



## **Infrastructure Subcommittee**

# **FINAL REPORT & RECOMMENDATIONS**

November 1, 2012

**Chairman:** Senator Bart M. Davis

**Members:** Dr. Arthur Vailas, Mayor Jared Fuhriman, John Chatburn,  
John Sheldon, Dr. David Hill, Brian Ness, Seth Beal

**Staff:** Will Jenson

## Infrastructure Subcommittee Recommendations

*The Infrastructure Subcommittee met on July 31, 2012 and September 20, 2012. It took testimony and considered various recommendations. The Infrastructure Subcommittee submits to the Line Commission its formal recommendations regarding the Idaho National Lab (INL) and infrastructure as follows:*

### PHYSICAL ASSET DEVELOPMENT AND PROTECTION

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- 1) The State of Idaho, Bonneville County, City of Idaho Falls, and private developers should work to develop a Science and Technology Park north of the existing University Place and the University Boulevard Campus.
  - Such should assess and implement a process to acquire suitable land immediately north of University Boulevard Campus and University Place for the purpose of constructing a Science and Technology Park that augments and complements the INL's missions.
  - This Science and Technology Park would facilitate business development efforts by providing the private sector with close access to research capabilities not available elsewhere.
  - Idaho State University and the INL should assess and consider the construction and operation of on-campus and visitor residential housing.
  
- 2) Methods should be formalized that protect INL desert operations site from noise-generating external infrastructure to the maximum extent possible.
  - The INL is a secure and expansive desert operations site as currently constituted, and is both a state and national resource of nearly immeasurable value – due in large part to its great expanse of contiguous land, which is largely free of electronic noise sources. To enable continued national priority service and maintain its unique capabilities as an electric grid, advanced wireless telecommunications and cyber security test bed, incursion onto the INL desert operations site by noise-generating external infrastructure should be limited or precluded to the maximum extent possible.
  
- 3) Establish the state's ability to provide input regarding the use of decommissioned facilities on the INL desert operations site.
  - Facilities on the INL's desert operations site that are currently owned on behalf of the American public by the DOE Office of Environmental Management may have future mission relevance for INL's ongoing nuclear energy research mission.

These facilities should be evaluated, maintained and where warranted transferred to DOE's Office of Nuclear Energy to allow full use by INL.

- The State of Idaho's input and recommendations should, where appropriate, be requested and considered by the INL's Office of Environmental Management.
- 4) Support expansion of the Center for Advanced Energy Studies as capacity needs grow.
- Idaho should commit to the same type of hybridized funding/construction/operation model used for the original Center for Advanced Energy Studies to construct a CAES-II facility, adjacent to the current CAES facility in Idaho Falls, to relieve crowding at the original CAES facility and to, potentially, serve as the home of the INL's ATR National Scientific User Facility activities.
- 5) Establish an Advanced Nuclear Manufacturing Research Center in Idaho
- This Manufacturing Research Center could be modeled after the Nuclear Advanced Manufacturing Research Center recently established in the United Kingdom. The Center could be led by the CAES partners (BSU, INL, ISU, UI) and a consortium of industrial partners (AREVA, GE, Westinghouse, etc.) that works with members to develop advanced manufacturing solutions to meet the needs of both current and future nuclear reactors, to help members join the international nuclear supply chain, and to support skills development and quality management. In this new Idaho NAMRC, solution developers work hand-in-hand with university and national lab researchers to provide the scientific basis that satisfies regulatory requirements and to generate intellectual property. This new Center would also benefit the development of nuclear in Idaho by providing an advanced manufacturing capability to support new product development in particular and statewide economic development in general.
- 6) Pursue a suitable, acceptable, and financially prudent method of providing both a roadway crossing and walkway crossing across the railroad between the University Boulevard Campus and University Place in Idaho Falls.
- INL has explored opportunities for funding a railroad overpass over the past five years. CAES opened in February 2008 as a joint partnership between the state universities and the INL, but without a way to cross the railroad tracks it becomes difficult to commute between the two facilities.

- 7) Establish the Advanced Mixed Waste Treatment Project as the facility of choice for radioactive waste processing.
- The Department of Energy’s Advanced Mixed Waste Treatment Project has proven to be a valuable asset in our nation’s quest to safely and compliantly dispose of legacy transuranic and mixed low-level radioactive waste. More transuranic waste has been processed and shipped from AMWTP to the Department’s Waste Isolation Pilot Plant than any other site in the DOE Complex. To save taxpayer’s dollars from building similar treatment facilities at other sites, and to take advantage of an existing world-class workforce that has a proven record of performance for safely and efficiently treating and shipping these types of legacy wastes – in full compliance with the terms and conditions set forth in the Idaho Settlement Agreement – we recommend AMWTP should continue to be the facility of choice for similar radioactive waste processing operations for the DOE’s Environmental Management program.
- 8) Continue efforts to establish air service between Idaho Falls and Boise.
- Air service between Idaho Falls and Idaho's Capital, Boise, is important so that INL can maintain connectivity with state leaders, the legislature, and among INL's employees. It is recommended that the Idaho Department of Commerce continue to assist the City of Idaho Falls and other community leaders in securing reliable and continued air service connecting these two cities. It is further recommended that tax and other investment incentives be explored to secure this air service.
- 9) Recapitalize the Naval Reactors Facility in preparation for a future role in nuclear fuel research.
- The state of Idaho should support the recapitalization of the Nuclear Naval Propulsion Program’s existing Expended Core Facility infrastructure. Recapitalization will support the vital transfer, handling, examination, and packaging of naval spent nuclear fuel removed from nuclear-powered aircraft carriers and submarines, as well as from land-based prototype reactors for at least the next 40 years. The NNPP’s mission provides reliable operation of the naval nuclear powered fleet.
  - The NRF capabilities ensure safe and environmentally responsible operations of ECF. Deterioration of the 50 year old ECF infrastructure could immediately and profoundly impact the NNPP mission, including the NNPP’s ability to support refueling and defueling of nuclear powered submarines and aircraft carriers.

