise its authority under the Atomic  
15 Energy Act of 1954, as amended.

16 I would now like to move on to why the Board  
17 chose to hold a public hearing at the Savannah River Site.

18 First, the Board intends to hold more public meetings in  
19 the communities surrounding defense nuclear facilities.  
20 Too many of our public meetings are held in Washington,  
21 DC, far from those members of the public who have a vested  
22 interest in the sites.

23 We selected the Savannah River Site because it  
24 has one of the highest and most varied workloads in the  
25 DOE complex.

1           At this one site, there are operations  
2 involving plutonium, enriched uranium, transuranic waste,  
3 tritium, liquid high-level waste, low-level waste,  
4 decommissioning, and research and development, as well as  
5 several major construction projects. These diverse  
6 activities are performed by multiple contractors and  
7 managed by different organizations within the Department  
8 of Energy.

9           The very complexity of the Savannah River Site  
10 creates additional hazards beyond the sum of its  
11 individual activities.

12           There is no way for us to address every  
13 potentially hazardous nuclear activity at the Savannah  
14 River Site in this forum. Therefore, we have limited  
15 ourselves to three topics that we believe are high  
16 priorities due to their safety implications: the high-  
17 level waste system, emergency preparedness, and nuclear  
18 material storage and disposition.

19           During Session I this afternoon, we discussed  
20 liquid waste processing and emergency preparedness.  
21 During this Session II, we will discuss nuclear material  
22 storage and disposition.

23           The Board is concerned about how DOE will  
24 dispose of nuclear materials in light of the potential  
25 termination of H-Canyon and HB-Line processing. Surplus

1 nuclear materials across the complex with questionable  
2 storage conditions and uncertain futures were the topic of  
3 two Board recommendations: Recommendation 94-1, *Improved*  
4 *Schedule for Remediation in the Defense Nuclear Facilities*  
5 *Complex*, and Recommendation 2000-1, *Prioritization for*  
6 *Stabilizing Nuclear Materials*.

7           While DOE has successfully stabilized, at least  
8 into interim forms, most of the immediate hazards  
9 described in the recommendations, surplus nuclear  
10 materials continue to present safety hazards during  
11 storage and processing until they reach their final  
12 stabilized form, usually in a waste repository.

13           DOE recently chose not to process spent nuclear  
14 fuel in H-Canyon following significant preparations  
15 on-site in support of this mission. In conjunction with  
16 this decision, DOE began providing direction to Savannah  
17 River Nuclear Solutions to prepare for shutting down all  
18 processing in the Canyon.

19           H-Canyon had been the planned disposition path  
20 for a large amount of nuclear materials at the Savannah  
21 River Site and throughout the DOE complex. While DOE has  
22 made some headway in developing new pathways to stabilize  
23 a portion of these nuclear materials, there are  
24 uncertainties in these new disposition plans.

25           The site's inventory of aluminum-clad spent

1 fuel is not among those materials that have a new proposed  
2 disposition path. Therefore, the Board would like to  
3 understand whether extended storage of nuclear materials  
4 may cause safety problems, specifically the inventories of  
5 spent nuclear fuel in wet storage at the Savannah River  
6 Site.

7 This concludes my opening remarks. I will now  
8 turn to the other Board Members and ask if they have  
9 opening remarks.

10 Do you have opening remarks, Dr. Mansfield?

11 DR. MANSFIELD: Not at this time.

12 DR. WINOKUR: Do you have opening remarks, Mr.  
13 Bader?

14 MR. BADER: No.

15 DR. WINOKUR: This concludes the Board's  
16 opening remarks.

17 At this time, I would like to introduce Mr.  
18 Mark Sautman, who will provide testimony from the Board's  
19 staff on the topic of nuclear material storage and  
20 disposition.

21 Mr. Sautman, I will take your full written  
22 statement for the record. Please summarize your written  
23 statement in ten minutes or less.

24 MR. SAUTMAN: Good evening, Mr. Chairman and  
25 Members of the Board.

1           For the record, my name is Mark Sautman. I am  
2 one of the Board's Site Representatives responsible for  
3 overseeing the Department of Energy's activities at the  
4 Savannah River Site, or SRS.

5           I would like to submit my full written  
6 testimony for the record and present an abbreviated  
7 version.

8           In this meeting, the Board is considering the  
9 future mission at H-Canyon and HB-Line, and the resulting  
10 impacts to the storage missions for K- and L- areas. One  
11 thing I must point out up front is that we are not here to  
12 debate the nation's nuclear waste or energy policies,  
13 discuss the economic impacts to the central Savannah River  
14 area, or argue whether the proposed mission change is the  
15 best use of the taxpayers' money.

16           Other federal agencies and organizations are  
17 responsible for reviewing the wisdom of DOE's policy and  
18 budget decisions. The Board is responsible for ensuring  
19 that whatever DOE decides to do, they do it safely.

20           In 1994 the Board issued Recommendation 94-1,  
21 *Improved Schedule for Remediation in the Defense Nuclear*  
22 *Facilities Complex*. The recommendation called for the  
23 processing of irradiated reactor fuel and materials in the  
24 SRS canyons and for the stabilization and repackaging of  
25 plutonium metal and oxide across the DOE complex to meet



1 the 50-year storage standard. It also called for  
2 facilities like H-Canyon and HB-Line to be maintained in a  
3 usable state.

4 DOE's August 7th, 2000, Record of Decision  
5 [ROD] for the SRS Spent Nuclear Fuel Management Final  
6 Environmental Impact Statement [EIS] stated that, quote,  
7 DOE will ensure continued availability of the SRS  
8 conventional processing facilities until DOE has  
9 demonstrated implementation of the melt and dilute  
10 technology, end quote, which has yet to occur.

11 This ROD also stated that DOE would use  
12 conventional processing -- i.e., H-Canyon -- to stabilize  
13 Sodium Reactor Experiment fuel, as well as failed or  
14 sectioned fuel, but this metal and damaged fuel remains  
15 unstabilized 11 years later.

16 This EIS included a no-action alternative in  
17 which DOE would continue to store the spent nuclear fuel  
18 in the wet basins at SRS indefinitely.

19 The analysis of that alternative noted that,  
20 quote, there would be no means to stabilize spent nuclear  
21 fuel that presented a health or safety vulnerability once  
22 the conventional processing facilities were shut down.  
23 Closed quote. In addition, this alternative is  
24 inconsistent with DOE's commitment to avoid indefinite  
25 spent nuclear fuel storage at the SRS in a form that is

1 unsuitable for final disposition.

2           Congress recognized a unique capability  
3 provided by H-Canyon in the 2001 National Defense  
4 Authorization Act. This Act included a statement that,  
5 quote, The Secretary of Energy shall continue operations  
6 and maintain a high state of readiness at the F-Canyon and  
7 H-Canyon facilities at the Savannah River Site, Aiken,  
8 South Carolina, and shall provide technical staff  
9 necessary to operate and so maintain such facilities. End  
10 quote.

11           The 2004 National Defense Authorization Act  
12 reiterated this position for H-Canyon. In a November 8th,  
13 2002, letter to the Secretary, the Board expressed concern  
14 that DOE's plans to operate H-Canyon only until 2006 or  
15 even 2009 would, quote, undoubtedly leave additional  
16 materials unprocessed and in need of an alternative  
17 capability. End quote.

18           The letter noted that materials like  
19 miscellaneous spent nuclear fuel and foreign and domestic  
20 research reactor fuel would remain unprocessed if H-Canyon  
21 shut down in 2010.

22           At the time, the Board noted that, quote, DOE's  
23 planned actions leave materials unstabilized and without  
24 well defined disposition paths end quote a concern that  
25 remains valid today, nearly nine years later.

1           In 2006, DOE identified 26 metric tons heavy  
2 metal, mostly enriched uranium, of spent nuclear fuel and  
3 enriched uranium and plutonium materials across the DOE  
4 complex that required a disposition path.

5           DOE's Office of Environmental Management  
6 analyzed various options and determined that processing  
7 this material in H-Canyon through the end of fiscal year  
8 2019 provided the, quote, best, most cost-effective  
9 alternative for this scope of work End quote.

10           The acquisition strategy noted that, quote, no  
11 other disposition capability currently exists, end quote,  
12 for these materials.

13           One of this plan's benefits is that the  
14 plutonium and the fission products in the spent nuclear  
15 fuel would eventually be immobilized in glass logs. This  
16 waste form is very stable, proliferation resistant, and  
17 greatly reduces the hazard these radioactive materials  
18 pose to workers and the public.

19           When DOE approved this plan, the Board's staff  
20 reviewed whether H-Canyon and HB-Line could safely  
21 continue to operate through 2019. The staff's conclusion  
22 was that the proposed mission extension appeared  
23 reasonable.

24           Our main issue was that DOE needed to start  
25 conducting systematic life-extension evaluations. In

1 response, DOE developed an integrated facility-aging  
2 management process, but suspended it earlier this year due  
3 to uncertainties with the future use of these facilities.

4           Meanwhile, DOE began a multi-year effort to  
5 improve the size and quality of their engineering staffs,  
6 improve conduct of operations and radiological protection,  
7 and bring the H-Canyon Documented Safety Analysis into  
8 compliance with modern nuclear safety standards.

9           In 2010, DOE approved the new safety basis, and  
10 the contractor completed the readiness assessment,  
11 demonstrating that H-Canyon was ready to resume processing  
12 of spent nuclear fuel.

13           At this point, I would like to discuss some of  
14 the challenges DOE faced in implementing Recommendation  
15 94-1 at other DOE sites.

16           Often DOE had not gone through their existing  
17 special nuclear material inventories to determine which  
18 materials needed stabilization or repackaging prior to  
19 shutting down their canyons and glovebox lines.

20           Furthermore, these processing facilities were  
21 not maintained very well during the early 1990s. The  
22 effort to restart the Rocky Flats plutonium buildings and  
23 the Plutonium Finishing Plant at Hanford took several  
24 years and hundreds of millions of dollars.

25           At Hanford 2100 metric tons of spent nuclear

1 fuel in the K-Basins needed processing. While the PUREX  
2 [Plutonium Uranium Recovery Extraction] plant could have  
3 processed this fuel in an estimated 23 months, DOE  
4 deactivated this facility.

5 DOE ended up spending years and more than a  
6 billion dollars designing, building, and operating new  
7 facilities that could dry and repackage this spent nuclear  
8 fuel.

9 In addition to the equipment and facility  
10 issues, these sites had to go through major efforts to  
11 update their safety analysis and retrain and requalify  
12 their operators.

13 Based on these lessons learned, the Board's  
14 staff has several concerns with DOE's direction to stop  
15 processing at HB-Line earlier this year, flush H-Canyon  
16 and HB-Line during 2011, and not process nuclear materials  
17 during fiscal year 2012.

18 The staff believes it is important for DOE to  
19 methodically examine and understand the implications of  
20 this direction.

21 First, H-Canyon and HB-Line possess the ability  
22 to a process wide variety of actinides and nuclear fuel.  
23 H-Canyon is also the last operating, shielded chemical  
24 processing facility of its type in the DOE complex.

25 The staff is concerned that any interim

1 shutdown due to current budget and policy uncertainties  
2 could end up becoming a long-term or permanent shutdown.

3           Meanwhile, DOE has a large inventory of spent  
4 nuclear fuel and nuclear materials at SRS and other DOE  
5 sites. Many of these items do not have a demonstrated  
6 disposition path, and past plans are uncertain because  
7 several key funding and policy assumptions are no longer  
8 valid.

9           Spent nuclear fuel is a prime example. DOE  
10 stores more than 10,000 items of aluminum-clad fuel rods,  
11 plates, rings, et cetera, containing highly enriched  
12 uranium.

13           In DOE's April 22nd, 2011, letter to the Board,  
14 DOE stated that it currently does not have a disposition  
15 path for this material but that they are waiting for the  
16 recommendations from the Blue Ribbon Commission on  
17 America's Nuclear Future.

18           Based on the draft recommendations released to  
19 date by the Commission, the staff is not optimistic that  
20 the final recommendations will directly address the  
21 disposition of spent nuclear fuel at DOE sites.

22           Meanwhile, storage space at L-Basin will  
23 continue to get more and more limited if DOE continues to  
24 receive fuel from foreign and domestic research reactors  
25 without processing any of its current inventory.

1           DOE also stores thousands of items of  
2 unirradiated Fast Flux Test Facility [FFTF] fuel and  
3 plutonium items that do not meet the specification for  
4 feed materials to the Mixed Oxide Fuel Fabrication  
5 Facility.

6           DOE says it intends to dispose of these items  
7 in the Waste Isolation Pilot Plant in New Mexico. While  
8 DOE safely disposed of many plutonium-residue items at  
9 WIPP in the past, the staff is concerned that this  
10 disposition path still has uncertainties for those items  
11 with high plutonium content.

12           Disposing items that were originally high-  
13 purity plutonium metals and oxides in a waste facility may  
14 encounter programmatic and political delays.

15           If DOE can demonstrate that disposal of these  
16 items at WIPP is actually viable, then our concern solely  
17 becomes one of ensuring that DOE blends and repacks this  
18 materials safely.

19           A second issue is whether DOE can safely store  
20 this plutonium and spent nuclear fuel at the Savannah  
21 River Site indefinitely. As a result of past efforts, the  
22 large plutonium inventory at the site has been stabilized  
23 and packaged in nested, robust cans that are designed to  
24 provide 50 years of safe storage.

25           The DOE standard requires a periodic

1 surveillance program throughout the storage period to  
2 gather information on package performance and the behavior  
3 of the container and its contents.

4           The long-term viability of this surveillance  
5 program may be threatened if the site does not have a  
6 means to process the material from the opened cans,  
7 especially since the site no longer has the equipment to  
8 repackage this material back in the cans that meet the  
9 plutonium storage standard.

10           Fortunately, the spent nuclear fuel stored in  
11 the L-Area Basin does not require the active cooling that  
12 the spent nuclear fuel at the Fukushima reactors requires  
13 due to its lower decay heat.

14           That being said, some of the fuel items at SRS  
15 are not ideal candidates for long-term storage. For  
16 instance, the Sodium Reactor Experiment fuel consists of  
17 thorium and uranium metal stored inside of sealed cans  
18 that are submerged in L-Basin. If any of these cans leak,  
19 the metal fuel could react with water and generate  
20 hydrogen gas.

21           The staff is concerned that DOE plans to store  
22 fuel that is damaged, cut, or with through-clad breaches  
23 indefinitely in L-Area. The current condition of many of  
24 these items is unknown, since DOE has not inspected them  
25 since they were packaged in the 1950s and 1960s.



1           The staff is also concerned about the  
2 incomplete guidance DOE has provided the contractor  
3 regarding their expectations for H-Canyon and HB-Line.  
4 DOE has provided direction on what remaining materials to  
5 process, requested flushing and staffing plans, and  
6 discussed the potential for future missions.

7           While we are encouraged that DOE is exploring a  
8 variety of research and development projects, DOE has not  
9 received any firm commitments or funding for this new  
10 scope, beyond some exploratory laboratory studies.

11           Meanwhile, Public Laws 106-398 and 108-136  
12 require H-Canyon to be maintained in a high state of  
13 readiness. DOE has not clearly documented what  
14 specifically is required to maintain this high state of  
15 readiness.

