



MINUTES

Friday, November 16, 2012

1:00 p.m. – 3:00 p.m.

1:00 p.m. – 3:00 p.m. (Pacific Time)

University of Idaho – Student Union Building & Commons – Silver & Gold Rooms
(709 Deakin Street, Moscow, Idaho)

Commission Members in Attendance

Chairman Jeff Sayer, Dept. of Commerce

Jared Fuhriman, Mayor of Idaho Falls

John Kotek, Gallatin Public Affairs

Larry Craig, Retired United States Senator

John Chatburn, Office of Energy Resources

Dwight Johnson, Dept. of Labor (proxy for Roger Madsen)

Mark Rudin, Boise State University

Sylvia Medina, Northwind

Jeff Thompson, Idaho House of Representatives

Willie Preacher, Shoshone-Bannock Tribes (proxy for Nathan Small)

Richard Jacobsen, Idaho State University (proxy for Dr. Arthur Vailas)

Bart Davis, Idaho State Senate

John Grossenbacher, Idaho National Laboratory

Roger Madsen, Dept. of Labor

University of Idaho Showcase: Overview of Graduate Nuclear Engineering Program

Chairman Sayer welcomed Dr. Vivek Utgikar, Associate Professor of Chemical Engineering with the University of Idaho.

Dr. Utgikar introduced the University of Idaho Nuclear Engineering Graduate Program which is an interdisciplinary graduate program under the mechanical engineering department. It is co-located with the ISU NSE program and the BSU MSE program. There are several specialty tracks available including them hydraulics, nuclear materials, fuel reprocessing, thermal fluids, and nuclear criticality safety.

There are about 20+ traditional full-time grad students, plus a larger number of non-traditional part-time graduate students thanks to a partnership with the Idaho National Laboratory. Courses are offered in both Moscow and Idaho Falls. This program is centered in the Center for Advanced Energy Studies (CAES). About 40% of the space at CAES is dedicated for lab space. The program has been a tremendous success with a ROI of 11:1. Students who have been successful in receiving fellowships, and there have been an increasing number of international students participating in the program.

One of the items that can definitely move the program forward is the construction of another facility – CAES II. This would allow them to grow the program by leaps and bounds, and help them integrate STEM and nuclear.

Question: How much demand is out there for a CAES II?

Response: The current CAES lab facilities are at full capacity. Additional space would be filled with productive research. CAES is bringing in more projects and they would definitely benefit through another facility.

Question: When was this program started? How long has it been in existence?

Response: The nuclear energy program has been in existence for a while – 2007 was when it really started to take off through the addition of new faculty members.

Question: How do we compare with other graduate programs around the world?

Response: We have strengths that make us unique – back end of fuel cycle, thermo hydraulics, materials characterization. Combined with other universities and CAES, we are getting national recognition.

Question: Where do the graduate students come from? How do we strengthen the educational offerings to make your program or CAES more attractive?

Response: Pipelines through U of I, BYU-Idaho, and international students are extremely valuable. The facility that we could get through CAES-II would definitely help. Similar support from the state would also be extremely helpful. An integrated program among the three universities could also be encouraged.

Questions: Connectiveness between Moscow and Idaho Falls is difficult. Do students in Moscow get an opportunity to interact with CAES and the INL?

Response: Yes – students do have an opportunity to go to Idaho Falls – but connectivity is definitely an issue.

Discussion on Opportunities for Partnership with Carlsbad, New Mexico

Chairman Sayer welcomed John Heaton, Chairman of the Carlsbad Mayor's Nuclear Task Force. He greatly appreciates Mr. Heaton taking time out of his busy schedule to talk with the Commission.

Mr. Heaton began by stating that WIPP is the only deep geological repository in the world – they are it in the United States. WIPP was chosen due to the salt – it is very stable geology. It is easy to mine, there is no water, the plasticity of the salt itself allows it to close in on the waste and encapsulate it forever. In a mass formation like this, it is impermeable to water. It requires no geologic barriers. They are 2,100 feet down from the surface. There is 2,000 feet of salt, then below there is another 1,000 feet of salt and anhydrite.

Heaton discussed the history of WIPP. Back in 1957, the National Academy of Sciences recommended a deep geologic disposal for radioactive waste and suggested salt. In 1971, State Senator Joe Gant Jr. suggested that the Atomic Energy Commission look at Carlsbad's salt beds. In 1979, Congress authorized WIPP as a research and development facility and in 1981, the Department of Energy proceeded with construction of WIPP. In 1998, the EPA certified that WIPP met all applicable regulations and the first TRU waste arrived in 1999.

