

**GOVERNOR'S NUCLEAR ADVISORY COUNCIL**  
**MINUTES**

December 06, 2007  
Room 209 Gressette Building  
Columbia, South Carolina

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

Absent: The Honorable Greg Ryberg

Staff present: Mr. Michael D. Hughes  
Transcribed by: Mr. Michael D. Hughes

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**I. Welcome, Opening Comments, and Approval of Minutes**

The Governor's Nuclear Advisory Council convened on December 06, 2007, at 1:00PM. Mr. Ben Rusche, Chairman of the Council, called the meeting to order and welcomed the speakers and guests.

Chairman Rusche made a motion that the minutes from the June 14, 2007 meeting be approved. Dr. Carolyn Hudson seconded the motion. The minutes were unanimously approved.

Chairman Rusche noted that the agenda is the fullest that we have had since the Council has been functioning. Chairman Rusche introduced the first speaker, Mr. Leo Sain, Washington Group Manager, of Washington Group International.

**II. Washington Group International**

Mr. Sain gave the status of the merger between URS and the Washington Group International. Mr. Sain reported the new name is URS, Washington Division but contractually at SRS their name will remain WSRC. There was no impact on onsite operations because the contract is with the government. Conditions they are bound by are

from the contract. Mr. Sain's view is that it gave them broader expertise and resources to rely on. Mr. Sain reported they've doubled in size with the merger of URS.

Mr. Sain then gave a quick overview of their performance at the site for 2007. He reported they have had the best year ever from a safety standpoint; with a current TRC rate of .36 which is 35% below last year. This year they received three voluntary protection program awards from DOE headquarters and have been recognized twice by South Carolina for large manufacturer association awards to include the "silver crescent" award. Mr. Sain also stated they received some safety recognition from the Department of Labor and the Governor's Office. He said WSRC intends to keep the focus on safe operations that protects the employees, environment and the public. Since 2006, they were headed to deactivation with "H" canyon, but that all changed. He said, "H" will now run until 2019. The Plutonium consolidation is the big thing that's underway at SRS that DOE later reports on in the meeting. Mr. Sain stated that the goal in 2008 for the TRU waste program is to ship out at least 275 drums a month, which leave the state and go to WIPP. He said the plan is to remove the remaining 1500 drums from the site and in 2008 complete the TRU waste program at SRS. He also said that at that time since 2000, they will have shipped over 30,000 drums from Savannah River to WIPP and will have placed them in the final repository.

Mr. Sain reported on the M&O contract process. The orals were finished in June and they are waiting DOE's decision on the winner of the M&O contract. After the M&O contract is awarded, Mr. Sain said there is the liquid waste bid which is due to DOE the 10<sup>th</sup> of December.

Chairman, Rusche then asked concerning liquid waste, if the process for “re-competing” is sufficiently defined to avoid confusion. Mr. Sain responded that they are working very closely with the Department. They appointed a senior manager to manage the transition of the contracts and WSRC has a group of individuals working to assure everything is in place. Mr. Sain also said that the M&O contract to be awarded is a support and services type of contract. He said with that liquid waste will be self supporting after the M&O contract is awarded. If additional services are needed, they can still be purchased from the M&O in that both organizations should be able to operate smoothly.

Chairman Rusche then asked if there were any other questions for Mr. Sain. There were none. Chairman Rusche then made a change to the agenda to accommodate Mr. Jeff Allison who was unable to speak at his scheduled time on the agenda. Mr. Allison’s report came later.

### **III. Salt Waste Processing**

Chairman Rusche then introduced Larry Ling and Tony Polk, both with DOE. Larry Ling gave a presentation on interim salt processing. The presentation covered the status of the facility, and the three components of interim salt processing. Chairman Rusche suggested questions or comments be deferred until Tony Polk gives his update.

Mr. Polk gave an update on SWPF. He informed the Council that in September they received approval from the Deputy Secretary of Energy for the base-line cost and schedule for salt waste processing facility and approval to begin early construction and procurement. He said fieldwork and critical procurement began on September 28, 2007. This came after the reviews of the design and conclusion that the salt waste facility

project was ready to move to construction. Mr. Polk said, in March 2008, they anticipate the approval to move ahead with the base-mat construction of the facility and in August of 2008 they will receive final approval for construction that will allow them to begin the phases to erect the building and equipment. Mr. Polk advised that with that schedule completion of the facility is expected in November of 2013. Every effort will be made to accelerate that date and to support the removal of the salt waste from the tanks.