16           What we can say is that DOE direction regarding  
17 flushing, going to minimum staff levels, placing the  
18 facility in a minimum-inventory condition, and minimizing  
19 surveillance requirements does not meet the staff's  
20 interpretation of maintaining a high state of readiness.

21           While DOE has directed the contractor to  
22 perform periodic cold proficiency runs, this activity is  
23 only a fraction of what is required to maintain readiness  
24 at H-Canyon.

25           The Board's staff believes that DOE can benefit

1 by directing the contractor to develop a resumption plan  
2 concurrently with the requested flushing and staffing  
3 plans.

4 Such a plan would discuss how safety and  
5 processing equipment would be maintained during the  
6 shutdown so that it can be returned to service. It would  
7 also discuss how the facility would retain knowledge of  
8 the facility's systems and processes.

9 The lack of resumption plan will likely lead to  
10 difficulties in returning the processing equipment and  
11 safety system to full operation and reconstituting a  
12 qualified and knowledgeable workforce.

13 This completes my prepared testimony. I would  
14 be happy to answer any questions from the Board.

15 DR. WINOKUR: Do the Board Members have any  
16 questions for Mr. Sautman?

17 MR. BADER: No.

18 DR. MANSFIELD: No.

19 DR. WINOKUR: Hearing none, thank you, Mr.  
20 Sautman.

21 I would like to invite the panel of witnesses  
22 from DOE and its contractor organizations for the topic of  
23 nuclear material storage and disposition to take their  
24 seats as I introduce them.

25 Mr. Dae Chung is the Principal Deputy Assistant

1 Secretary for Environmental Management at the Department  
2 of Energy.

3 Dr. David Moody is the Manager at DOE's  
4 Savannah River Operations Office.

5 Mr. Patrick McGuire is the Assistant Manager  
6 for the Nuclear Material Stabilization Project at DOE's  
7 Savannah River Operations Office.

8 Mr. David Eyler is the Chief Engineer and Vice  
9 President for Nuclear Materials Operations at Savannah  
10 River Nuclear Solutions.

11 Mr. Steve Howell is the Manager for Nuclear  
12 Materials Disposition at Savannah River Nuclear Solutions.

13 And Mr. Xavier Ascanio is the Director of the  
14 Office of Nuclear Materials Integration at the National  
15 Nuclear Security Administration.

16 Does any member of the panel wish to submit  
17 written testimony at this time?

18 (No response.)

19 DR. WINOKUR: As before, the Board will either  
20 direct questions to the panel or individual panelists who  
21 will answer them to the best of their ability.

22 After that initial answer, other panelists may  
23 seek recognition by the Chair to supplement the answer as  
24 necessary.

25 If panelists would like to take a question for

1 the record, the answer to that question will be entered  
2 into the record of this hearing at a later time. With  
3 that, we will continue with an opening statement by Mr.  
4 Patrick McGuire.

5 I will accept your testimony, Mr. McGuire --  
6 your written testimony for the record, Mr., and I would  
7 ask you to keep your opening comments to ten minutes or  
8 less.

9 MR. MCGUIRE: Good evening, Chairman Winokur,  
10 the Board's staff, Members of the Defense Nuclear  
11 Facilities Safety Board, and members of the public.

12 I appreciate the opportunity to be here tonight  
13 to represent the Department of Energy's Savannah River  
14 Operations Office and to provide an overview of the  
15 Nuclear Materials Storage and Disposition Program at the  
16 Savannah River Site.

17 I also want to thank my colleagues who are  
18 joining me on the nuclear materials panel.

19 Much of the discussion tonight will likely  
20 involve the future operations of the H-Canyon and HB-Line  
21 facilities. H-Canyon has been in operation since 1955 and  
22 has proven to be a flexible, highly capable, unique  
23 national asset.

24 Over its lifetime, H-Canyon has accommodated  
25 new missions and processed a broad range of nuclear

1 materials. These have included the recovery of uranium-  
2 235 in support of the United States weapons program; the  
3 production of neptunium-237 and plutonium-238 oxides in  
4 support of NASA [National Aeronautics and Space  
5 Administration] missions; and the disposition of large  
6 inventories of used nuclear fuel, excess uranium, surplus  
7 plutonium, and higher actinide-bearing materials from  
8 across the DOE complex.

9 Over the last three years, H-Canyon has been  
10 blending down enriched uranium recovered from the  
11 processing surplus unirradiated highly enriched uranium  
12 materials to achieve the nonproliferation goals of the  
13 United States by converting weapons-usable material to  
14 fuel for use in commercial power reactors.

15 We intend to complete these activities,  
16 transferring the remaining low-enriched uranium [LEU]  
17 solutions to the Tennessee Valley Authority this year.  
18 Subsequently, the facility will be flushed to remove bulk  
19 fissile materials early next year, then H-Canyon will  
20 continue in an operational mode.

21 H-Canyon and HB-Line will continue to operate  
22 and be maintained in a high state of readiness in fiscal  
23 year 2012 and beyond by continuing to receive sample  
24 returns from the Savannah River National Laboratory and  
25 the F-area analytical laboratory and disposition the

1 samples to the liquid waste system.

2 We're continuing to remediate large boxes of  
3 legacy transuranic waste such that it can be safely  
4 shipped to the Waste Isolation Pilot Plant. We're  
5 continuing to maintain operator qualifications and  
6 proficiencies on the basic unit operations within H-Canyon  
7 and to be able to respond to abnormal conditions.

8 We're continuing to perform all surveillance  
9 and maintenance on those safety systems required to be  
10 operable in accordance with the Documented Safety  
11 Analysis.

12 And HB-Line will begin blending surplus non-pit  
13 plutonium with an additive, package the material into pipe  
14 overpack containers, and ship the containers to the Waste  
15 Isolation Pilot Plant.

16 Completing the highly enriched uranium blend-  
17 down campaign this year and completing the flushing to  
18 remove bulk fissile materials early next year will  
19 position H-Canyon and HB-Line to embark upon new missions.

20 Among potential new missions, it is proposed  
21 that H-Canyon will be evaluated for research and  
22 development in key areas to support the development of  
23 commercial used nuclear fuel processing.

24 H-Canyon could be used as a test facility for  
25 next-generation safeguards initiative equipment, which

1 includes mock-up capability for process lines, tanks, and  
2 containers, mimicking reprocessing facility operations.

3 H-Canyon may be considered as an alternative to  
4 disposition highly enriched uranium and plutonium pit  
5 materials and provide plutonium for Mixed Oxide Fuel  
6 Fabrication Facility and blending down the highly enriched  
7 uranium for use in Tennessee Valley Authority reactors.

8 H-Canyon will be evaluated for the recovery of  
9 special isotopes such as americium 241 from plutonium.  
10 H-Canyon will complete research and development work on  
11 the vacuum salt distillation process to determine whether  
12 impurities can be removed from certain plutonium materials  
13 to meet the mixed oxide fuel acceptance specifications.

14 And HB-Line will be evaluated to purify  
15 plutonium-238 to support NASA's outer planet flagship  
16 mission.

17 The flexibilities of H-Canyon and HB-Line  
18 provide the Department a unique platform to launch these  
19 and other new missions by performing partnerships between  
20 the Office of Environmental Management, the Office of  
21 Nuclear Energy [NE], and the National Nuclear Security  
22 Administration.

23 In addition to H-Canyon and HB-Line, there are  
24 two other facilities that play a key role in the nuclear  
25 materials program: K-Area and L-Area. The K-Area complex

1 provides for the handling and interim storage of surplus  
2 non-pit plutonium and other special nuclear materials in a  
3 safe, secure, and environmentally sound manner.

4           The Savannah River Site assisted the DOE  
5 complex in saving millions of taxpayer dollars through the  
6 safe receipt and storage of excess plutonium from the  
7 Rocky Flats Environmental Technology Site and the Hanford  
8 Site.

9           Currently, the K-Area complex is receiving  
10 surplus plutonium from the Los Alamos National Laboratory  
11 and the Lawrence Livermore National Laboratory.

12           Prior to being shipped, the plutonium is  
13 stabilized in accordance with established standards for  
14 safe storage. Plutonium materials shipped to the K-Area  
15 complex are sealed inside 3013 containers that are nested  
16 in robust, state-of-the-art 9975 shipping containers.

17           Rigorous destructive evaluations are performed  
18 on the containers, as well as the plutonium materials, to  
19 identify any issues which could impact its safe storage.

20           No abnormal conditions that pose a risk have  
21 been identified, and the Department is confident that  
22 surplus non-pit plutonium can be safely stored in the  
23 K-Area complex until a final disposition path is achieved.

24           L-Area provides a capability to safely receive  
25 and store a wide variety of used nuclear fuel assemblies



1 from both domestic and foreign research reactors. The  
2 used fuel is stored in underwater storage facilities  
3 called basins.

4 All used fuel assemblies are now cool enough to  
5 no longer require active cooling. There are currently  
6 about 15,000 assemblies in underwater storage. Future  
7 plans call for the continued receipt of about 2500  
8 assemblies through fiscal year 2019.

9 L-Area Basin has space available for additional  
10 storage racks to support future fuel receipts even if  
11 H-Canyon is not used to disposition the used fuel.

12 Approximately 100 additional positions will be  
13 needed to store high-flux isotope reactor cores, and  
14 approximately 200 additional positions will be needed to  
15 store domestic and foreign research reactor fuel  
16 forecasted to be received through fiscal year 2019.

17 The Secretary of Energy has determined no  
18 processing of aluminum-based used nuclear fuel will occur  
19 until the recommendations of the President's Blue Ribbon  
20 Commission on America's Nuclear Future are issued and  
21 evaluated by the Department.

22 The proposed use of H-Canyon will still allow  
23 the flexibility to process used nuclear fuel or other  
24 nuclear materials in the future, should that decision be  
25 made.

1           In the interim, used nuclear fuel will remain  
2 in safe wet storage in L-Basin. Any future decision  
3 regarding what to do with used nuclear fuel will consider  
4 alternatives, such as processing in H-Canyon, placing it  
5 in dry storage, or implementing a potential future  
6 recommendation from the Blue Ribbon Commission.

7           The Savannah River Operations Office reviewed  
8 the classified nuclear material inventory assessment,  
9 which identifies all of the Department's nuclear materials  
10 and used nuclear fuel to make sure there are no materials  
11 on it that may require future processing in H-Canyon for  
12 either disposition or stabilization purposes.

13           There are currently no surplus nuclear  
14 materials in a storage condition that pose a safety risk  
15 to facility workers, the public, or the environment, and  
16 that need to be stabilized or processed in H-Canyon.

17           In summary, the nuclear materials program at  
18 the Savannah River Site, the facilities involved, and the  
19 personnel who operated them played a key role in winning  
20 the Cold War.

21           These facilities performed various important  
22 missions for over 50 years. Just as these previous  
23 missions were critical to the security of this nation, the  
24 future missions involving H-Canyon and HB-Line offer a  
25 significant opportunity to address the technical

1 challenges faced by the reemergent commercial nuclear  
2 power industry.

3 As commercial interests in all aspects of the  
4 nuclear fuel cycle accelerate, laboratory research and  
5 development for existing and advanced fuel cycles can be  
6 scaled up and demonstrated in H-Canyon.

7 H-Canyon has a proven track record to be able  
8 to adapt to new missions, to be versatile, to address  
9 multiple needs simultaneously, and to meet the nation's  
10 need to demonstrate future fuel cycle technologies.

11 Again, I want to say that I appreciate the  
12 opportunity to be here tonight, and my colleagues and I  
13 look forward to your questions and comments.

14 Thank you.

15 DR. WINOKUR: Thank you, Mr. McGuire.

16 With that we will continue with questions from  
17 the Board Members to the full panel. We'll begin with Dr.  
18 Mansfield.

19 DR. MANSFIELD: Thank you, Mr. Chairman.

20 You've described a future mission for H-Canyon  
21 and perhaps HB-Line as well. And it includes largely --  
22 besides the completed solvent extraction and TVA shipments  
23 -- includes largely work for the commercial sector.

24 Is any of the funded by that commercial sector  
25 or by Nuclear -- DOE Nuclear Energy?

1           MR. MCGUIRE: Currently at this time, no. The  
2 short answer is no.

3           DR. MANSFIELD: Vacuum distillation?

4           MR. MCGUIRE: The vacuum distillation -- we we  
5 are -- that's an Office of Environmental Management funded  
6 activity; that is currently being done in HB-Line today.

7           Over the past year, we processed six -- we ran  
8 six cycles of the vacuum salt distillation in HB-Line.  
9 The Savannah River National Lab is evaluating the results  
10 of that. So far it looks very promising.

11          DR. MANSFIELD: But there's no plans for any  
12 more after that? Nothing funded after that?

13          MR. MCGUIRE: Nothing funded. However, we're  
14 retaining that capability. And as -- that process, what  
15 it does is it removes the chlorides, primarily, and the  
16 impurities, such that some of the non-MOX-able plutonium  
17 could be run through the HB-Line facility, remove those  
18 impurities to make it meet the MOX fuel specifications.

19          DR. MANSFIELD: You mentioned plutonium-238.  
20 Is there any funding from any source outside of DOE for  
21 the plutonium-238 processing?

22          MR. MCGUIRE: Not at this time. However, the  
23 key things with those new missions, we're beginning to  
24 form partnerships with the Office of Nuclear Energy and  
25 the National Nuclear Security Administration.

1           They've been to the site several times.  
2 They've seen the capabilities. They understand the --  
3 with regard to plutonium-238 for the NASA missions. The  
4 quality of the material we have done in the past, the  
5 quantity and the throughput, so it's nothing that needs to  
6 start up today.

7           But to meet their needs for their future  
8 mission, it's something that they're evaluating to put in  
9 their future budget request.

10           The same goes for the Office of Nuclear Energy.

11 We are working with them as they formulate their FY '13  
12 budget. They came to the site also, saw the flexibilities  
13 of H-Canyon, saw that we're capable of putting in scaled-  
14 up versions in the existing H-Canyon, and so they're very  
15 excited about pursuing those research and development  
16 opportunities.

17           But in the FY '12 budget, no, we don't have the  
18 funding in the FY '12 budget.

19           DR. MANSFIELD: So there will be no funding to  
20 resume any aqueous operations in the Canyon until some  
21 future budget.

22           MR. McGUIRE: We're maintaining those  
23 capabilities. We're going to be maintaining a --

24           DR. MANSFIELD: I mean, there will be no  
25 aqueous operations, no funding to perform aqueous

1 operations by anybody for anybody.

2 MR. McGUIRE: Well, for -- to process fissile  
3 material or nuclear materials through, yes, that is true.

4 We are not processing nuclear materials.

5 But we're maintaining the proficiency of the  
6 equipment. We're going to have a core cadre of operators  
7 that are maintaining their qualifications, so that if  
8 funding does become available -- okay? -- and we're  
9 looking at opportunities with NNSA such that possibly in  
10 FY '12 we could do some additional processing of some  
11 uranium- and plutonium-bearing materials.

12 DR. MANSFIELD: So the state, after you  
13 complete flushing, of H-Canyon and make -- will you make  
14 reductions in personnel costs for surveillance, for  
15 readiness, for maintenance, for everything else that it  
16 takes to keep the house open?

