

**PART III SECTION J, ATTACHMENT R
AGREEMENTS AND COMMITMENTS**

Resource Commitment Form

I am committing the following resources to the INL (please use a separate form for each resource). Committed resources may include, but are not limited to, funds, real or personal property (e.g., facilities or equipment), intellectual property, and human resources . Please complete all relevant sections and indicate N/A where not applicable.

1. Resource Description:

2. Location of Resource: (Address)

3. Total Monetary Value \$ _____ or Estimated Total Monetary Value \$ _____
Describe how the resource will be funded.

4. Describe which Project/Program would benefit from the resource and why:

5. Date the resource will be provided:

6. The resource will be provided by:

7. Describe any liability related to this resource financial or otherwise:

8. How the resource will be managed:

9. How the resource will be integrated into the INL:

10. Other pertinent information (e.g., exclusive rights and control of the resource):

11. Signature of responsible corporate official and date of signature:

Instructions for Completing the Resource Commitment Form

If any of the items in the form do not apply, indicate by N/A

Item 1: A description of the resource committed.

Item 2: Location of the resource.

Item 3: Monetary Value of the Resource. (All values shall be stated in 2004 dollars). Describe how the resource will be funded. If amounts or items are expected to be provided at different times throughout the contract please attach a separate schedule detailing the amounts/values and timeframes.

Item 4. Describe which INL project/program would benefit from the resource and provide a description of how the resource will benefit that project/program

Item 5: Date when the resource shall be provided.

Item 6: Indicate the name of the entity providing the resource.

Item 7: Describe any liability associated with this resource financially, environmentally, and any risk to the government.

Item 8: Describe how the resource shall be managed and controlled by the benefiting INL project/program.

Item 9: Describe how the resource shall be provided in a ready-to-use state to the benefiting project/program

Item 10: List any other pertinent information.

Item 11. Provide a signature of the responsible corporate official attesting to the commitment of the stated resources.

Resource Commitments

Table 3-1.

Provider	Resource Commitment	Type of Resource Commitment			Benefiting INL Area		
		Direct ⁽¹⁾	Program ⁽²⁾	Access ⁽³⁾	Nuclear Energy	National Security	S&T and Education
Battelle Energy Alliance	1. Upgrades to Advanced Test Reactor Research Capability and Fuel Line	\$20M			4	4	
	2. Support for Education Programs	\$6M			4		4
Battelle Memorial Energy	3. Construction Funding Support for the Center for Advanced Energy Studies (CAES)	\$8.88M			4	4	4
	4. National Security Consulting and Access to Battelle Ventures		\$2.0	\$150M		4	4
BWXT	5. Access to BWXT Lynchburg Technology Center (LTC)		\$1.5M	\$100M	4	4	
	6. Provision of BWXT Integrated Fuel Processor	\$14M			4		4
URS Washington Division	7. Environmental Sensing Technologies	\$0.25M	\$5M			4	
Washington Group	8. Construction Funding Support for the CAES	\$1.12M			4	4	4
Electric Power Research Institute	9. Establish the Center for Nuclear Fuels and Materials Research (CNFMR)		\$41.2M	\$25M	4		
	10. Access to EPRI's Technology Application Centers		\$2.9M	\$20M	4	4	4
	11. Provision of Technical Support to Advanced Nuclear Technology Development		\$1.8M	\$10M	4		
State of Idaho	12. State Support for CAES	\$7.2M			4	4	4
MIT	13. Access to the Massachusetts Institute of Technology Reactor (MITR)			\$33.9M	4		4
North Carolina State University	14. Access to the North Carolina University University's PULSTAR Reactor			\$25M	4		4
Oregon State University	15. Access to the Oregon State TRIGA Reactor			\$34M	4		4
The Ohio State University	16. Access to the Ohio State University Research Reactor			\$10M	4		4
University of New Mexico	17. Access to the University of New Mexico Research Reactor			\$5M	4		4
Electronic Data Systems	18. Plan for Enterprise-wide IT Development		\$0.24M		4	4	4
Energy Solutions	19. Support for INL Waste Management and Disposition	\$0.5M			4		
Westinghouse Electric Corp	20. Support the Center for Nuclear Fuels and Materials Research – WEC		\$1.5M		4		
Nexia Solutions	21. Support the Center for Nuclear Fuels and Materials Research Access Funds from 21 & 22			\$350M	4		
BEA TBD	22. Program Funds unresolved as of 7/1/07		\$30M		4		
AREVA	23. Support the Center for Nuclear Fuels and Materials Research (CNFMR)	\$2M	\$20M	\$50M	4		
USRA	24. Establish the Center for Space Nuclear Research (CSNR)	\$1.5M			4		4
General Atomics	25. Support the Center for Space Nuclear Research (CSNR)			\$150M	4		4
Burns & Roe	26. Establish the Center for Nuclear Systems Design and Analysis (CNSDA)	\$0.36M			4		4
Studsvik	27. Support the Center for Nuclear Systems Design and Analysis (CNSDA)	\$0.25M		\$101.5M	4		4
Battelle Energy Alliance	28. Investment in Economic Development	\$0.6M			4	4	4
Total		\$62.06M	\$106.14M	\$1.064B			

(1) Direct – funds committed to a specific purpose at INL. (2) Program – funds available for prescribed project or consulting activity. (3) Access – capital or replacement value of an asset being offered for use.

1. Resource Description:

Upgrades to Advanced Test Reactor Research Capability and Fuel Line. BEA proposes to upgrade the Advanced Test Reactor (ATR) at INL in order to extend its capabilities to support national security and nuclear power program commitments and opportunities. BEA proposes to make an investment of \$20M to enable the following (should programmatic funding become available for any portion of the commitments made by BEA, other ATR investments will be made to maintain the \$20M commitment):

Revised Mod MO37

- **\$1M – Provide evaluation, engineering analysis and design services to ensure ATR safety posture remains commensurate with industry.** For the ATR to remain a viable national asset it is viewed as essential that the ATR remain contemporary with current industry (NCR) standards and practices. BEA will provide the funding to commence a dedicated program to: (1) conduct an independent evaluation of the ATR Safety/Design Basis by industry and regulatory experts to determine where potential significant safety margin improvements may be realized and; (2) conduct conceptual design necessary to produce estimates of project cost/scope/schedule and draft the mission need documents for upgrades that will bring the most benefit to the improvement of the ATR safety envelope. This evaluation effort will provide a preliminary design and the preliminary budget information needed to support development of a program plan for these high priority upgrades to the ATR.

Target Dates: Agreement on prioritized list – January 30, 2006

FY 2008 budget submittal/FY2007 placeholder – May 30, 2006

- **\$4.5M – Reactivate Pressurized Water Test Loop and install an In-Pile-Tube in the ATR.** To attract commercial nuclear plant irradiation test programs, a dedicated pressurized water loop to support PWR and BWR irradiation test programs is needed. This reactivated loop could also potentially support preliminary supercritical water testing of fuels and materials with controlled water chemistry. This capability will support the EPRI/industry fuel reliability program, high-burnup LWR fuel development, and Generation IV supercritical water reactor development programs without impacting support currently provided to the Naval Reactors Irradiation Test Program.
- **\$1.5M – Site-wide Hot Cell Study and Preliminary Design of ATR Direct Transfer Hot Cell Facility.** State-of-the-art hot cell capability is required at the Test Reactor Area to support fuels and materials development, full-scope irradiation testing, and post-irradiation-examination and out-of-pile safety testing. In the first year of the INL contract, BEA will conduct a comprehensive study of hot cell needs versus existing INL hot cell capabilities to develop a site-wide hot cell strategy and business plan. If this study supports the need for a new hot cell facility connected to the ATR canal, BEA will complete the preliminary design for the new ATR hot cell facility to provide DOE with the mission need, design, and cost information to support the line-item funding needed for the ATR hot cell. Locating this new hot cell facility over/adjacent to the ATR canal will permit for the direct transfer of ATR irradiation test vehicles into the hot cell where they can be examined, repaired, reconfigured, or disassembled for post-irradiation-examination. This will eliminate the need to procure a certified shipping cask and the associated expense of transporting test samples to a remote hot cell. A state-of-the-art ATR hot cell facility will add substantial additional value and mission infrastructure to irradiation test programs at INL. In the near-term, BEA will supply %500K of base funding to allow for the restart of the Test Reaction Area (TRA) hot cells and provide an optical metallograph and scanning electron microscope to carry our fundamental post-irradiation measurements, while more elaborate post-irradiation-examination will continue to be conducted in the near-term at the ANL-W site. In addition, we anticipate that the existence of a fully functioning ATR Canal Hot Cell Facility would provide Naval Reactors with the option to move a portion of its hot cell operations at NRF to TRA providing substantial cost savings to the Naval Reactors Program. Another benefit this facility will provide is the cost savings associated with the transfer of ATR spent fuel and irradiated core components directly from the canal to dry storage.