## POWER

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- 1) Assess and consider locally produced nuclear power through Small Modular Reactor technology (SMR).
  - Idaho should consider and encourage the construction of a suitable SMR that meets the needs of the INL, and provides research, educational, and power resources for both the INL and Idaho's universities.
- 2) Ensure consistent, long term, adequate and reasonably priced power.
  - Current estimates suggest a 50 percent increase in power needs between 2012 and 2022. Reliable, consistent, reasonably priced and adequate power generation needs that includes a forward-thinking review of projected needs that could well double in the next ten years with consideration of power needs including Areva's operations.
  - Predictability is also very important. Periodic review of those projected needs by the INL, power providers, and the State of Idaho are essential to meeting those needs. INL's annual budget does require consistent and reasonably priced power. It should be noted that power needs at INL could increase in a substantial way.
- 3) In preparation for increased power needs, the INL should perform a comprehensive assessment of the capabilities and capacity of its internal electric grid, and the state should provide a supportive role in the process.
  - A comprehensive assessment would ensure the adequate capacity and reliability of power transmission inside the INL grid system. This proactive approach, with state partnership, will help to meet increasing long term power needs and hedge against barriers for future growth.

## TRANSPORTATION

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- 1) Improve safety and traffic congestion problems along Highway 20 between Idaho Falls and INL Gate 1.
  - The INL needs a four-lane highway from Idaho Falls to INL Gate 1 on Highway 20. If four lanes are not reasonably foreseeable, Idaho should initially consider a tiered approach that includes:
    - i. Installation of a Connected Vehicle System. With the use of various technology driven devices, traffic flow and roadway safety can be maximized at a reduced investment level. This system would include

animal detection sensors that would increase driver awareness of animal movements. These sensors have proven to reduce the animal/vehicle crash rate which results in 19% of the total crashes on the roadway.

- ii. Construction of turn bays at targeted locations to provide for unrestricted traffic flow for through traffic movements. These can be implemented as required to address site specific issues.
- iii. Install passing lanes when peak hour capacity exceeds 3,200 vehicles per hour and the platooning of vehicles results in delays that approach 60%. The location of the passing lanes has been studied by the Idaho Transportation Department and would be constructed as warranted.

- The INL has researched many alternatives to the high-cost bus transport approach currently used to transport INL employees to and from the site. Unfortunately, the alternative that shows the most potential (vanpooling similar to the Hanford Site) also greatly reduces the overall safety of driving to the site because of the large increase in the number of vehicles on the current narrow two-lane road.
- A divided 4-lane highway reduces the safety concerns associated with vanpooling. Additional traffic considerations will arise once the AREVA enrichment facility is under construction and eventually operational.

2) Idaho and INL investigate and if feasible implement an agreement where the Idaho Transportation Department assume full responsibility to maintain INL's primary roads, exits, on-ramps, and underpasses.

- Such an arrangement would leverage the skill, knowledge, and experience base maintained by the ITD to improve the condition, service life, and cost of maintaining these critical resources to the success of the INL research and development and cleanup missions. The larger size of ITD's investments with Idaho pavement contractors could also offer economy-of-scale cost benefits to maintaining INL roads.

3) Ensure and protect right of way interests on roads that run through INL land.

- ITD should maintain a current understanding of the DOE-ID/ITD restrictions that exist in the stipulation regarding access to and development of rights of way and easements along highways and roads crossing the INL. The Idaho Transportation Department should ensure a process is in place to include DOE-ID in the review and approval of any right of way and/or easement request, consistent with the stipulation.

## COMMUNICATIONS

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- 1) Assess and fulfill identified needs related to capacity, inventory, resources associated to broadband and data storage.
  - Include INL as it relates to IEN, IRON, higher education, health care, state government and statewide research. Do an assessment of broadband utilization across the state to purpose all bandwidth investments in a coordinated and highly leveraged research, economic, and educational engine for Idaho and the INL.
- 2) As appropriate, utilize opportunities to locate fiber optic during road construction.

## SECURITY

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- 1) Encourage improved communication and interaction between INL security forces and State and local law enforcement targeted towards physical security, cyber security, critical infrastructure protections, and interoperability connectivity.
  - INL security forces routinely interact with state law enforcement officials. INL is interested in enhancing these interactions by meeting annually with the State Chief Law Enforcement Official; establish ways to routinely share training practices, security systems information for access controls, intrusion detection, systems maintenance and performance testing. Additionally, INL would be interested in participating in future exercises where local, state and INL entities can work together to ensure seamless response to emergencies.

## TAX POLICY

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- 1) Consider and adopt legislation to create appropriate competitive tax policy that encourages investment in Idaho.
  - Assemble and aggressively market an “Idaho Energy Research Incentive Package” highlighting the state’s enhanced Investment Tax Credit, Real Property Improvement Tax credit, R&D credit, possibility of county-authorized property tax exemptions, industrial revenue bonds and potentially – authorization from DOE NE to offer facilities/resources as a “Nuclear Energy Park Initiative” test bed.