17 MR. McGUIRE: At -- yes, when we complete the  
18 highly enriched uranium blend-down, after we're -- we're  
19 dissolving material today; we're going to continue  
20 blending that down.

21 We'll have that process done by September of  
22 this year.

23 DR. MANSFIELD: And there will be no large cuts  
24 in operators?

25 MR. McGUIRE: Well, that's -- I'm getting to

1 that point.

2 DR. MANSFIELD: Okay.

3 MR. McGUIRE: Subsequently, we still need to  
4 ship that material to Erwin, Tennessee, where it is  
5 subsequently fabricated through various processes and sent  
6 to Tennessee Valley Authority.

7 And then we're going to be flushing. So once  
8 we complete those missions and we won't need the number of  
9 operators that are there today, subsequently after that  
10 mission is complete --

11 DR. MANSFIELD: So their qualifications will  
12 lapse.

13 MR. McGUIRE: Well, let me -- there's two  
14 parts. Okay. There's a set of operators after the blend-  
15 down is complete that will no longer be needed.

16 DR. MANSFIELD: Right.

17 MR. McGUIRE: Okay. We're evaluating the  
18 workforce impacts with the staff to determine how many  
19 workers may no longer be needed.

20 DR. MANSFIELD: Right.

21 MR. McGUIRE: The second part is very  
22 important. We're going to retain a core set of operators  
23 that will maintain their qualifications, that will operate  
24 the facility and maintain proficiency cycles.

25 It'll be basically process water and things of

1 that nature to --

2 DR. MANSFIELD: A smaller one, though.

3 MR. McGUIRE: A smaller one. That is correct.

4 DR. MANSFIELD: And do you consider a high  
5 state of readiness the ability to maintain just that  
6 smaller staff?

7 MR. McGUIRE: Yes. And let me explain the high  
8 state of readiness. Okay? One is we're going to retain  
9 that core cadre of personnel, and they're going to  
10 maintain their qualifications. They're going to maintain  
11 the proficiency of the equipment.

12 So the proficiency includes loading dummy fuel  
13 into cask cars over in L-Area, shipping that to H-Canyon,  
14 loading that into the dissolvers. Okay?

15 Once we get down off the blend-down, we're  
16 going to be cycling the other unit operations within the  
17 Canyon, so that equipment and that personnel necessary to  
18 support that will be retained on-site and their  
19 qualifications maintained.

20 The equipment associated with that will also be  
21 maintained.

22 DR. MANSFIELD: You've been conducting those  
23 dummy runs for some time anyway, and they've been very  
24 effective.

25 MR. McGUIRE: Yes. But we're -- today over in



1 L-Area, in shipping to H-Canyon --

2 DR. MANSFIELD: Right.

3 MR. McGUIRE: -- and those have been going on  
4 now for a while.

5 DR. MANSFIELD: But you couldn't even do dummy  
6 aqueous operations because you were doing solvent  
7 extraction work.

8 MR. McGUIRE: That is correct. So we're  
9 actively --

10 DR. MANSFIELD: So you haven't done -- there  
11 isn't any -- is there any plan to do dummy aqueous work?

12 MR. McGUIRE: I'll share that -- ask my  
13 colleagues to -- Steve Howell to answer that.

14 MR. HOWELL: Yes. Our plan currently, as you  
15 already noted -- currently we are operating solvent  
16 extraction operations, aqueous processing to complete the  
17 TVA agreement, processing that material.

18 When that completes in -- currently projected  
19 for September, the plan will be to extend our cold run  
20 schedule to not only include moving the dummy bundles over  
21 and charging operations but also to extend that cold run  
22 operation to the solvent extraction cycles, so we would  
23 periodically exercise those as well.

24 DR. MANSFIELD: Would that be sufficient if the  
25 Blue Ribbon panel completes its work without mentioning

1 anything -- any destiny for the L-Basin fuel and the  
2 Secretary completes his review and comes to the conclusion  
3 that, no, we got to process it? Will you be able to with  
4 a smaller number of chemical operators?

5 MR. McGUIRE: The answer -- the answer -- the  
6 short answer is yes. Okay?

7 DR. MANSFIELD: But not four shifts.

8 MR. McGUIRE: No. It would be a gradual  
9 increase -- basically we believe that since we would have  
10 a core cadre of personnel whose qualifications are  
11 maintained -- and we're going to maintain the systems  
12 necessary in accordance with Documented Safety Analysis  
13 that within possibly six months to a year we could begin  
14 processing a small quantity of fuel. Okay?

15 In the -- in parallel with that, if the  
16 Secretary says process the fuel, we'd go through the  
17 budget cycle, get the necessary funding to hire, train,  
18 and qualify the additional operators necessary to increase  
19 at a higher throughput.

20 DR. MANSFIELD: Okay.

21 MR. McGUIRE: So we would --

22 DR. MANSFIELD: As I understand it, you were  
23 ready to go to work at high level and not a low level of  
24 work dissolving that fuel. So your capability of reducing  
25 that risk has fallen a lot. Would you agree to that?

1 MR. MCGUIRE: I would agree with that. Yes,  
2 sir.

3 DR. MANSFIELD: I guess you really answered it,  
4 Mr. Howell.

5 To increase the realism and effectiveness of  
6 the training and maintenance qualifications, you're going  
7 to consider at least expanding the scope to include  
8 downstream processors -- downstream processes and dummy  
9 aqueous operations?

10 Mr. Eycler?

11 MR. EYLER: Yes, sir. That is our plan.  
12 That's not just considering. That's the direction we  
13 received from the Department, and we will --

14 DR. MANSFIELD: Okay. It's funded, or at least  
15 it's in your plan.

16 MR. EYLER: Yes, sir.

17 DR. MANSFIELD: Okay. Good. Good.

18 You will publish your current staffing numbers,  
19 won't you, when the -- and what increased numbers -- what  
20 the reductions will be and what the increased numbers will  
21 have to be if your mission rapidly increases.

22 We won't have to work that out in the future.  
23 Right? You know the size of the teams to do four shifts  
24 24/7, and you know how long it takes to qualify people, so  
25 you can tell us to the day, practically, how long it will

1 take to resume operation at a given level.

2 MR. MCGUIRE: Yes. We've had various case  
3 studies at a 50 to 70 percent level and then at 100  
4 percent capability; how many staff would be needed; what  
5 competencies -- whether they're construction people, crane  
6 operators.

7 DR. MANSFIELD: Right.

8 MR. MCGUIRE: Yes, we have that and what their  
9 qualifications would be and how long it would take.

10 DR. MANSFIELD: But your current plan is to do  
11 Monday to Friday day shift, eight-five? I don't know what  
12 that would be. Plus a maintenance shift?

13 MR. MCGUIRE: I'll let my colleague, Steve  
14 Howell.

15 MR. HOWELL: Our current plan would be to  
16 continue through September on 24/7 operation, operating to  
17 deplete the current material we have in the facility, and  
18 then --

19 DR. MANSFIELD: I understand. Almost entirely  
20 after that.

21 MR. HOWELL: Then after that -- you're right --  
22 it would go to a more limited schedule where it would  
23 primarily be day operations and on a much slower pace to  
24 do periodic cold runs to --

25 DR. MANSFIELD: Separate maintenance shift?

1           MR. HOWELL: We would still have some limited  
2 shift maintenance, but most of the maintenance activities  
3 would be performed on day shift as well.

4           DR. MANSFIELD: Day shift. So you don't get --  
5 your opportunities for training and doing any odd jobs  
6 that come up are limited by the requirement that your 80-  
7 hour week or whatever it is is cut by how much the plant's  
8 unavailable for maintenance.

9           How long would it take to inspect the plant, do  
10 the testing, repair, you know, dried-out gaskets -- I  
11 don't know -- and resume operation of processing  
12 equipment? Is it going to be six months or six years?

13          MR. MCGUIRE: Well, the initial campaign, as I  
14 said, we're going to be cycling equipment. We're going to  
15 be maintaining the surveillance and maintenance on the  
16 safety systems.

17          There are some systems, after we flush the  
18 facility, that may no longer be needed since the fissile  
19 material and the probability of a criticality will no  
20 longer exist once the flush is complete.

21          We do look at not doing surveillance and  
22 maintenance on some of that equipment.

23          DR. MANSFIELD: But if you resumed the L-Basin  
24 fuel work, you would have to worry about those vessels.  
25 Right?

1           MR. MCGUIRE: Yes, but primarily the majority  
2 of that equipment is electrical-type equipment, not that  
3 it has rotating bearings and shafts and things of that  
4 nature.

5           Electrical equipment, we have a high degree of  
6 confidence, at least in the near term, that that could be  
7 reconstituted with not much difficulty.

8           DR. MANSFIELD: Yeah, well, that -- I've seen  
9 the magical things that your operators do with cranes.  
10 Will that proficiency be maintained? Will you have cell  
11 covers open so that you can do jumper repairs and jumper  
12 movements and centrifuge repairs and things like that?

13           MR. HOWELL: Again, we would maintain a limited  
14 core of that proficiency.

15           DR. MANSFIELD: Would there be one available at  
16 any time, or would you have to wait till he came in?

17           MR. HOWELL: We would have at least one  
18 available at all times, but that would be a reduction as  
19 opposed to what we have today.

20           DR. MANSFIELD: And if you stop providing TVA  
21 feed, that only goes till the end of the year, I believe,  
22 isn't it? Your TVA?

23           MR. MCGUIRE: Yes. We expect to complete the  
24 delivery of the low-enriched uranium to the facilities in  
25 Erwin --

1 DR. MANSFIELD: To Erwin, yeah.

2 MR. McGUIRE: -- at the end of this year. Yes.

3 DR. MANSFIELD: Right. And TVA knows that,  
4 apparently?

5 MR. McGUIRE: Yes.

6 DR. MANSFIELD: Okay. And that's okay with  
7 them? Okay, they're not --

8 MR. McGUIRE: That satisfies our current  
9 contract with them.

10 DR. MANSFIELD: So is there -- are they -- are  
11 you going to have to negotiate a new contract if you ever  
12 do this again?

13 MR. McGUIRE: Yes. Yes. There will be a new  
14 contract --

15 DR. MANSFIELD: I mean, who pays for keeping up  
16 the line that you're feeding, your line at Erwin?

17 Excuse me. If they stop buying your feed for  
18 Erwin that they're paying for, who -- will the line at  
19 Erwin be kept alive or will that have to be reconstituted,  
20 restarted? Is the tooling going to be gone? Is somebody  
21 else going to move in and take their gloveboxes? What?

22 MR. McGUIRE: That's outside of the Office of  
23 Environmental Management, the Erwin, Tennessee,  
24 facilities.

25 DR. MANSFIELD: So there's little chance -- I'm

1 going to editorialize for a second.

2           There's little chance that it's going to be  
3 economically viable for them to rebuild a fuel -- pay for  
4 the contractor to rebuild a fuel capability sometime in  
5 the future, when it's been gone for some time.

6           MR. MCGUIRE: They don't operate 24/7 currently  
7 today.

8           DR. MANSFIELD: No, but they have trained  
9 people and they have equipment that's taking up the  
10 contractor's space.

11           MR. MCGUIRE: Yes, but they -- when they get a  
12 sufficient quantity of fuel, they bring the workers in,  
13 probably for two months out of every year. Okay? So it's  
14 not a round-the-clock operation.

15           DR. MANSFIELD: I'm going to ask Mr. Dwyer to  
16 ask this next question.

17           DR. WINOKUR: No, I'm actually going to take  
18 over.

19           DR. MANSFIELD: Okay, you're going to take  
20 over?

21           DR. WINOKUR: I'm going to take over. I have a  
22 question, and then Mr. Bader and then we'll go to Mr.  
23 Dwyer.

24           I worked in a research organization for about  
25 20, 25 years, and the problem was that a lot of customers



1 came in and wanted to do the kinds of things you want to  
2 do, like R&D and the back end of the fuel cycle,  
3 nonproliferation.

4 I didn't like the fact that they didn't want to  
5 pay for infrastructure. You know, they just wanted to use  
6 the facilities. So I guess along the lines that Dr.  
7 Mansfield's been asking you, these new missions sound very  
8 good, although you don't have dedicated funding.

9 Who's going to pick up the tab for the  
10 infrastructure necessary for this facility, because it  
11 seems to me you've got a lot of equipment that's aging; it  
12 needs to be kept up. You need training and so on and so  
13 forth.

14 How does that model work?

15 MR. CHUNG: Let me try to answer that question.

16 Office of Environmental Management is poised to  
17 provide nominally about \$150 million to baseload H-Canyon  
18 operation, to be able to support the kinds of activities  
19 that our colleagues already described.

20 In addition, as noted by Mr. Sautman's  
21 testimony, we do think that we need to develop a fairly  
22 detailed resumption plan so that we can understand from  
23 the DOE perspective as well as operator's perspective  
24 exactly what steps would be required to be able to able to  
25 resume operation involving processing of used nuclear

1 fuel.

2           So we think that the \$150 million would provide  
3 necessary funding to be able to satisfy the intent of high  
4 state of readiness for the facility.

5           Meanwhile, we're hoping to partner with other  
6 program offices. As you said, Dr. Winokur, it is not  
7 easy, but we have begun fairly high-level discussions with  
8 heads of these Program Secretarial Offices in terms of  
9 coming up with a program or activities that would provide  
10 win-win solution for both EM, NE, as well as NNSA.

11           So although we cannot tell you today in terms  
12 of, hey, we're going to have some finite amounts of  
13 dollars for next fiscal year, we're hoping that we would  
14 continue to work with them to gain additional interest but  
15 also some commitment in terms of doing all these R&D  
16 activities, quite frankly, are needed, not only for our  
17 own disposition path for DOE-owned nuclear fuel, but also  
18 for commercial spent nuclear fuel in terms of back end  
19 fuel cycles.

20           DR. WINOKUR: So you'll contribute 150 million.  
21 What do you contribute today, or when you were running  
22 this mission full scale, what were you contributing for  
23 the infrastructure in those days?

24           MR. CHUNG: In FY '10 we were funding at 220.

25           DR. WINOKUR: 220. All right. So it's down a

1 fair amount.

2           You know, we certainly have seen throughout the  
3 DOE complex a lot of examples at other facilities, like  
4 Los Alamos and others, where they have materials that  
5 haven't been processed, and we say, "Why haven't you done  
6 anything with that?" And they say, "Because NE won't give  
7 us the money or something."

8           I mean, that's a pretty common thing. It's  
9 kind of hard to come up with the dollars when you have  
10 users who come in and simply want to use the facility. I  
11 think you understand that challenge. Right? Okay.

12           Mr. Bader has one or two questions, and then  
13 we'll move on to Mr. Dwyer.

14           MR. BADER: Have you specifically defined what  
15 you mean by a high state of readiness?

16           MR. McGUIRE: Defined in writing in a technical  
17 document? No, sir.

18           MR. BADER: So you're planning to do all this  
19 without being sure it really meets a definition of a high  
20 state of readiness.

21           MR. McGUIRE: Well, I think the Department is  
22 confident that what we are doing after the blend-down  
23 program is complete and after the flushing is complete,  
24 does meet the high state of readiness.

25           As I said earlier, we're going to maintain the

1 core cadre of operators necessary to respond to any  
2 abnormal conditions. The equipment necessary to resume  
3 operations will be maintained.

4 The safety systems required to be operable in  
5 the accordance with the Documented Safety Analysis will be  
6 maintained.