Resource Commitment Form #1 (continued)

- **\$6M – ATR Transfer Shuttle Irradiation System (Rabbit).** Installing a Rabbit in ATR supports new mission execution for the ATR in the areas of medical isotope production and isotope research. A new Rabbit will permit short-term exposures to ATR's high flux without interfering with long-term experiments presently in the reactor, enhancing ATR's mission infrastructure. Potential research needs, in addition to medical isotope production, that will be supported are: neutron activation, flux monitoring, neutron hardening, and isotope research. A Rabbit system also will provide a back-up source for strategic isotope production. The Rabbit system will use an in-core position that offers both volume for the piping and capsule and will provide high-neutron flux, the most attractive position being the south flux trap.
- **\$2M – ATR Hot Cell Equipment Upgrades.** Contingent on the DOE's decision to proceed with line item construction of the new ATR Canal Hot Cell Facility, BEA will further invest in equipping the ATR hot cells with state-of-the-art research instruments to support the long-term post-irradiation-examination mission. This includes spectrometers, microscopes, diffractometers, and mechanical and physical property testing systems.
- **\$5M – Upgrade to ATR Fuel Fabrication Line Equipment.** Much of the equipment used for the manufacture of university and ATR fuel has not been updated since the production line was originally started in the 1980s. Several critical pieces of equipment (Fluoroscope, UT-clad/bonding scanner, welder, fuel compactor) are in very poor condition and failure could occur in the near future. Additionally, the current fuel manufacturing equipment is highly "skill of the operator" dependent due to the lack of modern computer numerical control systems that would make fabrication much more efficient. In addition to the upgrades needed for the ATR fuel line, BEA proposes to initiate the creation of low enriched uranium (LEU)/U-Moly production line. This is in support of DOE Secretary Abraham's commitment to convert domestic research reactors to LEU by 2013. The production line is needed to produce U-moly foil and to encapsulate U-moly foil in A1 plates. This will be a necessary step to industrial capability to produce high density LEU fuel elements that are necessary for high neutron flux research reactors conversions from HEU to LEU.

These fuel line production upgrades will enable BWXT to provide an assured supply of fuel for the ATR, the High Flux Isotope Reactor (HRIF), and university reactors, all important components of the revitalization of nuclear energy research and research infrastructure. Modernization and enhanced automation will lead to process variability reduction, leading to tighter manufacturing specifications, as well as increased production capability necessary to meet expected future demand. With this BEA investment, BWXT will maintain the variable supply for research reactor fuel and ensure continuity of the supply on the most favorable economic terms.

2. Location of Resource:

The investments will be made in accordance with a plan approved by the DOE, and funded by BEA using earned fee. The investments will occur at the Advanced Test Reactor in Idaho Falls, Idaho, and at the BWXT, Nuclear Products Division in Lynchburg, Virginia.

3. Monetary Value

Total Monetary Value: \$20 million (direct)

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy National Security, S&T, and Education programs at the INL. For the INL to fulfill its mission to support the revitalization of nuclear energy, it must serve a wide variety of customer needs, including the DOE and Nuclear Regulatory Commission, the nuclear power industry, and the international nuclear community. The BEA

Resource Commitment Form #1 (continued)

vision for the INL includes R&D Centers at the ANL-W site for fuel cycle research and Pu²³⁸ separations, and at the Test Reactor Area for advanced fuels and materials irradiation testing using the ATR. BEA has identified the lack of in-core irradiation test vehicles and out-of-pile test assembly and post-irradiation-examination instruments and hot cell facilities as key needs to support this mission.

5. Date the resource will be provided:

Assuming award of the contract February 1, 2005, BEA will negotiate an upgrade plan for DOE approval with planned implementation by the end of FY05. Though impacted by facility production and availability schedule, our intent is to complete the investments during the first 5 years of the contract to maximize the impact.

6. The resource will be provided by:

Battelle Energy Alliance, LLC using earned fee

7. Describe any liability related to this resource financial or otherwise:

The upgrades represent a net reduction in received fee for the purposes of seeing that fee used for critical improvements benefiting the critical missions supported by the Advanced Test Reactor. Although BEA will provide the financial resources, this does not constitute BEA taking any financial ownership in the ATR or liability for either the installation of those upgrades or the impact of those approved upgrades, once installed.

8. How the resource will be managed:

An upgrade plan will be negotiated with DOE and approved for implementation by the end of FY05.

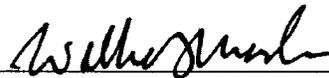
9. How the resource will be integrated into the INL:

The upgrade plan elements will be incorporated into the Site Ten-Year Infrastructure Plan proposed under the leadership of our Associate Laboratory Director for Nuclear Operations. They will be managed as standard procurements and/or construction projects under the oversight of the INL.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

11. Signature of responsible corporate official and date of signature:



Battelle Energy Alliance, LLC, by its sole member,
Battelle Memorial Institute
William J. Madia, Executive Vice President, Battelle

Resource Commitment Form #2 – Battelle Energy Alliance

I am committing the following resources to the INL:

1. Resource Description:

Support for Education Programs. BEA will support educational programs and partnerships at all levels by (1) providing support to local Idaho K-12 and universities science programs and education, and (2) endowing a faculty professorship in Nuclear Engineering at the Massachusetts Institute of Technology (MIT).

2. Location of Resource:

The investments will be made (1) locally at eastern Idaho K-12 and university institutions, and at (2) MIT to support the NUC and university collaborations.

3. Monetary Value

Total Monetary Value: \$6M (direct)

4. Describe which Project/Program would benefit from the resource and why:

This commitment supports the Nuclear Energy Science & Technology and Education programs at INL. INL benefits from supporting endowed faculty positions at partnered universities by demonstrating a commitment to nuclear science and engineering education, providing faculty positions that have a direct connection to research programs needed to solve challenging problems in nuclear engineering. These endowed chairs will be used to support faculty who in turn help educate the next generation of scientists and engineers and assist the three Idaho research universities upgrade their programs.

5. Date the resource will be provided:

Assuming award of the contract starting February 1, 2005, the K-12 investment will be annual and the endowment over the first 5 years (subject to earned fee).

6. The resource will be provided by:

Battelle Energy Alliance will fund using earned fee

7. Describe any liability related to this resource financial or otherwise:

None.

8. How the resource will be managed:

The Idaho K-12 and university program will be managed through our proposed Director of Education, Training, and Research Partnerships. The endowment will be paid to MIT directly by BEA.

