MINUTES
JOINT MEETING

SENATE STATE AFFAIRS COMMITTEE
HOUSE ENVIRONMENT, ENERGY, & TECHNOLOGY COMMITTEE

DATE:	Wednesday, March 02, 2016
TIME:	1:30 P.M.
PLACE:	Lincoln Auditorium - WW02
MEMBERS PRESENT:	Chairman McKenzie, Senators Davis, Hill, Winder, Lakey and Buckner-Webb
	Chairman Thompson, Vice Chairman Anderst, Representatives Raybould, Hartgen, Vander Woude, Nielsen, Anderson, Mendive, Trujillo, Beyeler, Chaney, Nate, Smith, Rusche, Jordan (5) and Rubel
ABSENT/ EXCUSED:	Vice Chairman Lodge and Senators Siddoway and Stennett; Representative Scott
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Thompson** called the Joint Meeting of the Senate State Affairs Committee and the House Environment, Energy, & Technology Committee (Committees) to order at 1:30 p.m.
MINUTES APPROVAL:	**Representative Anderst** moved to accept the House Environment, Energy, & Technology Committee minutes of February 24, 2016, as written. The motion carried by a voice vote.
	Chairman Thompson introduced Dr. Mark Peters, the new Director of Idaho National Laboratory (INL), and welcomed him and his family to Idaho.
PRESENTATION:	**Dr. Mark Peters** presented an update on the vision and strategy for the INL and provided a sampling of some of the important programs they are working on. **Dr. Peters** emphasized the importance of the partnership with the State and how that partnership affects economic development, investment in education and other important initiatives. The INL is the lead laboratory for nuclear energy research and development demonstration projects for the United States. The INL is working with industry to sustain the white water reactors in the U. S.; 99 reactors produce about 20 percent of the nation's electricity. An important part of the INL mission is to solve the spent fuel challenge that the nation faces so they can move forward with nuclear in a meaningful way. The material is being stored onsite at nuclear reactor power stations. INL also does the research and development and hopefully, ultimately, the deployment of a disposition path for spent fuel at a national repository(s).
	Dr. Peters spoke about the existing fleet of reactors that will be retiring beginning in 2030 and how they will be replaced. It is important to know what the next generation of nuclear reactors will look like and have them commercially available by 2030. He explained that INL is working on other forms of energy besides nuclear and spoke of three areas of excellence that are the pillars of focus: biomass for fuel, advanced transportation/advanced batteries for grid storage to bring renewables to transportation infrastructure, and natural gas infrastructure. Those are areas through which the INL thinks they can change the nations future.

Dr. Peters spoke about the recently released Gateway for Accelerated Innovation in Nuclear (GAIN). It takes advantage of what INL and its partners can bring to industry to fast-track the pace in which they deploy next generation nuclear. He encouraged the State to take advantage of new energy concepts and stated that small modular reactors (SMRs) will be a step in the future of nuclear energy supported by INL.

Dr. Peters itemized global security challenges in context with recent cybersecurity and infrastructure threats. He explained how INL can facilitate research on various clean energy alternatives and that they are a participant in the Center for Advanced Energy Studies (CAES). **Dr. Peters** enumerated the benefits of the INL site in testing products as well as providing increased employment opportunities. He listed industry benefits in the State that can be credited to INL and noted there is significant growth projected over the next five years. He encouraged working with industry to get products to market and promote science, technology, engineering and math (STEM) education to match workforce needs through partnerships with Idaho universities. **Dr. Peters** emphasized INL's desire to further build it's relationship with the State. (see attachment 1)

Dr. Peters introduced the members of his staff who were in attendance: Amy Lientz, Director of Partnerships, Engagement and Tech Deployment; John Revier, Director of State and Regional Government Affairs; and Cory Taile, a recent addition to the INL staff as a writer, formerly with the Post Register.

Representative Thompson inquired about the negotiations on research quantities. **Dr. Peters** answered that there were two shipments and that INL is currently dealing with the second shipment from a power plant in Illinois. He stated that there are daily discussions between the Department of Energy (DOE) and the Attorney General's office. **Representative Thompson** stated that the desire of the Legislature is to assist in whatever way they could. He stated that the research quantity project will open the door for significant dollars, which would benefit Idaho.

Representative Rusche stated his appreciation for the focus in the presentation about the laboratory but that his constituents' main concern is that of nuclear waste and asked for the status of that issue. **Dr. Peters** clarified that he represents the INL laboratory, not the cleanup. However, he reviewed processes and challenges involved in cleanup.

Representative Anderst referred to the revenue breakdown and asked about the stability of revenue through the years. **Dr. Peters** indicated that since the recession, INL revenue has recovered. **Ms. Lientz** stated that the recession in 2008-2009 reduced the budget, which lead to a reduction in staff, but the INL is recovering. Funding from the federal government occurs every two years, so that affects budget projections, but they are close to being at the level they were prior to 2008.

Representative Nielsen inquired if INL is prepared for an electromagnetic pulse (EMP). **Dr. Peters** said that INL has done an analysis of the potential impacts and understands what would happen in case of an EMP attack. They are in the assessment phase and there is more to do.