From the community's perspective, the number one concern was safety above all else. The community was involved in regular updates with DOE and had the opportunity to view testing. All of the community had access to meetings – this openness educated the community so that they bought into it in a strong way.

The transportation system is a story in of itself. The trucks travel in about 40 states and there are a number of approved shipping containers. All shipments are satellite tracked to within 500 feet. In the program's history there have been no moving violations – they have an impeccable record. Drivers are in constant communication with WIPP's Central Monitoring Room. There is regular training for first responders along pre-approved routes.

WIPP is required to go through EPA certification every five years, and Hazardous Waste Facility Permit every 10 years. They have a 13-year record of safe operation.

What are we going to do with nuclear waste and spent nuclear fuel? There are decisions being made at nuclear plants throughout the country. Clean power will require nuclear energy and we must have a plausible, integrated, durable policy and plan to manage used fuel responsibly.

They believe the next pilot mission for WIPP is for the permanent disposal of defense-generated transuranic TRU radioactive waste. Salt is an ideal disposal medium – no engineering barriers are needed and water cannot pass through it. Fractures are self-healing and bedded salt is preferred over domed salt due to the inherently larger areas contained in the bedded geologic salt formations.

WIPP believes there are costs and time savings and the tests can begin now in 2015. The SDDI goals and objectives are to explore the efficacy of salt for spent fuel and high-level waste at a cost of about \$25M over six years. The test will confirm bedded salt as appropriate HLW repository medium.

Strategy Perspectives and Considerations – the Blue Ribbon Commission outlined them well. There should be two or more repositories and two or more interim storage facilities. In the past, we haven't succeeded due to the top-down process. There is extraordinarily naïve understanding by politicians and a failure to recognize that states have the final say and there are many ways a state can stop a project from moving forward. In addition, there is no coalition of the 39 nuclear state's Governor's to solve the problem.

Who is in charge? It is going to take a ground up approach. In addition, what is a consent-based process? For a repository, geology plays a role along with community acceptance and consultation/cooperation agreement with the Governor. In addition, a massive education process must be undertaken in the state.

DHLW Next Steps:

- FOCUS ON DHLW (not leaving SNF behind)
- INITIATE GENERIC SALT STUDIES \$25 MILLION OVER 6 YEARS BY “EM” AT DOE (\$4 in 2013)
- DOE & STATE CONFERENCE ON C & C AGREEMENT STANDARDS AND PROCESS
- PROVIDE STATE WITH \$3MILLION PER YEAR FOR TECHNICAL SUPPORT FOR C & C
- STATE AND DOE AGREE ON C&C
- CHANGE NWPA TO ALLOW RESEARCH & SEARCH FOR ANOTHER SITE
- THE PILOT PLANT NOW READY FOR DHLW: AMEND LWA TO REMOVE SEC. 12

Question: It is interesting to explore the consent based process. It might be a state by state process – this isn't something you could predict upfront. The experience in New Mexico is pretty revealing. How did you work with state Legislature and Governors?

Response: Independent scientific oversight group, communications plan, legislative committee, and at one point there were about 26 oversight groups. There were constant monthly meetings where the public and government leaders understood what was going on. The incentive commitment that was made up front also kept the statewide politicians engaged even though they didn't start receiving it until 1998. Until you decide what the standards are, nothing goes forward. In the final stages and in the operational phase, there were still skeptics in the legislature – but ultimately the roads that are being built in their districts that didn't have to be taken out of the state's general fund were an influencing factor.

Question: Is a partnership feasible where New Mexico is the interim storage site and the research is done at the location of the casks? Could INL's role be to conduct the research for the fuel that has to be taken out of the cask? If so, how does such a thing get started?

Response: They do anticipate there would be research facility at the site. At some point, a fuel pool would be developed at the facility. There are definitely partnership capabilities between the two with INL as the used fuel deposition program.

Question: In what you are looking at for the depositing of spent nuclear fuel, you are anticipating this would be non-retrievable?

Response: Once you put it in salt in those temperatures, it will collapse faster than what we currently see. There is no reason to retrieve it if we are not pursuing reprocessing.

Question: There is clearly considerable support in Carlsbad, but what about the state? How does the Governor currently feel about this proposal?

Response: The Governor says she will follow the science and if the science says it is safe, then she will support it. It has been a state process all the way.

Question: Are there conversations between states that Idaho should be a part of Idaho?

Response: For all of the defense states, the Governors and Legislatures need to get together to develop a strategy. This is significant issue for our country and it is stopping for our most significant source of long-term stable energy. We have to move this forward. We have to rely on ourselves to move the agenda forward and the Governors and delegations in our 39 states to get together.

The meeting adjourned 2:56 PM.