7 MR. BADER: Are you aware of where the words  
8 "high state of readiness" came from?

9 MR. McGUIRE: As Mr. Sautman said, they were in  
10 the National Defense Authorization Act of 2001 and in --  
11 amended in 2004. Those are where those words came from,  
12 yes, so, yes.

13 And they were not defined in those documents.

14 MR. BADER: The House and Senate Armed Services  
15 Committees have used the terms 12 times in committee  
16 reports and in legislation. If you look at what those  
17 committees normally mean when they use that term -- and  
18 they use it for a multiplicity of things -- they mean, in  
19 terms of ships that have been maintained in the reserve  
20 fleet, the ability to go back to sea in three days.

21 When they talk about a unit deploying, they  
22 talk about it in the context of the unit would not be  
23 delayed or controlled by the time necessary to bring the  
24 units up to an operational status.

25 Another use is that the units are immediately

1 available for deployment. Do you think H-Canyon would  
2 meet those criteria, given what you've told us?

3 MR. MOODY: If I may, Mr. Bader, we have  
4 briefed this definition of high state of readiness to  
5 staffers from the Senate Armed Services, from -- for House  
6 Energy and Water and Senate.

7 So we believe this does meet a credible  
8 definition of high state of readiness and have  
9 communicated that openly to House and Senate staff.

10 MR. BADER: So this is defined in a document  
11 you've given them?

12 MR. MOODY: This is defined in presentations  
13 that have been given to them over the last several months.  
14 Yes. We'll be glad to make that available to you.

15 MR. BADER: And you believe this constitutes a  
16 definition which you can be held accountable for in the  
17 future?

18 MR. MOODY: Yes.

19 MR. BADER: I would appreciate that  
20 documentation for the record, please.

21 DR. WINOKUR: Thank you, Mr. Bader.

22 Mr. Dwyer.

23 MR. DWYER: Just continuing along the recovery  
24 theme, Dae, [Dae Chung] I believe you mentioned that you  
25 do not yet have a resumption plan. Is that correct?

1           MR. CHUNG: One of the things that we recognize  
2 as something that we're going to need as we were prepping  
3 for this hearing was in fact a resumption plan that  
4 details out exactly what steps would be required for those  
5 facility safety systems or support systems that would be  
6 laid off as a result of flushing out the lines, and what  
7 it would take in detail in terms of resuming those  
8 systems, for example, as well as retooling or requalifying  
9 additional operators to be able to ramp up in terms of  
10 volume of throughput.

11           So one of the things that we can commit today  
12 is to be able to work with the contractor and come up with  
13 this very detailed resumption plan such that we can  
14 perhaps explain better in terms of what it would take in  
15 terms of getting back to full operation from current  
16 projection of the facility status that we're envisioning  
17 in FY '12.

18           MR. DWYER: Okay. And as I recall, the  
19 direction from the site office to the contractor was to  
20 develop basically shutdown plans. Do you now have to  
21 direct them to develop this resumption plan or has the  
22 contractor already started such planning?

23           MR. McGUIRE: We directed the contractor to  
24 develop flushing plans. Okay?

25           MR. DWYER: Uh-huh.

1           MR. MCGUIRE: In HB-Line the flushing plan has  
2 been implemented, and essentially HB-Line's flushing is  
3 complete.

4           We've directed them to begin implementing the  
5 H-Canyon flushing plan subsequent to the dissolution and  
6 blend-down of the highly enriched uranium.

7           So, yes, once that operation is complete, as I  
8 said, at the end of this calendar year, we would -- as we  
9 turn down systems, we would be aware of what those systems  
10 are, the condition that they are left in, such that when  
11 they are resumed, we would develop the plan for the  
12 resumption.

13           So, yes, we would need to direct the contractor  
14 to develop those resumption plans.

15           MR. DWYER: Okay. But on the other hand,  
16 you've already outlined a recovery action that would take  
17 between six months and a year, and I was wondering, how do  
18 you decide that if you don't have a resumption plan yet?

19           MR. MCGUIRE: Just from the historical  
20 knowledge of operating the facility for -- you know, over  
21 the 50 years. We understand what it takes, how many  
22 operators it takes, what equipment is needed.

23           We've done the surveillances and maintenance on  
24 those systems that we're turning down, so we understand  
25 what operational checks, calibration checks, functionality

1 checks would be needed.

2 So I think we have a fairly reasonable time  
3 frame. And, again, that would not be -- the six months to  
4 a year would not be restoring the 100 percent capability.  
5 That would be to start the initial throughput campaign.

6 Obviously it would take, as we're estimating  
7 now, up to three years, and that is an estimate, based on  
8 how long it takes to hire. We know what it takes to  
9 qualify -- train and qualify operators and individuals to  
10 perform their functions.

11 So we have, again, a pretty good understanding  
12 of how long that would take. That would -- the details of  
13 that would be clearly identified in the resumption plan.  
14 And we agree with Mr. Sautman, as Mr. Chung said, that  
15 that is a needed document to set us up and identify what  
16 is needed to retain back to an operable processing state  
17 of used fuel, if that's the decision made.

18 MR. DWYER: Okay. And I noted that when you  
19 were talking about maintaining the high state of  
20 readiness, you talked about you're going to maintain the  
21 surveillances on the credited safety systems in the DSA,  
22 but I thought that you worded that rather carefully.

23 So is there a difference between the credited  
24 safety systems that are required by the DSA now and what  
25 will be required after you finish the flushing?



1 MR. McGUIRE: Yes, there is a difference.

2 MR. DWYER: I would expect so.

3 MR. McGUIRE: Once the flushing is complete, as  
4 an example, you know, the fissile material and the  
5 probability of a criticality would no longer exist, so  
6 there are several systems that, the way the Documented  
7 Safety Analysis and Technical Safety Requirements are  
8 worded is that those systems would no longer be needed.  
9 Okay?

10 And my colleague Steve [Steve Howell] can  
11 further explain some of the systems that will be --

12 MR. HOWELL: Be glad to.

13 Just as you stated, by design the intent of the  
14 flush plan is to remove hazards from the facility. The  
15 primary hazards that that will remove would be criticality  
16 hazards and hydrogen generation hazards.

17 So as a result, we would no longer -- for our  
18 current safety basis we would no longer require credited  
19 operable systems; for example, neutron monitors, nuclear  
20 incident monitors, some of the concentration interlocks,  
21 for example. And those systems would have surveillances  
22 suspended on those.

23 MR. DWYER: Right. And so then you go back to  
24 the question that Dr. Mansfield was asking. And so three  
25 years later I say, "Well, we got to resume operations."

1 I have to bring all those systems back up, do I  
2 not?

3 MR. HOWELL: That's correct. That would  
4 require a deliberate manner to go through and test those  
5 systems and return them to service. That's correct.

6 MR. DWYER: And that will be fully fleshed out  
7 in your resumption plan?

8 MR. HOWELL: Yes. That would have to be  
9 fleshed out in the resumption plan, although the safety  
10 basis outlines what those surveillance requirements are  
11 today, but --

12 MR. DWYER: I understand, but you're going to  
13 have to allocate resources and try and figure out which  
14 ones can be recovered and which ones have to be torn out  
15 and renewed with completely new equipment.

16 MR. HOWELL: That is correct. We would  
17 maintain their functional classification. However, you  
18 know, as I said earlier, surveillances would be suspended,  
19 so we would have to resume their surveillances and verify  
20 they were operable to be credited from a safety basis  
21 perspective prior to returning them to service.

22 MR. DWYER: Okay. And you said up to three  
23 years to bring yourself up -- basically up to today's  
24 throughput. Is that how long it takes also to qualify the  
25 necessary operators?

1                   MR. HOWELL: Yes, sir. We think, as Mr.  
2 McGuire previously stated -- of course, it would be a  
3 function of time, depending on the time delay between  
4 going into the cold-run mode and resuming hot operations.  
5 A function of time there would dictate some of these  
6 things, but as a general rule we think that it would take  
7 two to three years to go out and hire and fully retrain  
8 staff to be back up to current staffing levels, and within  
9 that two- to three-year period we would also have to go  
10 through restoring the functional testing, et cetera, of  
11 these systems.

12                   MR. DWYER: Do you have some -- just a working  
13 number that you use for if I want to train a crane  
14 operator from start to finish, a working time line, and a  
15 chemical operator, start to finish?

16                   MR. HOWELL: Typically for a new hire it's on  
17 the order of two years, as a minimum, to come in and  
18 receive basic fundamental training and then enter the  
19 facility and get initial level of qualification. Two  
20 years is a good general rule of thumb.

21                   Some of the more challenging operations like  
22 crane operators would be more on the lines of three years,  
23 as a minimum.

24                   MR. DWYER: Okay. So if it takes me three  
25 years to train somebody up to fully proficient, then it's

1 going to take me more than three years to recover to full  
2 operation.

3 MR. EYLER: Well, I think it depends on where  
4 you start. I mean, for example, if you're talking a crane  
5 operator, you could take somebody who's already in the  
6 facility and start qualifying them as crane operators.  
7 You bring in new -- you'd have a phasing plan to bring in  
8 staff.

9 So when we came up with that estimate, we were  
10 looking at how we would phase people in. Now, we haven't  
11 gone into great detail in that, because that's not -- at  
12 least based on our understanding, where the Department's  
13 going.

14 You know, full resumption of processing is not  
15 something we project in the size we are currently staffed  
16 today, so we haven't got to that point yet. But that's --  
17 our initial estimate is based upon that kind of sequencing  
18 of people.

19 We wouldn't take a new hire and then plan to  
20 just run them through to make them a crane operator. It  
21 would be they'd backfill somebody, and we'd stagger it  
22 through.

23 MR. DWYER: Okay.

24 DR. WINOKUR: Do you think the \$150 million a  
25 year that Mr. Chung talked about is going to be sufficient

1 for you to maintain what you're defining as a high state  
2 of readiness?

3 I mean, there's like a \$70 million gap there  
4 between what you were using for infrastructure and what  
5 you're now going to provide for infrastructure. After a  
6 few years, what's going to begin to fall off the table?  
7 What will you lose?

8 MR. McGUIRE: The difference between that 150  
9 million, a lot of it has to do with H-Area operations.  
10 Let's say we're at the FY '12 limit of 150 million, and if  
11 we were to go back up and buy back the processing of used  
12 fuel at the 100 percent capacity, we're estimating at FY  
13 '12 it would be roughly an \$80 million plus-up.

14 40 million of that would go into H-Canyon,  
15 essentially. The remaining of that is over in L-Area, to  
16 prepare, casks to ship fuel from L to H. It also supports  
17 the fuel exchange for the stainless steel fuel from  
18 Savannah River to Idaho, and approximately 15 to 30  
19 million for Idaho to ship material from Idaho to Savannah  
20 River.

21 So the delta of the program is much broader  
22 than H-Canyon. Okay. There is a significant portion,  
23 obviously --

24 DR. WINOKUR: 40 million, you're saying, over  
25 150, that's still a 20, 25 percent number.

1 MR. McGUIRE: It's still a significant number.  
2 But we are -- and so that -- obviously that money relates  
3 to the workforce, and that workforce, you know, if we go  
4 into a modified state of operations, would no longer be  
5 needed.

6 So I am confident that the President's -- FY  
7 '12 President's budget request is sufficient to maintain  
8 H-Canyon in this -- a modified operation state and in the  
9 high state of readiness, as Dr. Moody described, to  
10 support the new missions if those missions are, you know,  
11 worked out with other agencies.

12 And that budget also supports the safe storage  
13 of the plutonium, the surveillance of the plutonium over  
14 in K-Area, as well as some F-Area analytical laboratory  
15 work.

16 So I am confident that the President's budget  
17 requests were able to support the missions and the work  
18 that we described here tonight.

19 DR. WINOKUR: I think you know that the  
20 President's budget is the high point in this discussion.

21 MR. McGUIRE: I understand.

22 DR. WINOKUR: So it could be -- certainly be  
23 worse.

24 Let me ask you one more question about the  
25 workforce. What do you think this means to the workforce?

1 I mean, you certainly want a facility where you have very  
2 trained, very expert people.

3 They're going to see this operation being  
4 scaled back, shut down to some extent. The future's very  
5 uncertain. How are you going to maintain the quality  
6 people you have and how are you going to attract new  
7 people so that this could be an enduring mission for you  
8 someday? How's that going to work?

9 MR. EYLER: Mr. Chairman, I think you're on to  
10 something. It is going to be a challenge to retain highly  
11 qualified, motivated people when -- if your future's  
12 uncertain. That's a reality.

13 What we have tried to do through this process  
14 is to communicate, you know, frequently with our workforce  
15 of what is happening, not only about what the direction  
16 the Department is given but also what we are working on  
17 for new missions and new opportunities for the facility.

18 Through that -- I mean, I believe that open and  
19 frank conversation with the workforce and explaining to  
20 them what the future holds and what the uncertainties  
21 are -- we owe that to the workforce.

22 Now, what people may decide to do as a result  
23 of that information, it's hard to say. I am encouraged,  
24 though, that the people that are working in H-Canyon and  
25 HB-Line are very dedicated to what they do.

1           And I think that if we believe that we have a  
2 future mission -- and that's what we're working to  
3 achieve -- I believe we can retain sufficient people to at  
4 least maintain that core capability.

5           But that's something we've committed to the  
6 Department that we would monitor as time goes on. That  
7 was in our response to the letter of direction we  
8 received.

9           And as time goes on, we will have to see  
10 whether or not we have a risk that's developing or rather  
11 a realization of that risk.

12           As far as recruiting new people, that may be  
13 more of a challenge. If there's no future mission per se  
14 or perceived, I should say, you know, mission, that may be  
15 difficult to recruit new talent.

16           DR. WINOKUR: Right.

17           MR. EYLER: On the other hand, we probably will  
18 be looking for that new talent hopefully if some of those  
19 new missions are realized, and then we will have those  
20 opportunities to offer.

21           So it's a difficult thing to manage, and we're  
22 certainly aware of that.

23           DR. WINOKUR: Okay. I think we want to move  
24 on.

25           DR. MANSFIELD: My last question, I promise. We



1 have to move on.

2 The Board's obviously very concerned about  
3 leaving that fuel in L-Basin, as you'll hear when we move  
4 on. If the fuel were reprocessed according to plan, what  
5 would be the product? Would you run secondary extraction?

6 MR. McGUIRE: We'd run the -- our current --

7 DR. MANSFIELD: PUREX? Full PUREX?

8 MR. McGUIRE: Well, an H-modified is what we  
9 call it. It's an H-modified process. It extracts uranium,  
10 and it's -- the plutonium is discarded with other fission  
11 products to waste, so it's an H-modified process.

12 DR. MANSFIELD: Okay. So you're saying -- you  
13 don't ever separate the plutonium; it's just --

14 MR. McGUIRE: Not what we're doing currently.  
15 No. Now, that's an asset for some of our other new  
16 missions. As I mentioned in my opening remarks, H-Canyon  
17 may be considered as an alternative to disposition some of  
18 the pits, because it -- we could adjust the chemistry in  
19 H-Canyon to separate out the plutonium such that it can be  
20 sent to the Mix Oxide Fuel Facility for -- as it meets its  
21 fuel specifications.