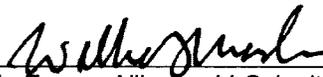
9. How the resource will be integrated into the INL:

Under the direction of the INL Director of Education, Training, and Research Partnerships.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

11. Signature of responsible corporate official and date of signature:



Battelle Energy Alliance, LLC, by its sole member,
Battelle Memorial Institute
William J. Madia, Executive Vice President, Battelle

Resource Commitment Form #3 – Battelle

I am committing the following resources to the INL:

1. Resource Description:

Construction Funding Support for the Center for Advanced Energy Studies. Battelle commits to guarantee retirement, over 20 years, of bonds, issued by Idaho State University to help finance the design and construction of the Center for Advanced Energy Studies (CAES). The State of Idaho, Idaho State University, the University of Idaho, and the BEA Team have a strong interest in the establishment of a joint, \$14 million laboratory/university CAES in Idaho to serve as a research and educational center.

2. Location or Resource:

The CAES facility will be located in Idaho Falls, Idaho, on land donated by Idaho State University and the University of Idaho (see Resource Commitment number 12).

3. Monetary Value

Estimated Total Monetary Value: The ISU-issued bonds in conjunction with resource commitments #8 and #12 in the amount of \$10M, for construction of an approximate 55,000 square foot CAES facility. The first security for the payment of the bonds is the lease payments from BEA for use, under lease, of the facility once completed. Only in the event of a failure of BEA's rental payments to amortize the bond debt, and only to the extent of such failure, is Battelle responsible to guarantee repayment of 88.8% of bond debt, with Battelle's maximum possible exposure being \$8,800,000.00 (88.8% of the total \$10M bond issue.)

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy, National Security, Science & Technology, and Education Programs at INL. All INL programs will benefit from the design and construction of the Center for Advanced Energy Studies. The CAES, in collaboration with the INL, will be a hub for conducting academic instruction, performing research, and hosting technical meetings.

5. Date the resource will be provided:

Effective October 23, 2006, Battelle signed the CAES lease containing the bond guaranty. The sale of the ISU-issued bonds closed on December 13, 2006. The CAES facility will be operational in 2008.

6. The resource will be provided by:

Battelle, 505 King Avenue, Columbus, OH

7. Describe any liability related to this resource financial or otherwise:

We anticipate that sufficient funds for retirement of the bonds will be generated by rent paid by BEA for occupancy of ~60 percent of CAES.

8. How the resource will be managed:

The INL Chief Financial Officer will be the point-of-contact for interactions with Battelle regarding the commitment to obligate for the \$8.88M in bonds.

9. How the resource will be integrated into the INL:

BEA will be responsible for managing the design, construction staffing and occupancy of the CAES on the state university campus in Idaho Falls. Laboratory responsibility for the CAES construction is our proposed Deputy for Operations.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A



Battelle Energy Alliance, LLC, by its sole member,
Battelle Memorial Institute
William J. Madia, Executive Vice President, Battelle

Resource Commitment Form #4 – Battelle

I am committing the following resources to the INL:

1. Resource Description:

National Security Consulting and Access to Battelle Ventures. Battelle is committing people and know-how to achieve two major goals at INL:

- Grow and diversify the INL R&D business volume in National and Homeland Security
- Enhance the commercialization of INL and university innovations to create new investment funds for the Laboratory, and to grow new technology-based businesses in Idaho.

Business Growth and Diversification: Battelle has a \$600M per year program with Federal agencies other than DOE, and in particular the Department of Defense (DoD) and Department of Homeland Security (DHS). Battelle has recruited a number of experts in the fields of national and homeland security, who are skilled in connecting National Laboratory technologies and capabilities to the needs of the armed forces, intelligence and related organizations. We propose to assign these individuals to INL to review the current research portfolio, and identify opportunities to deploy capabilities in current Battelle projects, as well as connect INL staff with our other Laboratories to create new program opportunities for INL. **This will be an ongoing effort of ~0.5 FTE per year over the course of the 10-year contract. (Estimated value is \$1.5M)**

Commercialization and New Business Creation: Battelle has created award-winning “Technology Based Economic Development Programs” at both Pacific Northwest National Laboratory (PNNL) and Oak Ridge National Laboratory (ORNL) to grow new businesses and jobs for the area. We propose to bring this model to Idaho Falls, as a means to link the Laboratory with the local business community and the three Idaho universities in a comprehensive “Technology Commercialization and New Business Creation Program.” The two key commitments to achieve this goal are:

- *Assignment of the Senior Battelle Advisor*, who was the architect of the PNNL and ORNL programs, to work with INL, the universities and community to develop the new Center for Advanced Energy Studies. **This will be a one year effort, at ~0.5FTE, plus intermittent consulting support over the life of the contract. (Estimated value is \$500K)**
- *Engagement of the Battelle Ventures (BV) group* to provide business consulting and investment services for INL. Battelle Ventures is managed by a world-class team focused on early-stage investments in technology-based business. The \$150 million venture capital fund’s primary purpose is to create commercial value from Battelle managed technologies; 80 percent of the fund must be invested at Battelle managed Laboratories. BV will bring added value to INL’s Technology Transfer program in three areas:
 1. Bundling of IP with other Battelle-managed laboratories, universities, and other companies to produce new RD&D and licensing opportunities for INL
 2. Consulting, including technology assessments, analyzing licensing and/or new business creation opportunities, and technology commercialization and business formation training
 3. Increasing INL revenues from IP licensing and royalties for reinvestment into INL programs.

2. Location of Resource:

Battelle, 505 King Avenue, Columbus, Ohio

3. Monetary Value (Consulting)

Total Monetary Value: \$2M (direct) plus access to the \$150M Venture Capital Fund (access)

Battelle will pay for the time of all the consultants/advisors as required. No DOE funds are involved.

4. Describe which Project/Program would benefit from the resource and why:

This Commitment Benefits Homeland Security and Science & Technology Programs at INL.

- National and Homeland Security Programs will benefit from the Battelle marketing assistance, which will produce new R&D business and new customers for INL.
- The Technology Transfer and Small Business Programs will benefit directly from the commercialization and new business creation assistance, with more technology transferred to industry, more R&D contracts with industry, and new businesses created. The revenues that result will be reinvested in INL.

5. Date the resource will be provided:

Immediately upon contract signing, and periodically, as required by INL's program schedule, for the 10-year contract life. We commit to at least one BV team visit to INL per year, but more will result as engagements and deals increase. This is the experience we have had at our other Laboratories.

6. The resource will be provided by:

Battelle Memorial Institute

7. Describe any liability related to this resource financial or otherwise:

N/A

8. How the resource will be managed:

- New National and Homeland Security Business Development will be managed by the ALD, National and Homeland Security Programs, Dr. K.P. Ananth
- The Battelle Ventures engagement will be managed by the INL Director of Technology Partnerships

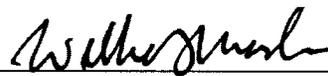
9. How the resource will be integrated into the INL:

- The marketing support from Battelle will become an integral part of the INL Homeland and National Security Program. Dr. K.P. Ananth is currently a senior Battelle manager, responsible for Air Force and Homeland Security Programs, so integration will be straightforward.
- The Battelle Ventures engagement will enhance the normal functions of National Laboratory Technology Transfer offices. As a member of the Battelle-managed Laboratories, INL will become part of the Battelle-wide Technology Transfer team (PNNL, ORNL, NREL, and BNL).
- The Laboratory's Technology Transfer office is linked to the local business organizations, and the Idaho University Business Schools.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

Signature of responsible corporate official and date of signature:



Battelle Energy Alliance, LLC, by its sole member,
Battelle Memorial Institute
William J. Madia, Executive Vice President, Battelle

Resource Commitment Form #5 – BWXT

I am committing the following resources to the INL:

1. Resource Description:

Access to BWXT Lynchburg Technology Center (LTC). BWXT will extend the materials, engineering and technology applications of the INL through access to its Lynchburg Technology Center (LTC). Access to this Center will benefit the Nuclear Energy Program and the NGNP activity. BWXT will provide INL with expedited preferential laboratory services on a cost-only basis for the term of the INL contract. BWXT LTC will provide at no cost to INL, the equivalent of 0.25 annual full-time equivalent (FTE) senior laboratory staff support to facilitate LTC support of INL. In addition, BWXT's nuclear fuel R&D and production capabilities will be made available to support the INL nuclear programs. BWXT will provide, on a cost-only basis, two annual FTEs via the BWXT Assess, Improve and Modernize (AIM) Teams. BWXT nuclear professionals will be available to support the scientific, operational, educational and business management functions of the INL on a cost-only basis.