Mr. Polk reported that they have achieved 1 million safe hours of work thus far with their contractor Parsons. He said they anticipate bringing a high level of safety as they move into the construction phase to the completion of the project. The floor was then open for questions. Chairman Rusche reminded the council and audience of the website and the information that it provides. Dr. Van Brunt then asked Mr. Polk if they are continuing to assess technology that will improve the facility. Mr. Polk replied that they continue to seek ways to improve the throughput of the salt waste process. He further noted that the Department will be alert to new approaches and processes to assure success. Mr. Mottel then asked if the 2013 date was secure. Mr. Polk replied that it was stating that the facility is a complex facility and they've been through numerous iterations to change the design over the last couple of years to accommodate changes in the structural design to handle seismic events. Mr. Polk said the schedule is aggressive because it is a complex facility although the technology has been used elsewhere; it is being used at SRS for the first time. However, Mr. Polk believes there is potential to come in ahead of the November 2013 date. Mr. Mottel expressed concern that he was afraid that they really weren't there. Mr. Polk said that they are very confident that the design they have will work along with the technologies that have been used before. Mr.

Mottel then asked if it was to be on-line at the beginning of 2013, and Mr. Polk said yes. Mr. Mottel asked how much longer they would have to process. Mr. Polk said the facility would process until sometime mid 2027 or 2028. Chairman Rusche then invited Jeff Allison with DOE, to offer comments to the council.

Mr. Allison gave an update on the activities at the SRS to cover the consent agreement that has been reached with the Natural Resource Defense Council in August. He explained that it paved the way for them to operate the salt stone production and disposal facility under the permit that was issued by DHEC. Mr. Allison said it was a significant milestone. He said in late October operations of the salt stone facility were resumed to include the processing of tank 50; processing over 182 gals. of salt waste and in November over 328 gals. as well. He added that last week they processed about 175 gals; which is the highest volume in a week's time. Mr. Allison said the recent processing is a significant start with 33 million gallons of salt waste in the inventory. Later in the fiscal year or next calendar year he said they will be able to start up another part of the interim salt processing complex. Mr. Allison said those facilities will provide process knowledge with real waste using the same unit of operations as the eventual salt waste processing facility. Mr. Allison reported that they now have an approved base-line for the salt waste processing facility; achieving over 65% of the design and are moving forward.

Mr. Allison also noted that with plutonium disposition; they began the K area interim surveillance capability which allows both destructive and non-destructive evaluations of the plutonium that is stored in the 3013 containers. He said this process started last year and has been successful.

Mr. Allison said they also completed during the year the last defense board a recommendation 9041 2000-1 milestone which dealt with stabilizing nuclear materials that were leftover from the Cold War. The recommendation was to place the materials in stable form. Mr. Allison said this began back in 1994 and is complete. Mr. Allison said they are continuing to make progress in the disposition of highly enriched uranium and blending it down. They were able to ship 220 metric tons off-site this last fiscal year to TVA facilities which could be made into commercial fuel. He reported they've also continued to operate their "L" reactor facilities, safely receiving and storing both domestic and foreign research reactor fuel.

Mr. Allison concluded by taking questions. Chairman Rusche asked Mr. Allison to elaborate on the comment made on foreign fuel. Mr. Allison explained that as part of the agreement that the State Department has, DOE is tasked with bringing spent fuel back from foreign countries to the United States as part of the old "Atoms for Peace Program" because the U.S. provided nuclear materials to several countries to use in research reactors. That fuel is owned by the U. S. and has to be shipped back for disposition. Chairman Rusche said he was pleased to hear that we have a process that is now functional and working. Chairman Rusche also asked if most of the fuel was aluminum-clad. Mr. Allison replied that most is non aluminum-clad that goes to Idaho and some we have at SRS. Chairman Rusche asked if it was non-aluminum, and Mr. Allison replied, yes. Chairman Rusche then asked if Council had a comment or question for Mr. Allison. Dr. Van Brunt asked what fraction of the fuel comes to Savannah River. Mr. Allison said all the foreign returns come to Savannah River.

#### **IV. MOX Project Status**

Chairman Rusche then introduced Ken Chacey, of NNSA. He reported on the MOX project and the facilities that support the operation. Mr. Chacey stated the project is part of a 34 metric ton disposition program; and in the last couple of weeks Russia signed the agreement with Secretary Bodman to disposition 34 metric tons of material. Mr. Chacey said in addition to that, the Secretary recently made an announcement that there is an additional 9 metric tons that will be declared excess to the weapons program that will eventually work its way back to conversion and then to the MOX facilities and then on to the commercial reactors.

