

SOUTH CAROLINA NUCLEAR ADVISORY COUNCIL

MINUTES

(Approved December 7, 2006)

September 7, 2006

Room 209 Gressette Building

Columbia, South Carolina

Members present: Chairman, Mr. Ben Rusche, The Honorable Greg Ryberg, The Honorable Robert Perry, Dr. Vincent Van Brunt, Mr. Bill Mottel, Dr. David Peterson, Dr. Carolyn Hudson and Mr. Steve Byrne

Staff present: Ms. D'Juana Wilson, Mr. Michael Hughes

I. Welcome and Opening Comments

The Governor's Nuclear Advisory Council convened on September 7, 2006, at 1:30PM. Mr. Ben Rusche, Chairman of the Council, called the meeting to order and welcomed the speakers and guests.

II. Approval of Minutes, June 8, 2006, meeting

Mr. Bill Mottel made a motion that the minutes from the June 8, 2006, meeting be approved. Dr. Van Brunt seconded the motion, and the minutes were unanimously approved.

III. Salt Waste Treatment Program Update

Mr. Terry Spears, DOE, SRS and Ms. Ginger Dickert, Westinghouse, SRS, discussed the Salt Waste Treatment Program. Mr. Spears said that the Salt Waste Processing Facilities' enhanced preliminary design is on schedule for completion September 14, 2006. The Geotechnical field work is underway and the Independent Design Review is to start mid September 2006. There is an External Independent Review

to start in November 2006. They will request approval of project costs and schedule baseline by February 2007. Limited construction is planned to start in February 2007.

Mr. Spears then reported on the Modular Caustic Side Solvent Extraction (MCU). SRS has completed installation of process area tanks, decanters and contactor skid. The contactor enclosure roof has been poured and the roof mounted equipment has been installed. The site has completed shielding structure with receipt of 84 cell covers. Construction is 90% complete. He then discussed the Actinide Removal Process and said that they have completed equipment and jumper; Remotability Testing; completed Consolidated Testing; and completed the design and Initiated Fabrication for the Secondary Filter @ 512 – S. The Saltstone Processing Facility Enhancements are: mixer pumps and overflow container designed for easy removal; centrifugal pumps replaced with single higher-reliability hose pump; temporary shielding wall and camera system installed; and flanges and electrical connections replaced with quick disconnects. The Disposition Processing Plan Programmatic Objectives are: safe operations; achieve tank closures to meet current FFP commitments; sustained DWPF Operations to disposition waste; high-capacity Salt Waste Processing through SWPF; and nuclear material stabilization. He reported that going forward; they intend to achieve all of the disposition processing efforts.

Ms. Ginger Dickert then addressed the Council and discussed the keys to success in SRS Tank Space Management. She discussed the Near Term, Mid Range and Beyond 2011- Long Term steps. She gave the following information on the DPP Implementation Elements:

- Near Term – minimal use of Deliquification, Dissolution and Adjustment (DDA) process (Tank 41 waste only);

- Mid Range – Treatment of organic-bearing Tank 48 waste to restore Tank 48 to general use; and
- Long Range – Stage of feed for SWPF operations.

Ms. Dickert reported the overall objectives are:

- Technology improvements to support tank cleaning and closures per FFA commitments;
- DWPF operations for sustained waste disposition. Start up of salt processing is expected in 2011. They want to sustain those operations.

Ms. Dickert then gave the outline for The Technology Development Scope:

- Tank 48 alternative technology;
- Sludge mass reduction;
- Tanks 18 & 19 mechanical cleaning; piping, annulus cell closure;
- Tank 16 Annulus cleaning; and
- Tank 5 – 6 Chemical cleaning.

The Tank 48 Status was given:

- Independent Technical Review complete- confirmed selected technology alternatives;
- Recognized significant schedule challenge; and
- Technology testing preparations on schedule.

Looking ahead to the next quarter:

- Expect to initiate Saltstone Facility processing;
- Perform DOE Readiness Assessment;
- Initial operation with current Tank 50 material;
- Initiate Tank 25 deliquification to prepare ARP/MCU feed.

The department has invested heavily in infrastructure for effective waste management and disposition.

Mr. Spears recognized Mr. Jeff Allison, SRS Site Manager; Mr. Kevin Smith, Assistant Manager for Nuclear Materials Mission; Mr. Larry Ling, DOE, Salt Processing Division Director; and Mr. Bill Pausing, Westinghouse, SR, Executive Vice President.