Senator Hill talked about the relationship between Idaho and INL. Is education the area where the Legislature could help the most to advance the INL's goals and objectives. Are there other areas in which the Legislature could be more helpful? **Dr. Peters** concurred that promoting education through the CAES and STEM is great but encouraged taking advantage of promoting a clean energy future and attracting industries to the State that will enable that clean

energy future. He asked the Legislature start the conversation about how to do a better job to attract clean energy industries to the State. **Senator Hill** asked about INL's relationship with Idaho universities. **Dr. Peters** answered that Idaho universities are very cooperative with INL. The presidents reached out to Dr. Peters and there have been curriculum changes.

Representative Trujillo asked how the Idaho Gobal Entrepreneurial Mission (IGEM) program is working and asked if the Legislators could help. **Dr. Peters** asked Ms. Lientz to answer. **Ms. Lientz** indicated that the INL is represented on the board of IGEM and when INL promotes partnerships with universities, a win-win scenario is created for future opportunities.

Representative Harkin stated that there are comments criticizing industries within the State for not being futuristic employers and he wondered what Dr. Peter's observations have been. **Dr. Peters** answered that most young people and young families from out-of-state don't appreciate the advantages of living in Idaho and encouraged more publicity for Idaho.

Representative Nielsen inquired if a method of converting quantities of spent nuclear fuel to a biodegradable form had been discovered through research. **Dr. Peters** asked if what Representative Nielsen was referring to was the reprocessing of spent fuel. **Representative Nielsen** replied yes. **Dr. Peters** explained that the reprocessing would not be done at INL but the research that would enable this option is being conducted at INL.

Representative Anderst asked if Dr. Peters was having a difficult time recruiting employees. **Dr. Peters** answered that positions are able to be filled and in most cases there is a good candidate pool; occasionally candidates are not available.

Representative Anderst asked if there could be a collaborative effort between INL and the State to fill positions. **Dr. Peters** explained that many positions are filled by candidates from outside of the State. He said he would like to see more candidates from Idaho; INL is currently working with the Commerce Department as well as the universities to attract candidates.

Senator Winder wondered if there would be chances for INL to partner with medical research given the fact that there now would be a medical school in Idaho. **Dr. Peters** indicated that President Vaillis at Idaho State University (ISU) has already been talking to INL about medical research.

Representative Nate inquired if INL is a public government agency or a private business corporation. **Dr. Peters** explained that INL is a "Government-Owned Contractor-Operated" (GOCO) agency and stated further that INL is not "for profit" but as part of the contract there is an award fee. **Representative Nate** asked about funding sources. **Dr. Peters** clarified that federal dollars are used for research and development and other small amounts are industry investment.

Representative Beyeler referred to communities surrounding INL and asked if there were pathways to expose youth to opportunities that may be available with INL. **Dr. Peters** gave an example of meeting with the Butte County Commissioners in Arco to discuss job fairs and apprising the communities of opportunities throughout the region.

PRESENTATION: **Chairman Thompson** introduced Kirk Sorensen, President and Chief Technologist of Flibe Energy, to present information concerning the Liquid Fluoride Thorium Reactor in Idaho.

Kirk Sorensen indicated that he was honored to appear before the Committees and have an opportunity to talk about this exciting technology that has particular relevance to the State. Our civilization is extremely reliant on reliable and

affordable energy that can be counted on 24 hours a day, 7 days a week. Nuclear energy technologies are of great interest because of their potential to provide reliable and affordable kind of energy.

Mr. Sorensen explained that nuclear energy provides a reliable, concentrated source of natural energy and described the three types of nuclear energy: two are uranium based and the third uses a thorium reactor. He recounted the advantages, nature and processes of operating a thorium reactor. He noted that the Lemhi pass in Idaho is recognized as the richest deposit of thorium in the western hemisphere. **Mr. Sorensen** recounted the history of thorium as a potential power source. He explained the benefits of thorium over that of uranium and compared radio-toxicity levels. He reviewed the safety and integrity of fluid thorium fuel in comparison to uranium.

Mr. Sorensen reiterated the need for replenishing the nuclear "fleet," stressing the issue of the approaching retirement of the majority of nuclear power plants.

He explained the method being developed to enable thorium reactors to be manufactured locally and shipped to various sites with very little site preparation before being activated to produce electrical power.

Mr. Sorensen described the methods being developed and those already in use to prepare thorium reactors and discussed the risks for investors. He reviewed alternative industry uses, giving an example of the medical field's use of radioisotopes. He spoke about the antiquity and inefficiency of facilities that currently produce products such as those used by the medical field for diagnostics and for treatment of cancer. He explained the ease of acquiring radioisotopes from a thorium reactor. **Mr. Sorensen** stated that the liquid fluoride thorium reactor proposal by INL is unique in that not only would isotopes be produced for medical technology, but they could lead to power generation.

UNANIMOUS CONSENT REQUEST:

Chairman McKenzie asked for the unanimous consent of the Senate State Affairs Committee to send **H 447** to the floor for possible amendment. There were no objections.

Representative Rusche asked about the history of technology. **Mr. Sorensen** reviewed the history of thorium and uranium 233 beginning with the war effort and the Manhattan Project up to the use of nuclear energy in present times.

Representative Nielsen asked for further explanation of the small modular reactors. **Mr. Sorensen** explained that with the thorium molten salt procedure, pressure is no longer needed and smaller units can be mass produced.

ADJOURNED:

There being no further business, **Chairman Thompson** adjourned the meeting at 3:00 p.m.

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Senator McKenzie
Chair

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Twyla Melton, Secretary

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Assisted by Marian Smith