22 Simultaneously we'd be able to extract the  
23 uranium, blend it down as we're currently doing --

24 DR. MANSFIELD: All those sound like  
25 reprocessing, and the "re" part of reprocessing gets a lot

1 of attention.

2 What would happen if you just sent the first-  
3 cycle raffinate to the Tank Farms?

4 MR. MCGUIRE: Looking at the -- you mean if the  
5 uranium is just --

6 DR. MANSFIELD: Send the salt there and the  
7 uranium and plutonium there.

8 MR. MCGUIRE: It's an option we could look at  
9 as we're going future.

10 DR. MANSFIELD: That does not sound like  
11 reprocessing to me.

12 DR. WINOKUR: All right. We're going to have  
13 to move on here.

14 MR. HOWELL: Could I answer your question, sir?

15 DR. WINOKUR: All right. Make this a very  
16 brief answer. We have so much we need to cover. Let's  
17 just finish this up.

18 MR. HOWELL: I just want to clarify that. Is  
19 your answer, "Could we send the plutonium directly to  
20 waste from first cycle?" Yes.

21 DR. MANSFIELD: I withdraw the question. We're  
22 getting off track.

23 DR. WINOKUR: Yeah. I think we're getting a  
24 little much -- Mr. Bader has one short question, and then  
25 we're moving on.

1           MR. BADER: Dr. Moody, when you gave that  
2 definition to high state of readiness to the two  
3 committees, did you let them know that it would be three  
4 years between the time you needed -- you knew you were  
5 going to have to go back up to operation and the time you  
6 got to full operation?

7           MR. MOODY: The communication that I remember  
8 was the six months to a year to come up to operation, and  
9 I do not remember a time to get to full operation.

10           I believe the question that was asked of us in  
11 those presentations was, "How long would it take you to  
12 return to operation?" And that answer was six months to a  
13 year.

14           MR. BADER: Thank you.

15           DR. WINOKUR: Mr. Ascanio, we've been  
16 neglecting you. I know that you have responsibilities at  
17 NNSA to look at a lot of the nuclear materials, and I  
18 think you keep a database that tells you what their  
19 disposition paths are.

20           And so one of my first questions to you is what  
21 inventories of plutonium items at other DOE sites have no  
22 disposition path, or do they all have disposition paths?

23           MR. ASCANIO: Yes, sir. The database you refer  
24 to is called the Nuclear Materials Inventory Assessment,  
25 and that is an annual assessment of our inventories.

1           The -- in general, most of the materials do  
2 have disposition paths, and the large quantities tend to  
3 be things like pits that are -- and the disposition path  
4 would be to be disassembled and be converted to MOX or, in  
5 the case of highly enriched uranium, it would be either  
6 the dismantled components -- the highly enriched uranium  
7 would go to the Navy for use in their propulsion plants or  
8 down-blended to be used as a reactor fuel.

9           So then that leaves relatively small  
10 quantities, at places like Los Alamos, of materials that,  
11 for one reason or another, do not meet the specifications  
12 required to be made either into MOX fuel or for use as  
13 fuel in -- for the Navy or other reactors.

14           But these are relatively small quantities, and  
15 a lot of these are things that are either left over from  
16 past research and production activities. They're --  
17 oftentimes they're standards, sources, things like that.

18           So there are some materials that we have not  
19 decided a disposition path. Some of those could be  
20 candidates for a facility such as H-Canyon, but that's not  
21 the only disposition path.

22           So -- so we're working through that to  
23 determine the best disposition paths. If a facility like  
24 H-Canyon was operating, say, to process spent fuel, then  
25 it may become economically attractive to piggyback on a

1 campaign like that to dispose some of these.

2 But on the other hand, these quantities tend to  
3 be so small that they could not efficiently make use of  
4 the capacity of H-Canyon.

5 DR. WINOKUR: So do you have concerns about the  
6 fact that H-Canyon might not be an available disposition  
7 path for your materials -- some of your materials?

8 MR. ASCANIO: Well, we have -- it's something  
9 that we're working closely with EM as the plans are  
10 developed to see what the windows of opportunity are, but  
11 we're also exploring other options as well.

12 So I would say, you know, we don't have any  
13 particular materials that we feel that we are stuck on and  
14 have no way to go. We are rather in a decision process,  
15 trying to determine what would be the best method for  
16 disposing of such materials.

17 DR. WINOKUR: I thought that's what Mr.  
18 McGuire's testimony said, that there are no materials that  
19 you have that you don't have a defined disposition path  
20 for. Did I misunderstand that?

21 MR. ASCANIO: I believe what he said was that  
22 there's no materials that are of a safety concern that  
23 would require processing by H-Canyon, and I believe that's  
24 a correct statement.

25 There are materials that we have not yet

1 decided what the ultimate disposition path will be, but  
2 that's not the same as saying that they require H-Canyon  
3 disposition. We just haven't made the decisions yet.

4 DR. WINOKUR: Are there any materials that you  
5 had initially penciled in H-Canyon as the disposition path  
6 and now that it's not available, you'll be looking at  
7 other options and other ways to process that material?

8 MR. ASCANIO: Yes. There are materials for  
9 which people thought that H-Canyon would be a good  
10 candidate for disposition. And one of the things you need  
11 to understand about the Nuclear Material Inventory  
12 Assessment. It's something that's done on an annual  
13 basis, so it's snapshot.

14 And the disposition paths identified in the  
15 Nuclear Material Inventory Assessment are the -- what the  
16 individual sites who report the materials believe would be  
17 the disposition path.

18 However, that's not the same as saying that a  
19 decision has been made that that's the disposition path.  
20 So when you look at, for example, the Nuclear Material  
21 Inventory Assessment data, I believe the most recent one  
22 that the Board's staff has seen was the data as of the end  
23 of fiscal year 2009. I don't know if they've seen the  
24 2010 data yet.

25 So that was information reported back in 2009,

1 before these current plans had been announced, so the  
2 people who were proposing those paths did not know about  
3 these plans.

4 DR. WINOKUR: And how much does your database  
5 change every year? Do you continue to uncover materials  
6 that you need disposition paths from from year to year?  
7 Is that a common occurrence?

8 MR. ASCANIO: We -- well, the database is  
9 updated each year, so I wouldn't say that we discover new  
10 materials. The proposed disposition paths may change as  
11 different decisions are made.

12 For example, from one year to another a program  
13 may decide that certain materials that they have are no  
14 longer needed. So in one year they'll be reported as  
15 materials with a defined use, and then in the next year  
16 maybe --

17 DR. WINOKUR: All right.

18 MR. ASCANIO: -- reported as something that has  
19 no defined use and with a preliminary disposition path  
20 proposed by the site.

21 So there's those kind of changes. I would say  
22 in general it doesn't change rapidly. You know, the  
23 things that really change it are, for example, when HEU is  
24 down-blended, then that changes the status quite a bit.

25 When we were doing the big consolidation

1 campaigns, Rocky Flats, Hanford, in those years things  
2 changed pretty rapidly. But in other years it doesn't  
3 change very rapidly.

4 DR. WINOKUR: Okay. I have one more question,  
5 then I'm going to turn it over to Mr. Bader so that we can  
6 discuss the spent fuel at L-Basin in a little more detail.

7 But, and I think I heard this in the testimony  
8 also. You do have material in cans, plutonium materials,  
9 and you do have 3013 cans. Right? And you do  
10 surveillance on those. True?

11 MR. ASCANIO: That's correct.

12 DR. WINOKUR: And if you don't have H-Canyon  
13 available, what will you do the material after you do the  
14 surveillance? I mean, you don't have a capability to  
15 repackage it -- right? -- or recontainerize it.

16 MR. MCGUIRE: That is correct. We do not have  
17 a capability to reestablish it in the 3013 configuration.

18 Previously we took those daughter cans, took them to  
19 HB-Line. HB-Line is the primarily plutonium processing.

20 We dissolved that material and then sent it  
21 over to the Defense Waste Processing Facility for  
22 stabilization in the DWPF canisters.

23 But that still retains the material in-State.  
24 It's in a very stable state, as Mr. Sautman talked about;  
25 the vitrified logs are very stable and robust, but it



1 still is in the state, so Dr. Moody had the vision, came  
2 from Carlsbad and said, "Well, let's send the material out  
3 of the state to the final disposition state."

4 So we are constituting the capability in  
5 HB-Line to take those -- that plutonium from K-Area, bring  
6 it over to HB-Line, repackage it, place it into -- blend  
7 it with an inert material, repackage it into pipe overpack  
8 containers, send that over to our E-area, solid waste  
9 disposition facility, and then ship that to WIPP.

10 And I believe you're going to tour those  
11 facilities tomorrow, so you'll see some of the equipment  
12 and the capability that is being installed.

13 So that is what our disposition path is for the  
14 plutonium that we're doing the surveillance on over in  
15 K-Area.

16 DR. WINOKUR: Okay. Thank you.

17 Mr. Bader?

18 MR. BADER: I wanted to start out asking Mr.  
19 Chung, you've got a Record of Decision that's  
20 approximately 11 years old that committed you to use  
21 conventional processing to stabilize Sodium Reactor  
22 Experiment fuel and failed or sectioned fuel from the  
23 Heavy Water Components Test Reactor, Tower Shield Reactor,  
24 HPRR, [Health Physics Research Reactor] and the Oak Ridge  
25 reactor.

1           How are you going to comply with that ROD, or  
2 do you intend to modify the ROD?

3           MR. CHUNG: Some of those use nuclear fuel that  
4 is not in the best conditions. We have asked the site to  
5 perform a study to reevaluate the conditions as well as  
6 any future actions that the Department needs to take to  
7 make sure that those fuel inventories that you've  
8 mentioned could still be stored as an interim strategy in  
9 L-Basin.

10           And it's my understanding that that study has  
11 been completed as of April of this year. That requires  
12 some additional actions.

13           Maybe Pat [Patrick McGuire] or our colleagues  
14 from SRS can elaborate, but we intend to follow those  
15 recommendations from this study to ensure that we can  
16 continue to store them safely in L-Basin.

17           The ROD that you're mentioning also included  
18 melt and dilute as our preferred methodology or technology  
19 at the time. You've seen various optional studies that  
20 the Department has performed over the years in terms of  
21 that particular option versus other options that we have  
22 evaluated, including processing in H-Canyon, dry storage,  
23 as well as continued wet storage in L-Basin for more than  
24 30-plus years.

25           So we think that we still are meeting the

1 intent of the prior decision in terms of making sure that  
2 we can store the spent nuclear fuel in a safe manner until  
3 a final decision can be made.

4           Whether it's going to be a melt and dilute or  
5 processing in H-Canyon or any other method, we believe  
6 that the key strategy here is to make sure that we can  
7 continue to store in L-Basin.

8           MR. BADER: If you continue to store in  
9 L-Basin, that means you're committed to expend \$150  
10 million each year to keep the H-Canyon in a high state of  
11 readiness -- is that correct -- indefinitely?

12           MR. CHUNG: Well, hopefully we will be making  
13 some more finite decision in terms of whether or not we're  
14 going to -- you know, because it -- whether we store in  
15 the L-Basin or we opt for dry storage configuration, it's  
16 going to take some capital cost. It's going to take  
17 additional funds.

18           So we're hoping that as we go through the FY  
19 '12 and also see what the country is going through in  
20 terms of the fiscal challenges, we're hoping to make more  
21 refined decisions in terms of what to do with user nuclear  
22 fuel.

23           Obviously the recommendations from Blue Ribbon  
24 Commission will play key role in terms of getting some  
25 sense as to whether or not we should continue to store,

1 whether wet storage would be acceptable from a safety  
2 standpoint, whether we need to start thinking about dry  
3 storage option, or whether it would be prudent,  
4 economically as well as technically, to process the fuel  
5 in H-Canyon.

6           So I hope it's not going to be indefinite  
7 condition that we have to maintain in terms of satisfying  
8 the high state of readiness, but something that we can  
9 maintain for time being and making sure that all of the  
10 nuclear materials, as well as the spent nuclear fuel, can  
11 be stored safely.

12           MR. BADER: Let me go to the -- you touched on  
13 one thing that's of concern, and that is some of these  
14 canned pieces of fuel and fuel materials have on occasion  
15 leaked.

16           Without H-Canyon, how are you going to handle  
17 any future leakers or any future canned materials that you  
18 find you're having problems with?

19           MR. CHUNG: I'm not personally aware that the  
20 sealed fuel cans have actually leaked while stored in  
21 L-Basin --

22           MR. BADER: I believe there's a couple of cases  
23 where they have.

24           MR. CHUNG: In the past.

25           MR. McGUIRE: Yeah, in the past, and in the

1 past we also have overpacked some of those leaking cans.  
2 We also demonstrated a capability in those cans to  
3 deionize some of that water to mitigate some of the  
4 corrosion that is taking place.

5 So you are correct; there is some vulnerable  
6 fuel. We're well aware of that. Mr. Sautman portrayed it  
7 very well.

8 The Savannah River National Laboratory, the  
9 report that Mr. Chung spoke to, addressed that also, and  
10 their final conclusions were that the used nuclear fuel,  
11 including some of this vulnerable fuel, could be safely  
12 stored for an additional 50 years or beyond using our  
13 current management program, as well as augmented by some  
14 additional requirements and surveillance and maintenance,  
15 and that's what Mr. Chung spoke to.

16 So we have a very good water chemistry program,  
17 but we do -- to answer the question, we need to further  
18 evaluate what to do with some of that, you know, damaged  
19 fuel that was taken out of earlier reactors, some of the  
20 cut fuel, the declad fuel.

21 It is overpacked. It's in either sealed or  
22 vented containers. We're aware of that. And it does  
23 present some challenges; you're absolutely correct.

24 And if the decision to not process fuel is  
25 deferred for some period of time, we need to develop that

1 additional augmented surveillance programs for that  
2 material.

3 But the Basin itself, the concrete structure,  
4 is very sound. The water chemistry program is very sound.  
5 The general aluminum fuel is very sound. We don't see any  
6 abnormal areas of corrosion or pitting or anything of that  
7 nature, but it is this very small percentage of vulnerable  
8 fuel.

9 If it does present a problem, okay, that is one  
10 of the things we feel confident that the cadre of people  
11 that we're retaining in H-Canyon and the systems that  
12 we're maintaining in H-Canyon, if there is some urgent,  
13 imminent safety issue -- which does not exist at this time  
14 and the Savannah River National Lab did not expect  
15 anything soon, but H-Canyon would be able to process and  
16 stabilize some of that material. Okay?

17 We would be able to, as we stated earlier,  
18 within that six-month time frame, hope to a year, be able  
19 to get to that point. So one of the things is we need to  
20 develop a program.

21 MR. BADER: But what you're basically telling  
22 me is you're going into a period of uncertainty with this  
23 fuel. You're using words like, "The lab says it's not  
24 going to have a problem soon."

25 MR. McGUIRE: You are correct. There is not an

1 imminent safety issue that we are aware of that we have  
2 seen, but we are aware we cannot defer indefinitely. We  
3 need to be proactive. We need to take some additional  
4 actions to ensure that that condition and the analysis  
5 that the lab has documented is true.