Mr. Chacey reported that the two other facilities; the Pit Disassembly and Conversion facility accepts and converts the plutonium pits to a form suitable for the commercial reactors. Chairman Rusche asked if that facility was on site at SRS, and Mr. Chacey replied, yes and is about 65% complete in design. He stated this facility will be on-line after the MOX facility is on line. The second facility he reported on is the “Waste Treatment Building” which treats the high and low activity waste from both other facilities. Mr. Chacey said this is well under design. He reported this facility should be online in the 2014-2015 timeframe. He said they’ve been authorized 10 extra FTE’s for this year to support the three facilities at SRS.

Mr. Chacey then introduced Mr. Clay Ramsey to present to the Council a slide show of the construction that is taking place for the Mox facility (Presentation). Before Mr. Ramsey took the floor, Chairman Rusche asked if there were any comments. Chairman Rusche made the point that this is an extremely important, worthwhile, and cost effective process. Mr. Byrne asked if the additional 9 tons were all U.S. and Mr.

Chacey replied yes. Mr. Byrne then confirmed the total allocation of the 77 tons. Mr. Chacey concurred and said they are working with the Russians to increase their commitment of the 34 metric tons. Mr. Byrne asked if the dry runs in the 2014-2015 timeframe include the full fabrication of new assemblies. Mr. Chacey confirmed.

Mr. Ramsey then began his update and presentation on the Mox Facility project construction. He said there was quite a bit of preparation before the start of construction on August 1<sup>st</sup>. The presentation consisted of details of progress since the last meeting including many before and after photos of the general area in June of 2005 when site preparation began including a new admin complex and a parking lot. Mr. Ramsey also discussed the safety achievement of the contractor of a million safe work hours. Mr. Ramsey concluded his presentation and responded to questions. Mr. Mottel stated that he was intrigued by Hanford giving up the power crane (pictured in the presentation). Mr. Ramsey responded stating that while visiting the Hanford site before construction began they wanted to understand Hanford's lessons learned of the water treatment plant etc, and while there, asked if they had any leftover equipment. Hanford sold the crane (one of the largest in the country) to the Mox Project team. Mr. Ramsey said it took 35 flat bed trucks to ship it to Savannah River. Chairman Rusche made the point that the project is in a forward looking mode that is safe, practical, and economic in the sense that it provides for a practical way of dealing with the use of plutonium that's been produced and used in a form that's safe and economic and practical. Chairman Rusche followed-up by thanking them and welcoming them to come back.

## **V. Tritium Program**

Chairman Rusche welcomed and introduced Mr. Rick Arkin with DOE-NNSA to give his presentation on the Tritium Program. Mr. Arkin reported that the program has operated over 8 million hours without loss time injury as well as operating in excess of 20 million hours without a measurable uptake. Mr. Akin gave an update on what's been happening with regards to the National Nuclear Security Administration since March of 2007. This included the work being done in support of the Department of Defense including the Savannah River contribution, a weapons complex transformation, and the tritium extraction facility. Mr. Arkin also covered a 1616 shipping container issue in South Carolina, and a ten-year outlook of the site. Mr. Arkin sited personnel changes: Tom Degastino, who was the Defense Program Administrator, has been nominated to succeed as Administrator; Bill Alstondorf is Tom Degastino's Principal Deputy; and Major General Retired Robert Smollen was confirmed and sworn in as Deputy Administrator for the Defense Program. Mr. Arkin pointed out that safety is paramount followed by security. Chairman Rusche asked if these activities were under the purview of the NRC. Mr. Arkin replied that they are not; NRC insures the requirements of the license are being met through the construction process. Mr. Arkin stated that with regards to tritium, their main customer is the Dept. of Defense; with a very aggressive shipment schedule commitment to them. In fifty-two years, Mr. Arkin said they have not missed a shipment to them.

Mr. Arkin reported they are releasing their preliminary results and are scheduled too hold a public hearing February 21, 2008 in North Augusta to present them to the public and provide to the public and any other stakeholder an opportunity to commit on

the preferred alternatives. They hope to have a record of decision in August 2008. Mr. Arkin stated they also did CD4 at the extraction facility on April 4, 2007 and it worked as designed.