2. Location of Resource:

BWX Technologies, Inc., 2016 Mount Athos Road, Lynchburg, Virginia 24504

3. Monetary Value

Total Monetary Value: \$1.5M, which includes \$1M of consulting and \$500K in estimated R&D revenue (program). These resources will be funded from BWXT corporate funds. Estimated Total Estimated Monetary Value: access to the \$100M Lynchburg Technology Center (access).

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy and National Security Programs at INL. All INL programs associated with nuclear energy, including fuel and materials research, NGNP, GEN IV, Advanced Fuel Cycle Initiative (AFCI), Space Nuclear, Nonproliferation, and the Center for Advanced Energy Studies, will benefit from this resource commitment.

The NGNP, AFCI, GEN IV, space nuclear programs and the CAES will benefit through the use of BWXT's LTC senior personnel who have significant experience in nuclear technologies relevant to the nuclear fuel cycle. Further benefits could be realized through the use of our LTC facilities that support a variety of nuclear material testing. In the area of nonproliferation, BWXT has subject matter experts who have provided vulnerability assessments as it relates to detecting and transporting nuclear materials. They also have significant capabilities and experience in providing physical security engineering in the protection of SNM.

BWXT LTC maintains extensive facilities for analyzing and testing radioactive materials. BWXT operates under NRC license SNM-42, which is a broad Special Nuclear Material (SNM), Source and Byproduct license that allows receipt and handling of essentially all types and quantities of radioactive materials.

The organization includes an experienced staff of engineers, chemists, program managers, health physicists and technicians, as well as a quality assurance program that meets the requirements of NQA-1 and 10CFR50, Appendix B. BWXT LTC also maintains a Nuclear Materials Engineering (NME) unit, a Non-Destructive Examination (NDE) unit, and a Metallurgical Laboratory. Laboratories are structured to successfully complete critical projects such as failure investigations and NRC-mandated Post Accident Sample analysis on a rapid turnaround basis. The Laboratory Services department maintains facilities for handling and examining radioactive samples or components. Examples of the types of services accessible by the INL include:

Resource Commitment Form #6 – BWXT

I am committing the following resources to the INL:

1. Resource Description:

Provision of BWXT Integrated Fuel Processor. BWXT will provide the INL with all capital ownership rights to the existing 500 kW diesel fuel steam reformer known as the Integrated Fuel Processing (IFP) system that produces PEM (proton exchange membrane)-suitable hydrogen fuel gas. Ownership extends the current capabilities of INL in hydrogen production. The IFP was designed and built by SOFCo-EFS, a wholly owned subsidiary of BWXT, and is designed and capable of producing hydrogen from sulfur containing diesel fuel.

2. Location of Resource:

Idaho Research Center, INEEL, Idaho Falls, Idaho

3. Monetary Value

Estimated Total Monetary Value: \$14 million (direct). The resource was funded from previous BWXT contracts and is the property of BWXT SOFCo-EFS.

4. Describe which Project/Program would benefit from the resource and why:

The Nuclear Energy and Science & Technology programs will benefit from this commitment. All INL programs associated with hydrogen initiatives will benefit from utilization of the IFP including fuel and energy research, NGNP, GEN IV. The IFP can also be a valuable educational laboratory resource for the Center for Advanced Energy Studies. The IFP is the largest diesel fuel steam reprocessor designed for fuel cell hydrogen supply. Accordingly, the IFP can provide a prototypic model for BEA's planned development of a National Hydrogen Production Demonstration (NHPD) Test Bed at INL (see attached support letter from NextEnergy).

5. Date the resource will be provided:

Immediately upon contract award through contract duration.

6. The resource will be provided by:

SOFCo-EFS Holdings, LLC, a wholly owned subsidiary of BWXT Incorporated, 2016 Mt. Athos Road, Lynchburg, VA 24504

7. Describe any liability related to this resource financial or otherwise:

None

8. How the resource will be managed:

The resource will be turned over to INL and managed by the Associate Laboratory Director, Science and Technology. BWXT SOFCo-EFS technical support is available.

9. How the resource will be integrated into the INL:

The resource is already a core resource in INL efforts to build a hydrogen infrastructure program and will be further integrated into the INL via integration with programmatic activities.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

11. Signature of responsible corporate official and date of signature:


John A. Fees, President, BWXT Inc.



July 13, 2004

Mr. John Grossenbacher
Senior Vice President
Battelle Memorial Institute
505 King Avenue
Columbus, OH 43201-2693

Re: Letter of Support; DOE RFP No. DE-RP07-03ID14517

Dear Mr. Grossenbacher,

NextEnergy is excited by the opportunity to collaborate with the Battelle Energy Alliance (BEA) in its bid to manage and operate the Idaho National Laboratory (INL). In recent discussions with your team, we have identified substantive collaborative research between NextEnergy and the INL that will assist in delivering the high-quality, highly-relevant hydrogen-related technologies that the Department of Energy is seeking as part of this important contract. Especially given the focus of INL to advance the understanding and use of *centralized*, nuclear-based hydrogen production, NextEnergy's programs to test, validate, and demonstrate *distributed* hydrogen infrastructure systems would be very complementary and synergistic to this effort.

The Next Generation Nuclear Plant Request for Information (RFI) and Expressions of Interest issued by the DOE on May 26, 2004, also outline a number of areas that would be facilitated through a collaborative effort with NextEnergy. One such area is the requirement to "objectively evaluate the attributes of competing technology concepts without conflict of interest arising from commitments to or financial interests in the corporate sponsors of these concepts." NextEnergy's program goals under its distributed hydrogen infrastructure program is to provide objective data through a real world operating environment, across a broad spectrum of vehicular and stationary end use applications. Such data could be utilized to benchmark system-level economic performance against the centralized production, storage, and distribution of hydrogen planned at INL. NextEnergy will support the development at INL of a National Hydrogen Production Demonstration (NHPD) Test Bed, which will serve as a primary element in supporting safety basis work related to the large-scale production of hydrogen within a nuclear power plant site boundary.

Resource Commitment Form #6 (continued)

In addition, under both DOE initiatives, as outlined in the Request for Proposal for the management and operation of the INL and the RFI for the Next Generation Nuclear Plant, there are opportunities for research synergism in the area of hydrogen end use technologies. NextEnergy is investing significant State of Michigan funds in a broad spectrum of end use systems, including stationary PEM fuel cells, hydrogen IC engines, and Stirling engines. These systems have been integrated into a Microgrid power and thermal energy production system to provide energy within NextEnergy's technology park under development in Detroit. The significant learnings gained from the integration, validation, and demonstration of these end use technologies will be directly applicable to the hydrogen end use consumption requirements at INL. In addition, NextEnergy's automotive fueling infrastructure will support the hydrogen needs of the Detroit-based automotive OEMs fleet vehicles planned for Detroit, under the recently DOE-awarded Hydrogen Infrastructure and Fleet Demonstration Program (HIFDP). An additional element of NextEnergy's participation in the HIFDP is in the area of codes and standards, whereby we are developing a national hydrogen infrastructure best practices database. Again, there is direct application to certain downstream infrastructure systems that will be required at INL (storage, distribution, dispensing, etc.).

In order to facilitate the above collaborative efforts, NextEnergy is supportive of an approach whereby INL's non-nuclear-based hydrogen infrastructure activities can be consolidated with NextEnergy's hydrogen activities with such resultant activities located at NextEnergy's R & D Center in Detroit, the heart of the nation's automotive end use research and development capability. NextEnergy would make portions of its R & D Center available for this effort and additional space would be developed as appropriate. The goals of such a consolidated and synergistic effort would be to maximize the use and value of scarce federal and state hydrogen R & D resources that have or will be expended in the future, by facilitating research collaboration and data sharing amongst separate, but complementary programs. The programs would be linked through shared management and technical personnel located at both INL and NextEnergy.