6 MR. BADER: What happens if you develop a  
7 problem and you don't have H-Canyon there?

8 MR. MCGUIRE: Well, some of the fuel we could  
9 repack -- you know, overpack like we have done before. We  
10 could deionize, as I --

11 MR. BADER: Isn't there a limit to what you can  
12 do in terms of overpacking?

13 MR. MCGUIRE: Yes, sir.

14 MR. BADER: Okay.

15 Peter?

16 DR. WINOKUR: Well, I'm still trying to see  
17 what the path forward here is. You say it's good for 50  
18 years, but you're not going to keep it in the pools for 50  
19 years. Right?

20 MR. MCGUIRE: I would hope not.

21 DR. WINOKUR: So what's the plan? I mean, what  
22 do you think from the Blue Ribbon Commission you're going  
23 to learn that's going to help inform the decision you need  
24 to make about how to treat the spent fuel in those -- in  
25 that pool?

1           MR. MCGUIRE: The alternative -- dependent upon  
2 the recommendation of the Blue Ribbon Commission,  
3 obviously we could process it in H-Canyon. We could  
4 continue to store it. We could look -- we are looking and  
5 can look at dry storage alternatives, either for an  
6 interim dry storage period or for a dry -- for a  
7 capability similar to kind of a universal federal  
8 repository in a dry storage configuration, such that it  
9 would meet any standards of any federal repository when  
10 those standards are identified.

11           But we are looking at options and alternatives  
12 that include dry storage, either interim or long term,  
13 continued wet storage processing, or something else that  
14 the Blue Ribbon Commission may recommend.

15           DR. WINOKUR: Do you think that dry storage  
16 provides an advantage to you over processing it in  
17 H-Canyon? I mean, you have to get the stuff out of the  
18 pool; you have to repack it. Right? It's a significant  
19 undertaking with worker exposures and things of that  
20 nature?

21           MR. MCGUIRE: It would be a significant  
22 investment in resources, dollars. There would be  
23 exposure. Yes. So it is an alternative.

24           MR. BADER: And I would think -- I mean, I'm  
25 not sure whether you feel comfortable commenting on this,



1 but wouldn't this be a pretty high proliferation risk to  
2 store -- dry store some of this material?

3 MR. McGUIRE: The Savannah River Site is a very  
4 secure site. Commercial nuclear is dry-storing material.

5 MR. BADER: Yeah. Commercial Nuclear is dry-  
6 storing depleted uranium fuel. I mean, that's high  
7 burn-up stuff. Number one, it's hot as a pistol. Number  
8 two, there's nothing much left in there that's attractive  
9 to anybody.

10 MR. McGUIRE: But with regard to dry storage,  
11 if we -- if an alternative is selected such that that's  
12 the direction we go, as I said, the Savannah River Site is  
13 a very secure Site; L-Area is a secure area.

14 So I feel very safe, from a proliferation  
15 standpoint, that it would be okay.

16 DR. WINOKUR: Okay. Have you seen anything in  
17 the Blue Ribbon Commission draft that you think is  
18 obviously going to inform your decision that -- is your  
19 decision really going to be easier to make next spring  
20 than it is now?

21 MR. McGUIRE: He's looking at you, Dae [Dae  
22 Chung].

23 MR. CHUNG: What we're looking for is at least  
24 some either full endorsement or some latitude given in  
25 terms of being able to process or reprocess, so that any

1 actions that we might take in terms of processing used  
2 nuclear fuel, which is only 1 percent -- less than 1  
3 percent of the total used nuclear fuel inventory that we  
4 have within the Department --

5 DR. WINOKUR: Right.

6 MR. CHUNG: -- so it's not a large quantity, so  
7 that, you know, the actions that we might take would not  
8 be viewed as something that is entirely against what the  
9 national policy would be for dealing with commercial spent  
10 nuclear fuel, as well as any future R&D activities that  
11 the Blue Ribbon Commission might be recommending in terms  
12 of either aqueous or dry reprocessing technology.

13 So we're trying to be very mindful of this  
14 critical decision or policy recommendation that BRC would  
15 be making for, quite frankly, a very large amount of spent  
16 nuclear fuel inventory that this country has in the  
17 commercial sector, so that our decision would become  
18 copacetic with the national policy recommendations that  
19 the President and then Secretary of Energy would be going  
20 forward.

21 We think that is a prudent policy posture at  
22 this point, and we're hoping that their recommendation  
23 would give us, one way or the other, clearer a path  
24 forward so that we can be a bit more definitive in terms  
25 of the options that we have to further study to make sure

1 that we can store and disposition spent nuclear fuel in a  
2 safe manner and also very economically feasible manner.

3 DR. WINOKUR: I'm sorry. One way or another, do  
4 you think you're going to have this fuel in L-Basin in 10  
5 years?

6 MR. CHUNG: I would think so. But even if we  
7 were to start reprocessing fuel in FY '13, depending on  
8 the funding level, it may take up to 2026, 2027 time  
9 period, so we are looking at large fraction of the fuel  
10 still remaining in L-Basin.

11 That's why the study that has been updated by  
12 the National -- Savannah River National Lab is a critical  
13 piece of what we need to do to further ensure going  
14 forward.

15 MR. MOODY: The schedule -- the current  
16 schedule of receipt into L-Area runs through 2019, so I  
17 think we can be pretty much assured that we'll continue to  
18 have fuel in L-Area in 10 years.

19 DR. WINOKUR: All right.

20 Mr. Dwyer, do you have a final question you  
21 want to ask there?

22 MR. DWYER: Just a clarification, I guess.

23 Mr. McGuire, I believe you said that there is  
24 some fraction of the fuel in L-Basin that is in a  
25 vulnerable state; perhaps hasn't been looked at for a

1 while.

2           And I was trying to decide what exactly is  
3 "surplus nuclear material that poses a safety risk?" What  
4 is that? That's the phrase that we kept hearing: "There  
5 are no surplus nuclear materials in storage that pose a  
6 safety risk."

7           How do I equate that with what you said, that  
8 there are some materials in L-Basin that are vulnerable?

9           MR. McGUIRE: In my opening remarks, you are  
10 correct, I made the statement "that pose a safety risk."  
11 In my -- in those words something that's imminent that we  
12 need to deal with today, tomorrow. Okay?

13           The vulnerable fuel I don't believe is an  
14 imminent safety risk, and therefore I believe there's a  
15 distinction between those two terms.

16           MR. DWYER: So you said "pose a safety risk."  
17 What you meant was an imminent safety risk.

18           MR. McGUIRE: Yes. Something that would  
19 need --

20           MR. DWYER: Because don't all the surplus  
21 nuclear materials pose safety risks? That's why we treat  
22 them with care?

23           MR. McGUIRE: Yes. And that's why --  
24 clarification. I probably should have said imminent or  
25 something of that nature, just for clarification. Yes.

1 MR. DWYER: All right.

2 Mr. Chairman.

3 DR. WINOKUR: Okay. Mr. Bader has a comment,  
4 and I have a final comment, too, and then I think we're  
5 going to head on to the public comment period.

6 MR. BADER: My comment's in the form of a  
7 question.

8 DR. WINOKUR: I'm sorry. I thought you were  
9 going to get away with a comment.

10 (General laughter.)

11 MR. BADER: What I don't understand, listening  
12 to all this, is why are you taking a perfectly good  
13 functioning facility that can process the spent nuclear  
14 fuel you've got and dispose of it, suspend operations and,  
15 in the process, introduce the whole range of unknowns that  
16 we've discussed this evening?

17 I mean, to me, it's -- if anybody could help by  
18 answering that question, I would really appreciate it.

19 Dr. Moody?

20 MR. MOODY: I believe that we will be  
21 successful in implementing some of the elements of the new  
22 vision as early as fiscal '12. With some of the  
23 discussions that we're currently having -- the questions  
24 were asked, do we currently have those funded and on the  
25 books to start. The answer is no.

1           But I believe that we have opportunities within  
2 fiscal '12 so that we will not be in a state of high  
3 readiness for a long period of time. I think we will be  
4 moving into initial research and development or we will be  
5 working off some of the nuclear materials and exercise the  
6 capability of the canyon.

7           So I think there are a number of options beyond  
8 used fuel to exercise the capability of the canyons and  
9 accomplish Department mission, and I'm optimistic that  
10 we'll be in a position to exercise one or more of those in  
11 fiscal '12.

12           MR. BADER: Well, I guess I will make a comment  
13 then.

14           I would -- to me the conservative thing would  
15 be to keep the H-Canyon operating and, when you have an  
16 alternative, then take some action and not base it on  
17 optimism.

18           So I did make a comment.

19           DR. WINOKUR: And I would just end by saying,  
20 before I thank you all very much, is I know you have a new  
21 vision. We've seen it. It's your job, I guess, as Site  
22 Manager to be looking at the future, but I think there's  
23 an old vision and a commitment here, and I think we feel  
24 very strongly on the Board that this is the last chemical  
25 processing facility; it has unique capabilities for the

1 nation.

2 I would kind of debate whether it really is  
3 going to be in a high state of readiness or not. We could  
4 talk about what that exactly means. My sense and  
5 experience with these things is that once you begin to  
6 slow these operations down significantly, you'll have a  
7 difficult time maintaining a high-quality workforce,  
8 you'll have a difficult time reconstituting the  
9 operations, and you'll pay a lot of money to do it in the  
10 end if you want to come back up to speed.

11 And I guess that's it, so I think it's been a  
12 good discussion. I think you understand our concerns, and  
13 I think we'll hear from the community, some of their  
14 concerns here about maintaining this facility.

15 We do believe on the Board that it is a vital  
16 national resource, a critical thing, so I do hope that  
17 this high state of readiness you have in mind is one that  
18 really does keep it positioned to do an important job if  
19 it has to.

20 Maybe we have to wait till the Blue Ribbon  
21 Commission makes its decision, but once it does, that  
22 you're capable of moving forward with that.

23 So I thank you very much, Mr. Chung, Dr.  
24 Moody -- I got to read these names here -- Mr. McGuire --  
25 I know you, Mr. Eyler; pleasure seeing you again, sir --

1 Mr. Howell, and Mr. Ascanio. Thank you.

2 (Pause.)

3 DR. WINOKUR: At this time, per the Board's  
4 practice, and as stated in the *Federal Register* notice, we  
5 welcome comments from interested members of the public.

6 A list of those speakers who have contacted the  
7 Board is posted at the entrance to this room. We have  
8 generally listed the speakers in the order in which they  
9 contacted us or, if possible, when they wished to speak.

10 I will call the speakers in this order and ask  
11 that speakers state their name and title at the beginning  
12 of their presentation.

13 There is also a table at the entrance to this  
14 room with a sign-up sheet for members of the public who  
15 wish to make a presentation but did not have an  
16 opportunity to notify us ahead of time.

17 They will follow those who have already  
18 registered with us, in the order in which they have signed  
19 up.

20 To give everyone wishing to make a presentation  
21 an equal opportunity, we ask that speakers limit their  
22 original presentations to five minutes. The Chair will  
23 then give consideration for additional comments, should  
24 time permit.

25 Presentations should be limited to comments,



1 technical information, or data concerning the subjects of  
2 this public meeting and hearing. The Board Members may  
3 question anyone making a presentation to the extent deemed  
4 appropriate.

5 The first speaker is Dr. Clint Wolfe. He is  
6 the Executive Director of Citizens for Nuclear Technology  
7 Awareness.

8 Dr. Wolfe.

9 DR. WOLFE: Thank you. I am Clint Wolfe; I'm  
10 the Executive Director of Citizens for Nuclear Technology  
11 Awareness, or CNTA, and we're headquartered in Aiken,  
12 South Carolina. I'm also the public policy task force  
13 Chair for the Carolinas Nuclear Cluster.

14 I'm here tonight to add my organization's  
15 voices to the many others who want to urge the  
16 preservation of the unique capabilities that H-Canyon and  
17 HB-Line possess.

18 In the late '90s, I served on a technical  
19 advisory panel to the DOE's plutonium focus area. I also  
20 chaired that panel for a time as we addressed the  
21 appropriate disposition paths for materials singled out in  
22 the DNFSB's 94-1 communication.

23 My position at the Savannah River National Lab  
24 at that time included responsibilities for actinide  
25 chemistry, and as such we provided flow sheet development

1 and demonstration for a number of plutonium- and uranium-  
2 bearing materials.

3           The functional performance requirements for  
4 dealing with 94-1 materials often were predicated on not  
5 generating high-level liquid wastes, so H-Canyon and  
6 HB-Line were often excluded from consideration for special  
7 materials.

8           Instead, we went through a whole host of  
9 specialized approaches for each material, none of which  
10 had the benefit of ever having been demonstrated in a  
11 production mode.

12           We now know that SRS is quite capable of  
13 dealing effectively with the high-level waste, as  
14 witnessed by the 3000-plus canisters of high-level waste  
15 glass. We progressed to this point with continuous  
16 improvements in operations and in a manner that protected  
17 worker and public safety.

18           There's plenty of important work for H-Area to  
19 do and, indeed, one can argue that safety is not served by  
20 failing to use these unique facilities to process  
21 materials that we know must be dispositioned.

22           Examples include MOX-able plutonium-containing  
23 materials, uranium- and plutonium-containing residues and,  
24 of course, domestic and foreign research reactor fuel  
25 currently housed in L-Area.

1           The ability of SRS to deal with these materials  
2 effectively and safely is unmatched anywhere else in our  
3 nation. The close integration of the capabilities in the  
4 Savannah River National Lab and the experienced workforce  
5 in H-Area provide the ingredients to do this job  
6 successfully.

7           In so doing, we would preserve the capability  
8 to eventually provide for the research, development, and  
9 demonstration of nuclear fuel recycling, which many  
10 believe is a path that we must follow as a nation.

11           I urge you to recommend that H-Canyon and  
12 HB-Line remain operational until these materials have been  
13 stabilized and that operations be supported with a view  
14 toward maintaining our only national asset capable of  
15 safely addressing these issues.

16           Thank you for the opportunity to comment.

17           DR. WINOKUR: Thank you, Dr. Wolfe.

18           Our next speaker is Mr. Ronnie Young, who's the  
19 Chairman of the Aiken County Council.

20           Welcome.

21           MR. KILLIAN: Good evening, Chairman Winokur,  
22 Members of the Board. My name is Clay Killian. I'm here  
23 on behalf of Chairman Young. He had an unavoidable  
24 conflict occur late this afternoon and sends his regrets  
25 for not being able to be here.

1           But he has asked that I read his statement into  
2 the record, if that is permissible.

3           DR. WINOKUR: Please.

4           MR. KILLIAN: "I represent the citizens of  
5 Aiken County, the flagship community that for decades has  
6 been an ardent supporter of the Savannah River Site.

7           "The benefits derived in our community from the  
8 presence of SRS goes far beyond the financial support and  
9 commerce we have grown to enjoy. In fact, SRS has been a  
10 central part of our community life.

11           "On a daily basis, its employees contribute to  
12 the quality of life in Aiken County. Through their  
13 volunteerism and commitment, SRS employees have helped  
14 create a community culture in Aiken that is the envy of  
15 most, and we're very proud of that fact.

16           "It's that same level of commitment that we  
17 know has shaped the business and management culture of SRS  
18 throughout its history. We live and work in our  
19 communities with the assurance that SRS is, as it has  
20 always been, operating safely and securely while providing  
21 its vital mission and services to our nation.