Mr. Arkin reported that there was an old H container found, tested by DHEC and transported to Savannah River. It was a pre 2005 item and not a controlled item. No contamination was found on or in the container as confirmed by DHEC. Chairman Rusche asked what is left of the investigation. Mr. Arkin replied they want to find out what happened and how it possibly got out of the Tritium area and to Central Shops and then how it had gotten out of Central Shops. Chairman Rusche followed up by stating that it's a very important activity to engage in. Dr. Van Brunt then asked if they've looked at the rest of the inventory of containers. Mr. Arkin said yes, that they have identified all that they are responsible for and accountable for. Mr. Arkin concluded by recognizing Bruce Wilson's imminent retirement, contribution, and commitment to the industry and the public. Mr. Arkin stated he will also be retiring April 3, 2008 and Bruce the February 1, 2008. The Chairman thanked both of the presenters for their contribution.

Mr. Byrne asked if there were contracts in place with TVA to cover 40 years. Mr. Arkin said that they do have contracts in place. Mr. Byrne followed up by asking if those licenses are good for that period of time. Mr. Arkin did not know the answer to that question. Chairman Rusche then called for a 10 minute break.

## **VI. PU Storage Program**

Chairman Rusche introduced Robert Edwards, Director of Nuclear Material Program Division with DOE at SRS, to give an update on the Plutonium Storage Program. Mr. Edwards reported that as of September 2007, the decision was made to

move forward with Plutonium consolidation for the excess non-pit surplus plutonium (i.e. plutonium around the complex that would be brought to the SRS). He said 2300 containers will come from the Hanford site and approximately 700 containers will come from Lawrence Livermore National Laboratory and Los Alamos National Laboratory; the consolidation has begun. Mr. Edwards then cited public law 107107 on bringing plutonium into South Carolina and having a disposition pathway out of the state for that material. The approach that DOE has adopted is for the plutonium currently at the site, the operations, and the plutonium brought from Rocky Flat 2002-2003 time frame, and additional material that will be brought in as part of consolidation. Mr. Edwards provided a graph depicting the approach for storage and disposition. The graph represented both their plutonium and uranium disposition strategy. He pointed out that security and location were the most important factors to DOE. In conclusion, Chairman Rusche asked if there were any questions. Dr. Van Brunt asked in what the direction were each of the pathways depicted going. Mr. Edwards replied that half of the material is going to the “vitrification” pathway; the smallest fraction goes to H Canyon, and the remaining goes to Mox.

## **VII. Reactor Licensing**

Chairman Rusche then introduced Mr. Steve Byrne with SCE&G to give a presentation on nuclear power. Mr. Byrne’s discussion and presentation covered South Carolina’s nuclear industry, as well as the national and international nuclear industry. It included slides representing SCE&G territory and power plants in South Carolina consisting of internal combustion (gas), hydro, fossil coal, and one nuclear plant in Fairfield County along with capacities and historical usage of each with a concentration

on nuclear power. It also illustrated the economics of a new nuclear plant to include the environmental economics of plant location. Mr. Byrne pointed out the cost effectiveness. Mr. Byrne discussed other regional and national energy possibilities such as solar, and wind as well.

Mr. Byrne mentioned the need for energy in the 2015-2016 timeframe with respect to nuclear power. Production cost and cost per kilo-watt hour of nuclear was also included in Mr. Byrne's discussion. He discussed the Energy Bill of 2005 and its incentives. He pointed out that nuclear is more environmentally friendly and how the trend for nuclear has become more positive. He mentioned a few environmentalists have recently changed their stance on nuclear; Patrick Moore of Green Peace is now speaking favorably on nuclear as well as his theorists, James Loafluck, and Stuart Bryant.

Mr. Byrne concluded with questions. Dr. Van Brunt asked if the Energy Bill includes anything on renewable energy and what other options are there for the southeast other than wind or solar. Mr. Byrne said the Energy Policy Act of 2005 doesn't have a renewable portfolio standard but does give credits for renewable types of energy. Dr. Van Brunt clarified by saying he was referring to the bill that is currently being debated in Congress. Mr. Byrne then said there are a number of bills being debated and that some of them have a requirement for renewable energy. An audience member then asked if the Japanese seismic requirements for their nuclear power plants are new or different from the NRC. Mr. Byrne said they have seismic requirements but could not comment on how similar they are in Japan.

## **VIII. SRS Heritage Foundation**

Chairman Rusche then introduced Mr. Walt Joseph and Mr. Bill Mottel of the SRS Heritage Foundation to give a presentation and update on their activities. Mr. Mottel began by giving some background on the SRS Heritage Foundation. He said that they are trying to preserve and present the history of the SRS. He stated the SRS Foundation Inc. started under the auspice of the “Citizens for Nuclear Technology Awareness” (CNTA). The foundation began from the CNTA in August of 2005 as a 501c3 organization to plan the preservation and presentation of SRS history.