NextEnergy is appreciative of the opportunity to collaborate with BEA on this significant DOE solicitation. This letter of support is subject to the execution of binding agreements by all relevant parties.

Sincerely,



James A. Croce

cc: Dr. C. G. Michael Quah
Richard Tuzinsky

Resource Commitment Form # 7 URS Washington Group

URS Washington Division commits the following resources to the INL:
1. Resource Description: Environmental Sensing Technologies. URS Washington Division (WSMS) commits to support continued research of new environmental sensor technologies under development at Boise State University (BSU) and at WSMS. These environmental sensor technologies will enable cost-effective, real-time, in-situ measurement of volatile organic compounds, heavy metals, radionuclides and water quality. Support of this research, while yielding improved methods in the monitoring of contaminants at the INL site as well as other Department of Energy (DOE) sites, will also expand the partnership between INL and BSU in terms of technical collaborations as part of the Center for Advanced Energy Studies (CAES), as well as enhance the academic capabilities of BSU by providing educational support to faculty and students. In addition this commitment includes support for BSU preparation of the 2009 Idaho Economic Impact Study for the benefit of DOE ID, INL, CWI and AMWTP.
2. Location of Resource: (Address) The proposed laboratory research will primarily be performed at BSU. Field testing and instrument deployment will be performed at appropriate sites within the state of Idaho (e.g. INL) and potential sites outside of Idaho (e.g. Nevada Test Site). A year-end technical briefing of the completed research will be conducted by the research team at INL.
Estimated Total Monetary Value: \$250,000 – (direct) Estimated Total Monetary Value: \$5M; \$500,000 per year of INL associated programs (indirect)
4. Describe which Project/Program would benefit from the resource and why: INL, DOE and the State of Idaho will benefit from this resource commitment in several ways. This resource will provide direct research support to an Idaho university, Boise State University. BSU and the state of Idaho will benefit through the expansion of research as well as enhanced academic stature for BSU and the state's university system. The resource will enhance INL's CAES, Energy & Environment Division (E&E), Nuclear Energy Division (NE) and Environmental Compliance (EC) programs. The supported research will benefit INL's E&E, NE and EC programs by providing low-cost technologies that can measure and monitor radionuclides, heavy metals and water quality in-situ. The resulting environmental technologies are important to DOE and INL in terms of enabling improved environmental sensing and long-term monitoring of contaminant sites. Demonstration of new sensor technology will further enable expanded deployment efforts that should lead to greater public trust and confidence in DOE and the national lab system as well as substantial cost-savings. The supported research supports the vision of CAES. CAES a partnership between INL, the three Idaho research universities, including BSU, and private industry is working to integrate resources and technical capabilities. This work provides an opportunity for CAES to expand its technical collaboration between INL, BSU and private industry (e.g. URS Washington Division)
5. Date the resource will be provided: Work is scheduled to commence in the spring of 2008 (e.g. April) and the initial phase of the described project is estimated to be completed within 6 months.
6. The resource will be provided by:

URS Washington Division
7. Describe any liability related to this resource financial or otherwise: None
8. How the resource will be managed: WSMS, a wholly owned subsidiary of URS Washington Division, will provide overall project management. Funding will be provided through CAES.
9. How the resource will be integrated into the INL: BSU and WSMS will test and demonstrate sensors and systems at the INL when appropriate. A year-end technical briefing of the completed research will be conducted by the research team at INL. INL will then have access to the system performance data and will be able to integrate these data and systems into environmental missions at the INL.
10. Other pertinent information (e.g., exclusive rights and control of the resource): URS Washington Division and BSU will grant DOE an irrevocable, nonexclusive, royalty-free license to use at the INL during the term of the BEA contract the resulting intellectual property from this resource.

Approved: DVH / 4/09/08
Date

Director, Business Management

URS-Washington Division

Resource Commitment Form #8 – Washington Group

I am committing the following resources to the INL:

1. Resource Description:

Construction Funding Support for the CAES. Washington Group International commits to guarantee retirement, over 20 years, of bonds issued by Idaho State University to help finance the design and construction of the Center for Advanced Energy Studies (CAES). The State of Idaho, Idaho State University, the University of Idaho, and the BEA Team have a strong interest in the establishment of a joint, \$14M laboratory/university CAES in Idaho to serve as a research and educational center.

2. Location of Resource:

The CAES facility will be located in Idaho Falls, Idaho, on land donated by Idaho State University and the University of Idaho (see Resource Commitment number 12).

3. Monetary Value

Total Monetary Value: The ISU issued bonds in conjunction with resource commitments #3 and # 12 in the amount of \$10M, for construction of an approximate 55,000 square foot CAES facility. First security for payment of the bonds is the lease payments from BEA for use, under lease, of the facility once completed. Only in the event of a failure of BEA to pay this first security, and only to the extent of such failure, is Washington Group responsible to Guarantee payment of 11.2% of delinquent payments, with Washington Group's maximum possible exposure being \$1,120,000 (11.2% of the total \$10M bond issue).

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy, National Security, Science & Technology, and Education Programs at INL. All INL programs will benefit from the design and construction of the Center for Advanced Energy Studies. The CAES, in collaboration with the INL, will be a hub for conducting academic instruction, performing research, and hosting technical meetings.

5. Date the resource will be provided:

Effective October 23, 2006, BEA, as the lessee, and Battelle and Washington Group, in the limited capacity as Guarantors, signed the CAES lease containing the \$10M bond guaranty. The sale of the ISU-issued bonds closed on December 13, 2006. The CAES facility will be operational in 2008.

6. The resource will be provided by:

Washington Group International

7. Describe any liability related to this resource financial or otherwise:

We anticipate that sufficient funds for retirement of the bonds will be generated by rent paid by BEA for occupancy of approximately 60 percent of CAES.

8. How the resource will be managed:

The INL Chief Financial Officer will be the point-of-contact for interactions with Washington Group regarding Washington Group's commitment, as described at Section 3 above, to obligate for the \$1.120M in bonds.

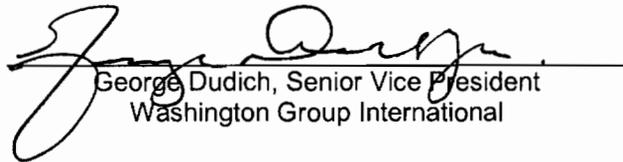
9. How the resource will be integrated into the INL:

BEA will be responsible for oversight of the design, construction staffing, and occupancy of the CAES. The Laboratory Deputy for Operations will be responsible for establishing design requirements, securing approval for the architectural renderings/concepts, and working with Federal, state, and local organizations regarding the form, fit, function and utility of the CAES. BEA will coordinate activities with the DOE.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

This revised version of Resource Commitment Form # 8 revises and replaces Washington Group's Resource Commitment Form # 8 that was initially included in the INL prime contract. As such, the original Resource Commitment Form # 8, including without limitation all of Washington Group's obligations contained therein, is deleted in its entirety, without penalty to BEA or Washington Group, and replaced by Washington Group's obligations contained within this revised version of Resource Commitment Form # 8.