22           "Nuclear technology is the centerpiece of SRS.  
23 We know that the Department of Energy has selected the  
24 best companies to operate the site. We also know that  
25 those companies have expertise in the field of nuclear

1 materials management that is second to none. We like it  
2 that way, and in fact we demand it, and they have always  
3 delivered on that promise.

4 "So we are a bit perplexed when we hear that  
5 SRS may be losing one of its most vital assets. The  
6 obvious question that we and many others have is why would  
7 we begin to see the phase-out of vital nuclear operations  
8 assets at SRS when there is still so much to be done.

9 "We expect the site's liquid waste to be  
10 properly managed and disposed of. That, too, is a given.  
11 But we were surprised and disappointed to learn that the  
12 future of the nation's remaining nuclear chemical  
13 separation facility was in doubt.

14 "Specifically, I'm referring to the future of  
15 H-Area chemical processing facility, or H-Canyon. This is  
16 especially disturbing when you consider that the future  
17 missions of SRS may very likely hang in the balance with  
18 any decision made on H-Canyon.

19 "While it's important to our community, you  
20 should know that the same sense of patriotism that allowed  
21 the plant to be built and operated here for over six  
22 decades is very much alive and living in Aiken County  
23 today, and our consent and support are very important  
24 aspects to the continuing future of SRS.

25 "I'm sure that I may be preaching to the choir,

1 but H-Canyon should not be shut down. There are a number  
2 of real reasons that we oppose this. First, to serve the  
3 nation's nonproliferation commitments. There may be more  
4 than 15,000 used fuel assemblies stored at SRS when all is  
5 said and done. Without H-Canyon operations, they will not  
6 be processed for final disposition. That could make Aiken  
7 County a permanent repository for those fuels. We'd  
8 prefer for that not to happen.

9 "Second, the nation needs to solve the  
10 lingering questions regarding closing the back end of the  
11 nuclear fuel cycle. Without H-Canyon operations, our  
12 country loses a valuable platform to conduct meaningful  
13 research and development that could provide those  
14 essential solutions.

15 "And third, waste currently stored at SRS could  
16 one day be looked to as fuel for new reactor designs.  
17 Without H-Canyon operations, we lose the ability to create  
18 fuels from waste that could provide energy and process  
19 steam for a wide range of services.

20 "The bleak prospects for H-Canyon just seem  
21 intuitively wrong to all of us, and we hope that it does  
22 to you as well. I would ask that you look at the future  
23 of SRS, its safety performance, its nuclear materials  
24 management and emergency response.

25 "Please be reminded that the site's operating

1 contractors and the national laboratory have amassed a  
2 superb safety record throughout its operating history, and  
3 we're very fortunate they have.

4 "The expertise in nuclear materials management  
5 for its operations and laboratory are without peer, and  
6 we're very fortunate for that as well. And its ability to  
7 address complex nuclear operations challenges, emergency  
8 or otherwise, are built on a long-held commitment to  
9 detail and technical expertise, and we are surely  
10 fortunate for that.

11 "In closing, Mr. Chairman, we appreciate the  
12 mission and authority of the Defense Board and are  
13 confident that your role will help make an excellent SRS  
14 even better. Our hope is that your leadership will also  
15 help make a promising future for SRS even better, as  
16 well."

17 Mr. Chairman, Members of the Board, we thank  
18 you for having this meeting in our community and for the  
19 opportunity to present to you tonight.

20 DR. WINOKUR: Thank you for those comments.

21 Dr. Marc Miller is the Vice Chairman of the SRS  
22 Community Reuse Organization.

23 Welcome back.

24 DR. MILLER: Thank you.

25 Again, I'm Marc Miller, and I'm the current

1 Vice Chair of Savannah River Site CRO or Community Reuse  
2 Organization and the Dean of the Hall College of Business  
3 at Augusta State University.

4 In the capacity of Chair-elect of the CRO, I'm  
5 here this evening and am pleased to offer our comments to  
6 the Defense Nuclear Facilities Safety Board.

7 In our view, H-Canyon is a one-of-a-kind  
8 facility of immense importance to this nation. We believe  
9 it is irresponsible for H-Canyon to be placed in a standby  
10 or reduced operational status, and based on the Defense  
11 Nuclear Facilities Safety Board's letter to Secretary Chu  
12 dated February 28th of this year, you believe the same  
13 thing.

14 In our view, the facility also has an important  
15 role in developing and evaluating the research and  
16 deployment options for the back end of the nation's  
17 nuclear fuel cycle.

18 In addition, the HB-Line provides various  
19 options for the disposition of limited-plutonium materials  
20 which are not suitable for the feed -- as feed for MOX.  
21 However, we also believe it is essential that high-level  
22 liquid waste be removed from the aging underground tanks  
23 at SRS in an expeditious manner. All funding and site  
24 operational scenarios need to advance this two-prong  
25 approach, not one activity over another.



1           We've been briefed concerning the Department's  
2 intent to safely store research reactor fuel in L-Basin  
3 and possibly in an approved aboveground storage facility.

4       However, this action does not meet our community intent  
5 to see this material processed and ultimately removed from  
6 Savannah River Site. This can only be accomplished by  
7 processing the research reactor fuel in H-Canyon.

8           The Department should not wait on the Blue  
9 Ribbon Commission report to take this action.  
10 Furthermore, the Department needs to move quickly with an  
11 NEPA supplemental analysis to reinstate H-Canyon as the  
12 preferred treatment option for research reactor fuel.

13           We are concerned that placing H-Canyon in a  
14 minimized operational mode may not be financially  
15 retrievable, jeopardizing its future for national  
16 interests.

17           H-Canyon is needed to process spent fuel stored  
18 in the L-Basin pool. Without it there is no disposition  
19 path out of SRS and our community for this nuclear  
20 material, which is an extremely important issue for us.

21           With this action, the potential loss of highly  
22 trained and unique workforce is also in jeopardy, which is  
23 also a very important concern to us.

24           As your own letter points out, the H-Canyon  
25 facility has proved to be an effective and valuable asset

1 for safely processing fissile materials over several  
2 decades. We could not agree more.

3 We support the efforts of the Defense Nuclear  
4 Facilities Safety Board to keep the H-Canyon facilities  
5 operating and hope you will continue your efforts. We  
6 plan to continue our dialogue with DOE officials and our  
7 congressional delegation to keep this unique national  
8 resource available for processing our nation's nuclear  
9 materials.

10 We thank you again for this opportunity to  
11 voice our concerns, and we appreciate you coming to the  
12 Augusta community, and on behalf of Augusta, we welcome  
13 you.

14 Thank you.

15 DR. WINOKUR: Thank you, Dr. Miller.

16 Next speaker is Dr. Rose Hayes, also with  
17 the -- well, she's with the SRS Citizens Advisory Board  
18 [CAB].

19 Welcome.

20 DR. HAYES FOX: Thank you.

21 Mr. Chairman, distinguished panel, staff, my  
22 name is Dr. Rose Hayes Fox, and I am a member of the  
23 Department of Energy Site-Specific Advisory Board for the  
24 Savannah River Site. I also Chair the Nuclear Materials  
25 Committee of that Board.

1 I have comments this evening as Chair of the  
2 Nuclear Materials Board and as an individual who resides  
3 in the area, and I also have a letter from Donald Bridges,  
4 who chairs the Advisory Board but is in Las Vegas at the  
5 Executive Committee Advisory Board meeting and cannot be  
6 here and asked that I read his comments, with your  
7 permission.

8 DR. WINOKUR: Proceed.

9 DR. HAYES FOX: Thank you.

10 "My name is Donald Bridges. I am Chairman of  
11 the Savannah River Citizens Advisory Board, but I am  
12 speaking as an individual. I've asked that my comments be  
13 read by another member of the Citizens Advisory Board,  
14 Rose Hayes, since I am out of town on CAB business and  
15 unable to appear in person.

16 "I do appreciate very much the fact that the  
17 Defense Nuclear Facilities Safety Board has provided the  
18 opportunity for the public to provide input on this very  
19 important topic. Thank you very much.

20 "My comments are based on my involvement in the  
21 Citizens Advisory Board for the last 3-1/2 years and 30  
22 years prior to that as an employee of DOE at SRS as a  
23 program manager.

24 "With that backdrop I will provide the  
25 following views. Relative to liquid waste processing, I

1 feel that both DOE-SR and Savannah River Remediation are  
2 doing a relatively good job of disposing of the 37 million  
3 gallons of liquid waste.

4 "It is a massive, complex, expensive effort  
5 which, in my view, is being well managed. Their progress  
6 to date indicates that they are carrying out this mission  
7 in a safe, responsible manner. I encourage them to  
8 continue to assess measures for cutting the cost and  
9 schedule.

10 "Relative to the plans to scale back operations  
11 in H-Canyon, I disagree with the plan to cease PUREX  
12 operations in H-Canyon on two counts. One, it is a  
13 mistake in that SRS will no longer have the capability to  
14 process both foreign and domestic fuel, which will be  
15 continually shipped to the site for many years to come.

16 "The spent nuclear fuel will be stored in a  
17 water basin, which will require expensive upgrading to  
18 expand the basin's storage capacity. Storing spent  
19 nuclear fuel in water subjects it to corrosion, and if an  
20 assembly is breached, disposition will be difficult, since  
21 there will no longer be capability for processing.

22 "This concept will embrace bringing in  
23 additional spent nuclear fuel to SRS with no capability  
24 for processing now or in the foreseeable future. In my  
25 view, this is not in the best interest of the site or the

1 general surrounding area.

2 "Continuing to bring in nuclear materials  
3 without a viable disposition path does not seem to be  
4 responsible cleanup strategy.

5 "Secondly, the loss of the PUREX capability in  
6 the H-Canyon, which is a unique capability for the entire  
7 United States, is tantamount to eliminating the processing  
8 capability for the entire DOE complex.

9 "In the event that nuclear materials are found  
10 in the future which require chemical processing, DOE will  
11 have lost the necessary processing capability for  
12 dispositioning such materials. This seems, in my view, to  
13 be extremely shortsighted.

14 "Additionally, measures taken to reduce the  
15 full operational capability of the H-Canyon will make it  
16 very difficult to ever return to that capacity again.

17 "Relative to a funding strategy for the site, I  
18 would submit the concept of making the liquid waste  
19 disposition program a top priority item, followed closely  
20 by the operation of H-Canyon for processing spent fuel  
21 inevitably destined to arrive at the site. Surely in a  
22 budget of almost \$1-1/2 billion there are many other  
23 lesser priorities for achieving reductions.

24 "Relative to plutonium disposition, I support  
25 and encourage the ongoing programs to ship some of the

1 low-quality material to WIPP while using the high-quality  
2 material for MOX. However, the plutonium disposition  
3 program has been studied, assessed, planned, reviewed, and  
4 scrutinized for approximately 15 years. Please stop the  
5 planning and get on with a definite plan of action with an  
6 energetic schedule and firm commitments.

7 "Thank you for this opportunity to make my  
8 views known. Donald Bridges."

9 DR. WINOKUR: Thank you, Dr. Hayes.

10 DR. HAYES FOX: May I make my comments in  
11 addition to Dr. Bridges's?

12 DR. WINOKUR: Briefly, please. Thank you.

13 DR. HAYES FOX: Thank you.

14 Thank you for receiving input from the public  
15 on this very important issue relevant to the safety of the  
16 central Savannah River area and to all Americans.

17 There are several possibilities currently under  
18 consideration for the future of H-Canyon. The Canyon  
19 dissolution and processing of highly enriched uranium  
20 materials to meet the current HEU blend-down commitments  
21 to TVA will be completed in September 2011.

22 The 2012 Obama administration budget calls for  
23 closing H-Canyon and flushing its systems by December 31,  
24 2011. DOE has suggested that it may be possible to reduce  
25 operations to a min-safe level with a prospect of bringing

1 the facility back to full operational capability at a  
2 later date.

3           The Nuclear Materials Committee of the DOE  
4 Site-Specific Advisory Board for the Savannah River Site  
5 has forwarded to DOE two recommendations regarding  
6 H-Canyon. Recommendation 275 essentially recommends that  
7 H-Canyon be viewed within a framework that -- and I --  
8 well, we'll submit this in writing, but which simply finds  
9 work utilizing all the capabilities and capacities that  
10 Patrick McGuire formally described to you.

11           Recommendation 276 essentially recommends that  
12 in this latest phase of what can only be described as the  
13 nuclear policy of delay, the Blue Ribbon Commission may  
14 possibly recommend that UNF be reprocessed as opposed to  
15 stored indefinitely in a national repository other than  
16 Yucca Mountain, and H-Canyon could provide the research  
17 and development efforts required for that technology.

18           And, B, the possibility be considered that  
19 on-site materials currently stored in L-Basin could be fed  
20 to R&D reprocessing technology, thereby providing a  
21 disposition path for those materials and supporting SRS  
22 program efforts in a cost-effective manner.

23           In sum, H-Canyon is important for the above  
24 reasons and other capabilities including environmental  
25 stewardship of SRS by dispositioning TRU waste, non-

1 MOX-able plutonium, lab and SRNL returns, and HEU  
2 aluminum-clad fuel.

3 National security, since it can disposition HEU  
4 and plutonium pit materials, recover special nuclear  
5 materials, be a test facility for next-generation  
6 safeguards, initiatives, and blend-down HEU from aluminum-  
7 clad fuel to low-level uranium and, finally, clean energy  
8 efforts, since it can be utilized as a robust and flexible  
9 platform for advanced fuel reprocessing R&D; utilized in  
10 distillation technology to purify non-MOX-able plutonium  
11 into MOX feed; blend HEU to LEU, providing fuel for  
12 electrical power generation and commercial reactors; and  
13 for the purification of plutonium-238 to support the NASA  
14 outer-planet flagship mission.

15 I urge you to recommend that H-Canyon continue  
16 to operate at full capacity for the safety and health of  
17 all Americans, for national security, for stewardship of  
18 the environment, and for clean energy pursuits.

19 Thank you again for considering my comments on  
20 this issue.

21 DR. WINOKUR: Thank you, Dr. Hayes.

22 The next speaker is Tom Clements, Friends of  
23 the Earth.

24 MR. CLEMENTS: Thank you very much. I am Tom  
25 Clements with Friends of the Earth, an environmental



1 organization based in Washington, DC, but I work in  
2 Columbia, South Carolina, and used to live south of here,  
3 near the Vogtle plant site -- which is now the Vogtle  
4 plant site in Waynesboro, Georgia.

5 I'd like to thank you for coming here. You've  
6 voiced your reasons for coming to near the Savannah River  
7 Site, and I think it is important that the Board go around  
8 the complex, so I appreciate your being here and receiving  
9 public comments, and it's been quite interesting today.

10 And I would -- as you know, the Alliance for  
11 Nuclear Accountability is a group of environmental  
12 organizations that work around DOE sites, and I will  
13 assure you that we are sensitive to the fact of your  
14 budget being approved by Congress, and we'll work to make  
15 sure that budget is approved, just as we fight for the EM  
16 budget to be approved as well, because we think that's an  
17 important mission.

18 I don't have a prepared statement, but I just  
19 wanted to point out a few things. We've been talking  
20 about the fate of the H-Canyon for decades. I remember in  
21 the year -- I think it was 1992, meeting with some  
22 officials in Washington to talk about what was going to  
23 happen to the H-Canyon.