Mr. Mottel then called on Mr. Walt Joseph to present a report of the current activities and the actual SRS Heritage Center itself. For a copy of the presentation, [click here](#). Mr. Joseph concluded with taking questions. There were no questions.

## **IX. Barnwell & Atlantic Compact Update**

Chairman Rusche then introduced Richard Haynes of DHEC to give an update on Barnwell and the Atlantic Compact. Mr. Haynes’ update consisted of Chem-Nuclear public relations and the tritium groundwater issues, and the future operations of the site after 2008. Mr. Haynes discussed the origination of the plumes at the land fill and the first trenches that were installed in the early 70’s. He reported on the highest concentration of tritium at the site and the groundwater that is affected and where it flows. The concentration in the surface water is about 100,000 pico curies per liter. He also said that would be the only source of exposure and that the NRC standard is 500,000 pico curies per liter. He said the EPA standard for drinking water is 20,000 pico curies per liter which is not suitable for drinking.

He said DHEC sampled 41 private wells and one pond around the site in a ½ mile to 1 mile radius around the site to address the drink water issue. Of the 41 samples, Mr. Haynes reported 37 were non-detect for tritium, and 5 were detected in the background range which meant all the private wells are safe to be drinking from. Mr. Haynes said this issue was put to rest at a public meeting held in October 11, 2007. Mr. Haynes said the meeting was well attended and received. DHEC also agreed to test the same wells on a long-term scale on a yearly basis.

Mr. Haynes said the site itself is on schedule for July 1, 2008 for Atlantic Compact only operations to take affect going into a low-volume operations mode. He said at the end of the fiscal year volume will be around 35,000 cubic feet of material disposed for the year. He followed-up by saying at the start of 2008, that number will drop but by how much was uncertain at this point. He said DHEC, Energy Solutions, and SCEO are currently working on a new operating plan that will address the low-volume operations. He said phase 7 of capping (6 acres) will begin in spring of 2008 as well as decommissioning the majority of the buildings at the site and surface water management as they begin the long-term monitoring phase.

Mr. Haynes concluded with opening the floor for questions. Mr. Byrne asked how deep are the wells that will be drilled for monitoring purposes. Mr. Haynes said 40-50 feet in depth to the shallows and then 200 feet in depth to the creek. He said some wells are deeper that would require drilling 150-200 feet to monitor. Mr. Byrne asked if they would be only monitoring for tritium or other things. Mr. Haynes said they currently monitor for tritium with the radio nuclides of volatile organic compounds and there are 182 monitoring wells on site that get tested on a quarterly basis or at least once a

year. He said this would continue in long-term. Mr. Byrne then asked where the closest drinking water supply is located to the plume. Mr. Haynes replied the closest is between a quarter to a half mile away. Mr. Byrne asked if face to face meetings occur while the wells are being tested, and Mr. Haynes replied that they do. Mr. Byrne asked what their biggest concern was. Mr. Haynes said that it was the lack of information which DHEC is trying to address.

Dr. Van Brunt asked if there has been any modeling done on the plume. Mr. Haynes said it was included in the closure plan. He said that the curve model goes through two-thousand years.

Chairman Rusche thanked Mr. Haynes for coming to the meeting and giving his update. Chairman Rusche then shared DHEC's publication titled, *DHEC, SRS News* with the attendees and complimented DHEC for providing the publication to the general public.

## **X. Public Comments /Adjournment**

Mr. Tom Clements representing the organization, Nuclear-Wide South based out of Atlanta, GA, addressed the Council. He gave them information on his background and related issues that he has been working on or involved in as well as issues that he intends to be involved in as they relate to South Carolina. Mr. Clements offered to give presentations to the Council at future NAC meetings from a public interest and environmental perspective. Mr. Clements also expressed concerned over the DOE disposition pathways as they relate to SRS. He commented on and questioned the nuclear power presentation given by Mr. Byrne as it related to the shift of support by environmentalists cited in the presentation. Mr. Byrne attempted to clarify Mr. Clements

interpretation of his presentation. Additional discussion ensued by Mr. Clement. He concluded by thanking the Council for his time to talk. Chairman Rusche thanked Mr. Clement for his comments. Chairman Rusche asked if there were any further comments. Rep. Perry recognized and thanked Mal McKibbin. The meeting adjourned at 4:29 PM.