11. Signature of responsible corporate official and date of signature:


George Dudich, Senior Vice President
Washington Group International

Resource Commitment Form #9 – EPRI

I am committing the following resources to the INL:

1. Resource Description:

Establish the Center for Nuclear Fuels and Materials Research. Working with other BEA research affiliates, EPRI will establish the Center for Nuclear Fuels and Materials Research at INL, a world-class fuel and core materials testing center. To assure its success, EPRI will provide the following:

- The EPRI Director of the Fuel Reliability Program, on a 0.33 FTE basis. The Director will support (1) developing plans to bring INL Fuel Evaluation Facilities and ATR to international standards, capable to perform tests for LWR and NGNP needs; (2) developing domestic and international business for INL; and (3) providing technology transfer.
- Preferential status for INL to perform R&D for EPRI of \$4 to \$6 million per year (includes an estimated \$1 to \$2 million per year of commercial fuel-related R&D)
- A fuel program office in Idaho Falls as part of the EPRI Idaho office, and resident staff who will link INL with the EPRI “fuel and core community”
- Intellectual property (valued at \$2.5 million per year) available to INL in areas relating to fuel performance, fuel reliability, operation and analysis.
- Inclusion of INL technical staff in the Fuel Reliability Program and other industry meetings to enhance the technology transfer and to better position INL to address industry needs.

EPRI will act as a liaison to domestic and international utilities to provide host plants, and irradiated fuel for INL program needs.

2. Location of Resource:

3412 Hillview Avenue, Palo Alto, California 94304

3. Monetary Value

Total Monetary Value: \$41.2M (\$1.2M in staff and \$40M in R&D funds) (program).

Total Estimated Monetary Value: \$25M (access to IP, equally distributed over the 10-year contract)

4. Describe which Project/Program would benefit from the resource and why:

- INL Nuclear Energy Programs will benefit from the direct connection to the commercial U.S. and worldwide nuclear power industry. This connection will bring more funding to INL and will help ensure the R&D conducted at INL is relevant to industry.
- INL Fuel Evaluation Facilities
 - In addition to having a direct link to the commercial industry, EPRI will provide directions and expertise to bring INL to industry standards to be able to serve as the premier Laboratory for the nuclear industry.
 - EPRI will bring expertise and provide technology transfer from oversea test reactors and laboratories to ATR
 - INL will get more funds from DOE NE to upgrade the facilities.
 - INL will get more work from the LWR industry and DOE NE in the near future and become the fuel R&D hub for NGNP in the future

5. Date the resource will be provided:

Within 120 days of the project start.

6. The resource will be provided by:

EPRI

7. Describe any liability related to this resource financial or otherwise:

- Additional DOE funding is contingent on DOE NE funds to support nuclear fuel R&D.
- The EPRI Fuel R&D funds assume EPRI fuel programs stay at the current funding level.
- The business plan for fuel reliability work must allow a cost-competitive business structure to be developed at INL. This also requires the acceptance by DOE of a "Use Permit."

8. How the resource will be managed:

The resource will be managed technically by the EPRI Director for the Fuel Reliability Program. She will activate the fuel-related activities in the Idaho EPRI offices within 120 days of the contract award. EPRI project managers will be provided on temporary-assignment basis to the Idaho EPRI offices, as appropriate.

9. How the resource will be integrated into the INL:

Integration will be through INL's Associate Laboratory Director, Nuclear Programs and Director of Technology Partnerships.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

EPRI retains its rights to intellectual property. Acceptable commercial proprietary information standards must be developed and adhered to if multiple fuel manufacturers are to use the site facilities. This resource commitment will require resolution of fuel disposal issues with the State of Idaho.

11. Signature of responsible corporate official and date of signature:



Theodore U. Marston, Vice President and Chief Technology Officer
Electric Power Research Institute (EPRI)

Resource Commitment Form #10 – EPRI

I am committing the following resources to the INL:

1. Resource Description:

Access to EPRI's Technology Application Centers. EPRI will provide access to its Nuclear Maintenance Applications Center (NMAC) and its other Technology Applications Centers, the Centers' personnel, intellectual property and networks to support the nuclear power, science and partnership missions of INL. EPRI resources committed to INL in this area include:

- Technology transfer process including pre-qualification of R&D products. EPRI Charlotte's network of domestic and international members and customers opens up a vast market for the qualified products of INL R&D.
- EPRI Charlotte resources that are valuable as technical support or technical partnerships with the INL. The world recognized leadership in NDE, welding, materials research and applications, power generation, and transmission/distribution technologies will become accessible to INL through this single node.
- EPRI intellectual property (IP) valued at \$2M per year will be made available to INL in areas relating to nuclear power design, development, operations, and maintenance and engineering support. Use of this material will be for INL projects exclusively, subject to terms in Battelle/EPRI MOA.
- The INL Director of Technology Partnerships will be charged with making this relationship a success. To assure that success, EPRI will provide the following:
 - The availability of Senior EPRI personnel on a 0.35 FTE basis to support international program development, technology transfer, and program audits and assessments; and to act as a representative of INL to industry groups such as INPO and NEI.
 - An EPRI liaison at 0.25 FTE will be established at the Charlotte facility. This person will be responsible for integrating the activities of INL with NMAC
- EPRI NMAC will establish an annual technology transfer workshop at INL to identify and develop R&D concepts as candidates for a qualification and technology transfer process.
- EPRI NMAC will provide qualification, qualification support and technology transfer of INL nuclear power-related technologies to the commercial nuclear power industry both at a national and international level.

2. Location of Resource:

EPRI NMAC is based at the EPRI Charlotte facility, 1300 West WT Harris Blvd., Charlotte, North Carolina 28262

3. Monetary Value

Total Monetary Value: \$2.9M (\$500K in annual workshops and \$2.4M in staff allocations; total staff allocation = 0.60 FTE) (program)

Total Estimated Monetary Value: \$20M in IP (\$2M per year access)

4. Describe which Project/Program would benefit from the resource and why:

The Nuclear Energy, National Security, and Science and Technology Programs will benefit from the direct connection to the commercial nuclear industry. This connection will allow a pathway from the engineering and scientific activities underway in the laboratory to a relevant and practical application of the work commercially. The engineering and scientific staff will also

Resource Commitment Form #10 (continued)

benefit from feedback from industry, which will enhance the technology for future work at the Laboratory.

NGNP will be able to connect to some of the ongoing science and technology in areas like high-temperature materials and nuclear fuels.

Facilities and operations will have the expertise of several programs available to help improve predictive and preventive maintenance, perform maintenance optimization, improve procurement for nuclear-grade hardware, and support changes and repairs to critical equipments.

The qualification of engineering and scientific projects for use in commercial power programs and the support to develop these activities into service opportunities or commercial ventures will be a fundamental benefit to all engineering and scientific activities at INL.

5. Date the resource will be provided:

The resources will be available within 90 days of the project start. The first workshop will be held in the 4th quarter of 2005.

6. The resource will be provided by:

EPRI

7. Describe any liability related to this resource financial or otherwise:

None

8. How the resource will be managed:

A senior staff member at EPRI Charlotte will interface internally at EPRI with the appropriate engineering and scientific personnel, the Director of Power Production and the VP Nuclear will manage the resource. His interface at INL will be with the Director, Technology Partnerships.

9. How the resource will be integrated into the INL:

Initially, training and workshops will be used to present the capabilities and the information that is available. The workshops on technology transfer candidates will continue on a yearly basis with the engineering and scientific staff. The Director of Technology Partnerships will be responsible for a program of continuing awareness of IP available from EPRI and issues at INL.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

IP will remain the property of EPRI. Appropriate use licenses will be developed by EPRI.

11. Signature of responsible corporate official and date of signature:



Theodore U. Marston, Vice President and Chief Technology Officer
Electric Power Research Institute (EPRI)

Resource Commitment Form #11 – EPRI – (Revision 1)

The Electric Power Research Institute, Inc. is committing the following resources to the INL:

1. Resource Description

Provide technical support to Advanced Nuclear Technology Development at Idaho National Laboratory (INL). This commitment is comprised of two areas of emphasis:

A. Advanced nuclear reactors and reactor systems, including advanced nuclear fuel cycles. This effort primarily focuses on reactor and fuel cycle systems beyond current ALWR technology, including HTGRs for process heat and hydrogen generation and closed nuclear fuel cycles (i.e., fast spectrum reactors and advanced recycling).