Ms. Shelly Sherritt, Federal Facilities Liaison, South Carolina Department of Health and Environmental Control, addressed the Council. She gave the following comments regarding High Level Waste (HLW) Treatment and DHEC's objectives:

- Reducing risk through high-level waste (HLW) treatment and tank closure at the Savannah River Site should be one of the highest priorities at the Department of Energy (DOE).
- The objectives of the South Carolina Department of Health and Environmental Control (DHEC) are 1) closure of the HLW tanks on schedule, 2) treatment of the waste through the existing Defense Waste Processing Facility and the Salt Waste Processing Facility (SWPF) as soon as it can be operational and 3) minimization of residuals remaining in South Carolina.
- DHEC has worked with DOE and supports current plans that balance the objectives outlined. The Waste Determination for Salt Waste, which was reviewed by the Nuclear Regulatory Commission and finalized by Secretary Bodman on January 17, 2006, generally summarizes the current plans. The Waste Determination estimated residuals disposed in South Carolina from salt waste processing at 3-5 million Curies. A July 6, 2006 letter from Secretary Bodman notes that additional refinements have been made to the plans based on discussions with the State that minimize the residuals even further.
- DHEC believes the key to maximizing treatment and minimizing residual disposal is in implementing the longer range elements of the salt waste processing plans on schedule.
- To protect the State's interests, DHEC has been seeking commitment from DOE to request the necessary funds from Congress to build and operate the SWPF and supporting infrastructure on schedule.
- DHEC will not move forward with a short-sighted draft permit for residuals disposal that is not protective of the public and the environment over the long term.
- DHEC is fully aware of the critical time factor. For that reason DHEC has been working on this issue since the fall of 2005. DHEC had been working on a potential agreement with DOE that would assure necessary DOE commitment. However, DOE ultimately decided in the summer of 2006 not to support the agreement.
- DHEC is hopeful that DOE will meet its commitment through their support of draft permit conditions for the Saltstone Disposal Facility.

- DOE's formal commitment would allow DHEC to move forward with a draft residuals disposal permit for full public review and comment.
- DHEC believes that the current salt waste processing plans, as outlined in Bodmans' letter of July 6, 2006, coupled with a formal DOE commitment to seek the necessary funding for implementation put South Carolina in the best position for success in relation to HLW risk reduction.

Dr. Vincent Van Brunt asked what would be necessary to have DOE make a commitment and Ms. Sherritt said they are looking at draft permit conditions that would outline that commitment and seek the funding from Congress. She said what they are looking for from DOE is their ability to support, not contest the conditions.

Chairman Rusche thanked the presenters for their comprehensive statements. He said it is important to see the progress from a technical standpoint and the progress of the State. Dr. Van Brunt asked a technical question about the present status of the transfer boxes, transfer lines and evaporators. It was explained that there are two evaporators running currently and they are exploring the status of the leaks around the containment of the transfer lines. The estimated timeframe for the completion of the work on the evaporators is the end of this year. Ms. Dickert made the Council aware of limited leakage from the primary pipes. After this brief discussion the Council was invited to visit the Savannah River Site to see the facilities.

IV. Update on Plutonium Disposition Program at SRS

Mr. Bill Clark, NNSA, SRS addressed the Council and explained to them that Mr. Sterling Franks retired, and he has taken over that position. He said that there are three facilities that are planned for the Savannah River Site to deal with defense related plutonium and explained the purpose of each facility. 1) The Mixed Oxide Fuel Fabrication (MOX) Facility– it is the furthest along and the purpose of the facility is to

fabricate plutonium powder into a MOX fuel assembly; 2) The Pit Disassembly and Conversion Facility (PDCF) – the purpose of this facility is to disassemble the actual nuclear weapon pits and convert the plutonium metal that comes from those pits into powder which is then packaged and sent to the MOX Facility, where its combined with uranium and mixed oxide, and turned into fuel; and 3) The Waste Solidification Building – the purpose of this facility is to generate fairly small waste streams that will need to be stabilized and prepared for disposal either on site or off-site. The MOX facility will be used to blend weapons grade plutonium and uranium to make mixed oxide (MOX) fuel assemblies. Mr. Clark said that the MOX fuel that will be produced will be irradiated in commercial reactors operated by Duke Power in North and South Carolina. They will be taking weapons grade or defense plutonium off of the market and turning it into a useable resource. Mr. Clark said that this project is estimated at about \$4.7 billion and the design is about 77% complete. The start of construction date is up in the air, but they hope to finish by September 2013, with a 2015 start up timeframe, all of this assuming Congress approves the budget request. He said the Pit Disassembly and Conversion Facility will be highly classified and its purpose is to disassemble the pits and the components that come with them; to oxidize and package the plutonium for the MOX facility. He reported that at this point the current estimate shows that this project will run about \$1.5 billion. He said that the Waste Solidification Building will take the high activity and the low activity liquid waste streams from MOX and PDCF and evaporate, neutralize, and cement it into packages and then prepare it for disposal. These facilities will not contribute to the high level waste system at the Savannah River Site. He said this facility will cost about \$226 million.

Mr. Clark then discussed the site preparation activities and reported the following:

- removal of timber from the site;
- dirt removed and storm water management ponds are in place;
- Significant progress on site preparation – engineered fill will be placed into MOX foundation to stabilize the ground and prepare for construction;
- Began working with NRC’s on-site representative for placement of engineered fill.