24 We still don't have a clear way forward, but in  
25 those 20 years, how much money has been spent? Maybe \$5

1 billion or more, and we still don't know what's going to  
2 happen to the complex, and I would contend that really  
3 it's been spending money on the operation of the facility  
4 that's been the driver and not sound policy as related to  
5 the facility, and that's quite unfortunate. I hope that  
6 changes.

7           In the year 2000, I was the Director of the  
8 Nuclear Control Institute, which is now defunct, in  
9 Washington, DC, and made a visit from Washington to the  
10 Savannah River Site and, in the M-area, where the  
11 buildings are now torn down, viewed the oven that was  
12 going to be used for melt and dilute.

13           We also toured the L-Reactor, where a  
14 demonstration oven was going to be placed to actually  
15 handle radioactive material.

16           Melt and dilute, as you know, never took place.

17           That was over a decade ago, and here we are again with  
18 melt and dilute still the preferred option. If it had  
19 been carried out then, I think we would be a long ways  
20 towards processing all that spent nuclear fuel. It's  
21 rather aggravating to watch this situation.

22           Now, I know it's -- the issue of jobs has come  
23 up. It's not your mission to consider the impact on jobs  
24 right now -- I understand that there are about 620 full-  
25 time employees at the H-Canyon -- nor is it your mission

1 to consider the impact of the future speculative-type jobs  
2 related to reprocessing.

3           And this gets in to the recommendations of the  
4 Blue Ribbon Commission. The Blue Ribbon Commission may  
5 recommend for some kind of reprocessing R&D. Whether they  
6 mention a role for the H-Canyon or not, I have no idea,  
7 but if the H-Canyon would be used for some kind of off-  
8 gas, fission-gas capture, or decladding of spent fuel, I'd  
9 like to see an explanation why the entire Canyon is  
10 needed.

11           And you're going to have a mission in  
12 monitoring, if there is any R&D research going on at the  
13 facility, related to reprocessing R&D, which I think would  
14 be a very small mission as we look to the future.

15           I'm concerned that the H-Canyon might shut down  
16 primarily because of problems with the mixed-oxide fuel  
17 program. It's not clear that that program is going to be  
18 able to be carried out.

19           The main reactors that they're looking at are  
20 the GE Mark 1 Browns Ferry reactors. It's going to take a  
21 test of six years of irradiation and then post-irradiation  
22 examination and licensing to use MOX fuel in the Browns  
23 Ferry reactors on a full commercial scale, and it just  
24 might not happen.

25           So the MOX plant could potentially operate at

1 50 percent or under capacity. There might not be  
2 disposition pathway for some of the plutonium; we might  
3 need the H-Canyon for that.

4           And I'd like to ask, as we look to the future,  
5 that you do certain things when you deal with DOE and ask  
6 them about what materials are going to be processed. I'm  
7 a little bit disappointed that there wasn't fleshed out  
8 what materials besides FFTF and foreign and domestic spent  
9 fuel would be processed.

10           You asked questions about it, but I don't think  
11 we heard really any specific details about what those  
12 materials are. And as you're aware, 20 years ago there was  
13 like a cats-and-dogs list that we developed, and that's --  
14 you know, it's still out there, perhaps in the form of  
15 this Nuclear Materials Inventory Assessment.

16           But I would ask in closing that you request  
17 that -- for a full list of materials that are necessary to  
18 be processed in the H-Canyon. There may be other  
19 materials that have disposition routes at other sites.

20           Why the H-Canyon is needed for this list of  
21 materials beyond the spent fuel that we know about? What  
22 are the alternative disposition paths; for example, dry-  
23 cask storage, which we've heard about? What's the  
24 schedule or the time it would take to process these  
25 materials through the H-Canyon, and then what is the

1 overall life of H-Canyon if all of these materials were to  
2 be processed?

3 And, finally, I would request that you make  
4 sure that that information is public, because it's been  
5 quite lacking over the past couple of decades exactly what  
6 could be processed in H-Canyon.

7 So I'll leave my comments to that. I  
8 appreciate it very much. Hope to see you in Washington on  
9 one of my visits. Thank you.

10 DR. WINOKUR: Thank you, Mr. Clements.

11 Our next speaker is Dawn Gilles.

12 MS. GILLES: Good evening. I'm Dawn Gilles,  
13 member of the public. Thank you for being here tonight  
14 and allowing me to make a couple of comments. Mine will  
15 be very short. Most of the people have already said most  
16 of my comments.

17 First of all, I'd like to commend Site Rep Mark  
18 Sautman for his well organized presentation earlier. He  
19 covered most of my concerns.

20 I have just a couple of things to say. One is  
21 if H-Canyon operations are delayed, we already talked  
22 about the TVA -- possible issue with TVA. There's also a  
23 possible issue with the DWPF schedule and being able to  
24 get the high-level waste portion of the spent fuel  
25 processing through DWPF. And I'm not sure that that's

1 really been well addressed.

2           The other thing is to make sure that everybody  
3 understands that putting this fuel into dry storage is not  
4 a disposition; it's just another form of storage. And it  
5 would still have to have another step to go to whatever  
6 disposition would end up in the long term.

7           Thank you.

8           DR. WINOKUR: Thank you for your comments.

9           We have Karen Patterson from the Governor  
10 Nuclear Advisory Council.

11           Welcome.

12           MS. PATTERSON: Thank you, Mr. Chairman.

13           I'm Karen Patterson. I've lived in Aiken for  
14 almost 40 years, and I'm a member of the South Carolina  
15 Governor's Nuclear Advisory Council, and my remarks are  
16 made on behalf of the Council.

17           I'm concerned because DOE has quit talking  
18 about risk reduction and now talks about footprint  
19 reduction. The two are not synonymous.

20           In 2000, DOE published an EIS evaluating  
21 alternatives for disposing of spent nuclear fuel coming  
22 into the SRS for the sole purpose of being dispositioned.

23           The ROD identified melt and dilute as the selected  
24 technology.

25           DOE has been planning to dispose of spent

1 nuclear fuel for years. However, DOE dithered. Funding  
2 to develop melt and dilute disappeared. And now the only  
3 viable option for getting rid of that fuel is about to be  
4 mothballed.

5 I know DOE does not intend to let H-Canyon go  
6 cold, dark, and dry. I also know that many roads are  
7 paved with good intentions.

8 DOE has assured me numerous times that even  
9 though the spent fuel is not particularly robust and was  
10 not designed to last for years like commercial fuel and  
11 even though it is clad in aluminum, it is perfectly  
12 compatible with long-term storage in L-Basin.

13 When I asked about options, should some fuel go  
14 bad, I am told, "It won't," which I take to mean DOE does  
15 not know what it would do, so it's hoping for the best.

16 I believe that, contrary to DOE's rosy  
17 assessment, as the fuel ages, handling it will become more  
18 difficult, dose to workers will increase, and maintaining  
19 the water quality of the basin will get more expensive.

20 Long-term storage of spent nuclear fuel  
21 increases risk, which is not acceptable. We could get rid  
22 of all the fuel that's here now in about six years, I  
23 believe, and process the rest which is scheduled to come  
24 to SRS through 2019 as it arrived using a process SRS  
25 understands very well and a facility that has worked

1 exceptionally well for more than -- for almost 60 years.

2 I'm sure we'll learn many things from Japan.

3 One thing I think we can all agree to today is that long-  
4 term of a spent fuel inventory in water is not an optimal  
5 approach.

6 We have an alternatives to storage that we can  
7 use right now, and we should make every effort to use it,  
8 not to quit using it.

9 DOE's commitment to as low as reasonably  
10 achievable doses to workers, the public, and the  
11 environment would seem to make the decision to continue to  
12 run H-Canyon a no-brainer.

13 DOE has not listened to the Governor's Council,  
14 the South Carolina governor, our congressional delegation,  
15 our state legislative delegation, nor our local  
16 delegation, all of whom have said repeatedly and clearly:  
17 "Do not stop processing spent fuel in H-Canyon."

18 I hope you agree with South Carolina that this  
19 decision is not in the best interests of the region, the  
20 state, or the nation and that you have the clout to make  
21 DOE listen.

22 Thank you very much for coming to take our  
23 public comments. I appreciate it.

24 DR. WINOKUR: Thank you for your comments. I  
25 want to read into the record a letter that we've received



1 from the Honorable Tom Young, Jr., who's a member of the  
2 House of Representatives of the State of South Carolina.  
3 It's addressed to me, dated June 14, 2011.

4 "Dear Chairman Winokur:

5 "Thank you and Members of the Defense Nuclear  
6 Facilities Safety Board for hosting the public meeting on  
7 June 16 in Augusta, Georgia.

8 "I have the honor and privilege of representing  
9 the citizens of Aiken County District 81 in the South  
10 Carolina General Assembly. Since the General Assembly is  
11 in session this week, I will not be able to attend the  
12 June 16 hearing; however, I am pleased to offer this  
13 statement for the record.

14 "The Board's public notice for this hearing  
15 states that the Board is concerned about how DOE will  
16 dispose of nuclear materials in light of the potential  
17 termination of chemical processing at H-Canyon and  
18 HB-Line.

19 "It further states that the Board will explore  
20 uncertainties in the new disposition plans and whether  
21 extended storage of nuclear materials may cause safety  
22 problems.

23 "Many of my constituents and I share your same  
24 concerns. In fact, every member of the Aiken County  
25 legislative delegation expressed these concerns in a

1 letter dated March 7, 2011, to Secretary of Energy Steven  
2 Chu.

3 "We are concerned that without H-Canyon or any  
4 limited modifications to its operation status, there is no  
5 disposition pathway for the 15,000 used fuel rods  
6 currently stored at SRS. DOE has no plans for removing  
7 these fuel rods from South Carolina, and in fact it is my  
8 understanding that they intend to bring in an additional  
9 4500 used fuel rods by 2019.

10 "Without H-Canyon, our nation will no longer  
11 have a facility to conduct valuable research and  
12 development that could provide solutions to closing the  
13 back end of the nuclear fuel cycle.

14 "It is also unfathomable to me that DOE would  
15 risk losing a vital national resource and knowledgeable  
16 workforce to help our nation address its critical missions  
17 on energy, environment, and national security.

18 "Moreover, in view of the recent events in  
19 Japan, how can anyone argue that using H-Canyon for  
20 reprocessing spent nuclear fuel rods will not be a benefit  
21 to both our nation and the world?

22 "In addition to the letter written by a local  
23 legislative delegation to Steven -- Secretary Chu, South  
24 Carolina Governor Nikki Haley and Speaker of the House  
25 Bobby Harrell wrote letters to Secretary Chu. Further,

1 our congressional delegation and legislative delegation  
2 have invited Secretary Chu to tour H-Canyon before a final  
3 DOE decision is made.

4 "To date, Secretary Chu has not responded to  
5 the invitation, nor has he personally responded to the  
6 letters written to him by many leaders interested in this  
7 issue.

8 "In sum, many people are concerned that the  
9 DOE's policies for H-Canyon funding and modified  
10 operations essentially remove the disposition path for  
11 this fuel, out of our state. This delays a permanent  
12 solution for spent fuel as we believe that the people of  
13 Aiken County and South Carolina were promised.

14 "In view of the recent events in Japan, it is  
15 not acceptable to plan to store this fuel at SRS  
16 indefinitely.

17 "I appreciate the mission and oversight  
18 authority of the Defense Board, and I am hopeful that your  
19 role will help to ensure that SRS will continue to be the  
20 leader in nuclear materials management for our country.

21 "Finally, any assistance that you can provide  
22 in disapproving of any policy that will sacrifice  
23 H-Canyon's operating capabilities will be appreciated.

24 "Sincerely yours." Signed, Tom Young, Jr.

25 And that will be submitted into the record, of

1 course.

2 Are there any other members of the public who  
3 wish to speak on the topic of nuclear materials storage  
4 and disposition?

5 (No response.)

6 DR. WINOKUR: Seeing none, I'm going to provide  
7 some very brief closing remarks. Before I do that, let me  
8 turn to the other Board Members and ask if they have any  
9 final comments.

10 DR. MANSFIELD: No final comments.

11 MR. BADER: None.

12 DR. WINOKUR: First, I want to acknowledge the  
13 hospitality of the Savannah River Site and local  
14 community. I would also like to thank our witnesses and  
15 all the members of the public who participated in this  
16 meeting and hearing.

17 I particularly want to thank the elected  
18 officials and other key members of the community who  
19 participated here today. An active community with engaged  
20 leaders is a vital part of any successful program of this  
21 nature.

22 The Savannah River Site, which this community  
23 strongly supports, has a long-term mission with critical  
24 importance to our nation. The site should maintain a  
25 processing capability in order to stabilize nuclear

1 materials while cleaning up the massive legacy of nuclear  
2 waste from the Cold War.

3 We note this is a complex site that provides  
4 significant challenges for DOE and its contractors to  
5 operate safely and effectively.

6 We explored three topics of interest today:  
7 liquid waste processing, emergency preparedness, and  
8 nuclear materials storage and disposition. The Board  
9 believes that stabilization of legacy waste in the Tank  
10 Farms is paramount, and thus the Board remains concerned  
11 about the slow pace of emptying tanks to remove that  
12 hazard.

13 We understand that the commissioning of the  
14 Salt Waste Processing Facility in the 2015 time frame  
15 should provide an opportunity for significant process --  
16 progress in waste removal.

17 However, the integration of this new facility  
18 with the existing and aging high-level waste  
19 infrastructure, which includes Saltstone, the Defense  
20 Waste Processing Facility, and the evaporators, will pose  
21 additional major challenges in the future.

22 The Board is encouraged by plans for site-wide  
23 drills for emergency preparedness and recovery at the  
24 Savannah River Site, but DOE still needs to put in more  
25 effort to improve the integrity and fidelity of such

1 drills.

2           The Board believes that DOE needs to provide a  
3 clear path forward for material disposition for all  
4 surplus and nuclear materials. Indefinite storage of  
5 hazardous materials is not a safe, long-term plan.

6           Spent fuel is one of our greatest concerns at  
7 the site, given its unknown future. Any final decision  
8 from DOE regarding future needs for H-Canyon and HB-Line  
9 should be made with full consideration of the needs of the  
10 defense nuclear complex for these unique processing  
11 capabilities.

12           Lastly, I would like to note that the Board is  
13 committed to working with Savannah River Site personnel to  
14 improve nuclear safety.

15           The record of this proceeding will remain open  
16 until July 18, 2011. I would like to reiterate that the  
17 Board reserves its right to further schedule and regulate  
18 the course of this public meeting and hearing, to recess,  
19 reconvene, postpone, or adjourn this public meeting and  
20 hearing and to otherwise exercise its authority under the  
21 Atomic Energy Act of 1954, as amended.

22           This concludes this public meeting and hearing  
23 of the Defense Nuclear Facilities Safety Board. We'll  
24 recess now and take up the call of the Chair if and when  
25 that becomes necessary.

1 Thank you all very much for attending.

2 (Whereupon, at 9:25 p.m., the public meeting

3 and hearing was adjourned.)

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REPORTER'S CERTIFICATE

IN RE: Savannah River Site Public Meeting  
and Hearing

DATE: June 16, 2011

LOCATION: Augusta, Georgia

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the Defense Nuclear Facilities Safety Board.

Date: June 23, 2011

Brenda W. Thompson  
Official Reporter

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