B. Advanced nuclear technologies that support advances in LWR and ALWR technologies. The work primarily focuses on technology areas that fall within the definition of the Nuclear Energy Systems Support Program (NESSP) authorized in the 2005 Energy Policy Act, that: "... support R&D activities addressing reliability, availability, productivity, component aging, safety, and security of existing nuclear power plants." It is anticipated that technologies that support current plants within this scope are also equally applicable to ALWRs. This subsection could include work associated with DOE's NP2010 program, but could also include work funded by other DOE programs. This area of emphasis potentially may include additional grid work beyond that which was conducted under the previous Resource Commitment No. 11, to which the parties may mutually agree.

Resource Description for Area of Emphasis A: Advanced Nuclear Technology ("ANT"):

Provide technical support to Advanced Nuclear Technology programs, such as Generation IV, Advanced Fuel Cycle Initiative (AFCI), Next Generation Nuclear Plant (NGNP), Nuclear Hydrogen Initiative, Global Nuclear Energy Partnership (GNEP) and related advanced reactor and advanced fuel cycle programs. It also includes support for cooperative efforts between DOE's Office of Nuclear Energy and DOE's Office of Civilian Radioactive Waste Management toward achieving an integrated spent fuel management system.

- Support the development, update and implementation of INL's industry-focused Business Plan for the NGNP.
- Support the development, finalization and implementation of INL's industry-focused Business Plan for GNEP.
- Develop with INL a Consensus Nuclear R&D Strategy and seek NEI and DOE support. Revise and re-issue the Strategy in 2007 or 2008, and as necessary.
- Provide assistance for INL in its DOE-assigned tasks related to creation of Technology Development Plans, Program Plans, review of proposals, etc. Participate in INL meetings, conferences, etc. to coordinate provision of input and assistance from industry.
- Coordinate provision of perspectives of the commercial nuclear utilities to INL for matters covered in this commitment, including review by relevant EPRI advisory committees.

Resource Description for Area of Emphasis B: NESSP:

Provide technical support to LWR technology development for current plants and near-term deployment ALWRs in areas supporting the objectives of the Congressionally-authorized NESSP.

- Provide access to selected areas of prior EPRI research that is relevant to current INL needs. Specific EPRI products to be provided to INL will be identified by mutual agreement.
- Conduct joint projects in areas of mutual interest as determined by both INL and EPRI, with an anticipated emphasis on:

- Instrumentation and Control: potential areas such as diagnostics and prognostics; digital I&C and human system interface, all-digital control rooms, technical and regulatory solutions; wireless technologies, etc.
- Non-Destructive Examination: seek development of new poolside fuel cladding NDE techniques; laser UT technology, etc.
- Advanced nuclear safety analyses, potentially including advanced plant analysis risk methods (including external event risk sources such as seismic and security threats, grid impacts, etc.), and support to INL's new Center for Advanced Modeling and Simulation.
- In support of Resource Commitment #9, facilitate steps toward recognition of advanced, high performance fuel development (high burnup) as an important element of NESSP.
- General support of INL technical efforts to improve its capabilities to support current nuclear plants, which may lead to funding support to achieve the aims of the NESSP for the benefit of the public.

2. Location of Resource

3420 Hillview Avenue, Palo Alto California, 94304 and 1300 West W.T. Harris Boulevard, Charlotte, NC 28262.

3. Monetary Value

Total Monetary Value: \$180,000 / year (Total staff allocated to this resource will be approximately 0.45 FTE annually or approximately 824 hours per year).

Total Estimated Monetary Value: \$1M per year value of EPRI research and development IP access as set forth in the Subcontract.

4. Describe which Project / Program would benefit from the Resource Commitment and why:

This commitment is intended to focus on strategic program areas that are of current highest priority to INL. Most Advanced Nuclear R&D programs (e.g., GEN IV, NGNP, AFCI, etc. are anticipated to benefit directly, as will nearer term programs such as NP2010 and NESSP (currently unfunded)).

5. Date the resource will be provided:

This resource commitment revises the initial submission. EPRI will begin to actively support the revised commitment starting upon the approval of these revisions.

6. The Resource will be provided by:

Electric Power Research Institute, Inc. (EPRI).

7. Describe any liability related to this resource, financial or otherwise:

EPRI's ability to provide this resource as currently configured will depend on levels of current funding and interest from EPRI's members in the areas covered hereunder, and also depends upon anticipated support from INL and DOE in these subject areas.

8. How the resource will be managed:

Two separate individuals, both EPRI senior staff members with management responsibility, will provide the management interface and oversight for the two areas of emphasis under this resource commitment (i.e., two management interfaces, for each of the ANT and NESSP areas of emphasis). These managers will interface internally within EPRI with appropriate engineering and scientific personnel, and will interface with the INL Associate Director, Nuclear Systems, via the Director, Technology Partnerships.

9. How the resource will be integrated into the INL:

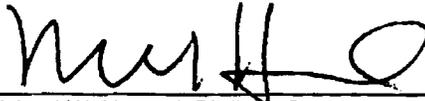
Initially, EPRI intends to conduct training and workshops to present the capabilities and the information that is available at EPRI. Similarly, the INL will engage EPRI staff, through the two identified EPRI managers, in its planning, programmatic, and R&D activities on programs [mutually agreed to by EPRI and INL] within the defined scope, and seek to employ EPRI resources to meet INL's obligations to the DOE. This commitment includes a strategic planning function to further integrate the R&D efforts of EPRI and the INL. The Director of Technology Partnerships will be responsible for a program of continuing awareness of IP available from EPRI and current emphasis of scientific areas of research ongoing at INL.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

All EPRI background IP existing in EPRI Materials now or developed in the future remains the property of EPRI; all EPRI Materials are provided to BEA under the license set forth in Exhibit D of the Subcontract.

This resource commitment, upon its approval, replaces the old Resource Commitment #11, titled "Provisions of Technical Support at Critical Infrastructure Testbed," which is deleted in its entirety. All resources provided by EPRI to the INL during 2005 and 2006 under the previous version of Resource Commitment #11 will be carried forward and credited under this revised Resource Commitment #11.

11. Signature of responsible Corporate Official and Date of Signature:



Michael W. Howard, Ph.D., P.E.
Sr. Vice President, R&D
Electric Power Research Institute, Inc.

Date: November 12, 2007

12. Approval of Revision:

NOT APPLICABLE

Battelle Energy Alliance, LLC

Date: _____ 2007

Resource Commitment Form #12 – State of Idaho

I am committing the following resources to the INL:

1. Resource Description:

State Support for Center for Advanced Energy Studies (CAES). The State of Idaho, Idaho State University, the University of Idaho, Boise State University, Battelle and Washington Group International have a strong interest in the establishment of a joint laboratory/university Center for Advanced Energy Studies (CAES) in Idaho Falls. In the event BEA is awarded the contract for operation on the INL, the State of Idaho and universities will support the design and construction of a State-owned facility to house the CAES, estimated to cost approximately \$14 million, as follows:

- A total of \$5 million dollars from the INEEL Settlement Fund, as defined in the Idaho Code 67-806A, for use according to the terms of the Agreement for the Construction of Center for Science and Technology in Idaho Falls, dated June 29, 2001, between the Office of the Governor of the State of Idaho and the Regents of the University of Idaho and the Trustees of Idaho State University.
- A total of \$1,942,756 in grants from the U.S. Department of Housing and Urban Development (HUD) to the University of Idaho, HUD Grant B-00-SP-ID-0116 in the amount of \$925,000 and HUD Grant B-01-SP-ID-0172 in the amount of \$1,017,756, for use according to the terms of the grants.
- Land acreage (about 7 acres) whose value is estimated to be \$245,000, provided by an Idaho university or Idaho university foundation in Idaho Falls, Idaho, upon which the CAES will be built.
- Additional support for CAES design and construction through the issuance of bonds, subject to State Board of Education approval, exempt from Federal income taxation, in the amount of an additional \$7 million, by the Idaho Universities to be retired by Battelle.

The CAES will be a resource to the INL as a research and education center.