He reported the next steps as:

- MOX facility is about ready to submit its operating license later this month to NRC;
- they will continue to work with Congress to obtain funding for the project;
- in the interim, site work that can be done prior to the start of the project continues.

Chairman Rusche asked where does DHEC fit in this picture and Mr. Clark said that from an environmental permitting standpoint, their role is no different. The NRC license is the operating license. Ms. Shelley Sherritt said that they will need to have a traditional DHEC permit.

Dr. Van Brunt asked if anything can be seen in the site preparations regarding security and Mr. Clark said that the pits and facilities are secure. The security concerns will be designed into the facility since they have the opportunity to design this building from the ground up.

Senator Ryberg stated that he attended a ground-breaking the MOX facility and realizes that it was a ground-breaking for site preparations at the MOX facility. He would like to know when will MOX actually happen. There was a discussion on the budget for the project and Senator Ryberg wanted to know how much money would actually be put into the ground before going forward. Mr. Clark did not have a number but, stated that a significant monetary commitment has been made and they are quite anxious to move forward.

Mr. Byrne asked who's security requirements will have to be met for the license, NRC or DOE. Mr. Clark said that both offices' security requirements must be met.

V. Update on Barnwell

Mr. Steve Byrne, NAC Council member, Committee on Barnwell, reported that in August 2006, the Barnwell committee made a visit to the Studsvik Site in Ervin, Tennessee. He said that Studsvik is a waste consolidator and are one of the largest shippers of waste to the Barnwell facility. They use Barnwell and the Envirocare site in Utah. He said it was a good tour and it is very professionally run organization that is committed to stay involved with Barnwell and South Carolina.

He said that relative to Barnwell activities, the parent company to Chem-Nuclear that has operated Barnwell, (Duratek) has entered into a merger, and they are now EnergySolutions. EnergySolutions is a large corporation headquartered in Salt Lake City, Utah. They have over 1,000 employees in 14 states. EnergySolutions is a combination of four companies and is now a big player in radioactive waste in the dismantling and decommissioning activities. He reported that EnergySolutions is also looking at bidding to run a high-level waste storage facility in the UK.

Mr. Byrne said he spoke with the President of EnergySolutions, Mr. Steve Creamer, and he is willing to come in December to address the Council about the merger and his company.

Mr. Byrne reported relative to activities currently going on at the Barnwell site for FY06, there was limit of 45,000 cubic feet for Fiscal Year 2006 (July 1, 2005 – June 30, 2006), and they took in 44,988.48 cubic feet. For Fiscal Year 2007 (which we are

currently in), the limit is 40,000 cubic feet. In June 2008 (which begins Fiscal Year 2009) they will only take Atlantic Compact waste. Last FY they took no large components. This FY they are supposed to get a reactor pressure vessel from LaCrosse. He also informed the Council that one of the familiar persons who was with Duratek is not with EnergySolutions, Mr. Regan Voit.

Mr. Byrne said he is happy to report on the Extended Care Fund that deposits have been made to the fund and the balance is around \$50.9 million. By the end of the year, the balance should be close to \$115 million.

Mr. Henry Porter, SC DHEC, updated the Council from a regulatory status on Barnwell. [Please click here](#) for a copy of Mr. Porter's presentation. He mentioned briefly that in accordance with the Atlantic Compact Act, DHEC will look into increasing the license fees for the disposal site. This is a regulatory process, and it has to go through the General Assembly and it is a public process. He then discussed the transfer of ownership of Duratek to EnergySolutions and how the transfer affects the current regulatory license. He also discussed the license appeal and reported that DHEC is waiting to hear from the decision of the State Supreme Court because there was some disagreement among the parties in the law on whether the renewal should go to the DHEC Board or whether it should go through a new review process. He said that Chem-Nuclear is continuing to operate under the expired license that they have and it has the same conditions that are in the new law. Mr. Rusche asked under which set of conditions EnergySolutions is operating under. Mr. Porter said that EnergySolutions is operating under the conditions of the license that would be in place at this point which would be the expired license. They would also have

committed to operating under the renewed license to the point it had become effective too.

Chairman Rusche thanked everyone again for all of their perspectives on the nuclear energy matters.

VI. Public Comment

Mr. Ernie Chaput updated the council on nuclear activities in Aiken, South Carolina. He gave them information regarding Global Nuclear Energy Partnership, which is a new program to look at new nuclear systems, fuel cycles and new types of reactors to meet energy needs of the future. He said that a RFP went out to look for facilities and a proposal went out to use the Energy Park at the Savannah River Site for the facility. He gave a brief overall of the proposal.

Ms. Mary Kelly commented that everyone speaking use the microphones so that everyone can hear the presentations.

There was no further business and the meeting was adjourned at 3:20 PM.