2. Location of Resource:

The CAES facility will be located in Idaho Falls, Idaho on land provided by one of the Idaho universities or an Idaho university foundation.

3. Monetary Value

Total Monetary Value: \$7,187,756 (direct)

4. Describe which Project/Program would benefit from the resource and why:

All programs at the INL are expected to benefit from the design and construction of the Center for Advanced Energy Studies. The CAES, in close collaboration with the INL, will be a hub for conducting academic instruction, performing research and hosting national and international technical meetings related to nuclear and other advanced forms of energy production. It will be a primary facility for developing the next generation of scientists for carrying out the important research work required for advanced nuclear energy system commercialization. The CAES requires the facilities, equipment and environment necessary to attract, retain and enable students, faculty, scientists, and researchers to achieve the full potential of the world-class research institution that is envisioned. This will foster an academic and research-working environment commensurate with the vision of a world-class institution.

Resource Commitment Form #12 (continued)

5. Date the resource will be provided:

The State and universities will cooperate with BEA as it prepares a CAES development proposal for submittal to DOE. It is expected that the CAES facility will be constructed and operational within 3 years.

6. The resource will be provided by:

State of Idaho, Boise, Idaho, University of Idaho and Idaho State University

7. Describe any liability related to this resource financial or otherwise:

None

8. How the resource will be managed:

BEA will incorporate state and university resources into its CAES development proposal.

9. How the resource will be integrated into the INL:

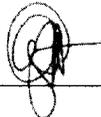
The State of Idaho will work with DOE, Battelle, Washington Group, and BEA to integrate CAES activities with INL operations. BEA will coordinate activities with the DOE as set forth in the requirements of the RFP.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

Signature of responsible corporate official and date of signature:

For the State of Idaho



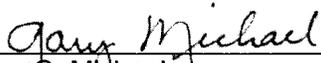
Mary Givens
State of Idaho CST Contract Officer

For Idaho State University



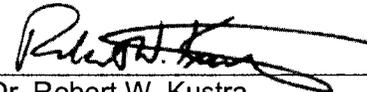
Dr. Richard L. Bowen
President

For University of Idaho



Gary G. Michael
Interim President

For Boise State University



Dr. Robert W. Kustra
President

Resource Commitment Form #13 – MIT

I am committing the following resources to the INL:

1. Resource Description:

Access to the Massachusetts Institute of Technology Reactor (MITR). MIT will provide access to its reactor (MITR) and supporting infrastructure on a cost recovery basis consistent with standard university policies. Access to MITR will provide support to the Nuclear Programs and early entry into the materials activities in the Science Programs at INL.

2. Location of Resource:

The MITR is on the MIT campus, at 138 Albany Street, Cambridge, Massachusetts 02139

3. Monetary Value

Estimated Total Monetary Value \$33.9M (access)

The present value in 2004 dollars of the total capital investment in MITR is \$33.9 million. The replacement cost would be substantially higher, perhaps \$65 million. The annual operating cost is \$5.7 million.

4. Describe which Project/Program would benefit from the resource and why:

The commitment benefits Nuclear Energy, Science and Technology, and Education programs at INL. The Massachusetts Institute of Technology Reactor (MITR) is a heavy-water reflected, light-water cooled and moderated nuclear research reactor. It currently operates at 5 MW. A license request to NRC for a power upgrade to 6 MW is pending. The reactor design will support 10 MW operation. The reactor's design encompasses a number of inherent (i.e., passive) safety features that make it an exceptionally safe facility, demonstrated by more than 45 years of operation.

Experimental facilities available at the MITR include two medical irradiation rooms, beam ports, automatic transfer facilities (pneumatic tubes), graphite-reflector irradiation facilities, and several in-core sample assemblies. The latter are not permanently installed. In addition, the MITR itself may be used to demonstrate techniques for the digital control of nuclear reactors.

Research on materials, instrumentation, and fuels for both existing and Gen IV reactors would benefit. The relatively low cost MITR could be used for fast turnaround irradiations and innovative research. INL, with its more extensive laboratories, could then conduct long-term prototype studies of the projects that are the best candidate for novel nuclear applications.

An additional benefit to the mission of INL, DOE, and the nation is the educational value of this research reactor on a university campus. One of the major attractions to students is the availability of a real reactor to operate and study.

5. Date the resource will be provided:

February 1, 2005

6. The resource will be provided by:

Massachusetts Institute of Technology

7. Describe any liability related to this resource financial or otherwise:

None. The MITR will continue to be operated by MIT which is responsible for all aspects of that operation in the normal course of business, including management of all related risk. MIT maintains a program of insurance and/or self-insurance which is prudent and sufficient to address all such liability that may arise.

8. How the resource will be managed:

The MITR Laboratory Director reports to MIT's Vice President for Research and directs a staff of 30 FTEs. This management structure will be maintained and integrated with the INL as described in item 9. The MITR is operated 24 hours per day, 7 days per week, with a monthly shutdown of a few days for required tests, calibrations, and maintenance. Longer shutdowns occasionally are scheduled for major maintenance or experiment installation. The reactor's availability factor (days per year at full power) is typically around 80 percent.

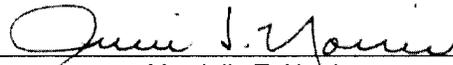
9. How the resource will be integrated into the INL:

MIT will coordinate INL's use of MITR through the INL Director of Education, Training, and Research Partnerships. The MITR will maintain its operational independence from the INL so as to maintain NRC oversight and limit any operational risk and/or liability to INL/DOE. Integration, however, is extremely important at the program level, both with the INL and with other universities. The highest priority for experimental access and for the operational schedule will be placed on INL programs. This priority will be achieved by establishing direct management relationships with appropriate program managers at INL to review key decisions and to provide advice related to program content, effectiveness, and integration. The external user program will be evaluated periodically and adjusted when necessary, based on criteria established in response to the oversight board's recommendations and INL management priorities.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

MIT will control the MITR in coordination with the INL Director of Education, Training, and Research Partnerships. Research rights will follow with standard University policies.

11. Signature of responsible corporate official and date of signature:



Ms. Julie T. Norris
Director, Office of Sponsored Programs
Massachusetts Institute of Technology

Resource Commitment Form #14 – North Carolina State University

I am committing the following resources to the INL:

1. Resource Description:

Access to the North Carolina University's PULSTAR Reactor. North Carolina State University will provide access to its PULSTAR Reactor and associated facilities on a cost recovery basis consistent with University policy.

2. Location of Resource:

Nuclear Reactor Program, Department of Nuclear Engineering, North Carolina State University, Raleigh, North Carolina 27695

3. Monetary Value

Estimated Total Monetary Value: \$25M (Access to \$25M PULSTAR Reactor facility) (access)

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy, Science and Technology and Education Programs at INL. All programs that require nondestructive examination capabilities in areas such as materials science and engineering, nanomaterials/nanoelectronics, polymers, imaging of fuel cells, and studying fluid flow and thermal-hydraulics. In particular these facilities will serve INL in nondestructive examination (and visualization) work related to Generation IV reactors, AFCI, and homeland security. In addition, PULSTAR reactor serves as a neutron and gamma irradiation source to qualify materials and components, e.g. radiation detector hardware.

5. Date the resource will be provided:

PULSTAR will be available at contract start. Neutron scattering and neutron tomography facilities will be available by summer 2005. Positron facility will be available in 2006.

6. The resource will be provided by:

Nuclear Reactor Program, Department of Nuclear Engineering, North Carolina State University

7. Describe any liability related to this resource financial or otherwise:

None. PULSTAR carries NRC required nuclear accident insurance. University is self insured through the State of North Carolina.

8. How the resource will be managed:

The above listed facilities are managed by the Nuclear Reactor Program (NRP) within the Department of Nuclear Engineering, North Carolina State University.

9. How the resource will be integrated into the INL:

The INL Director of Education, Training, and Research Partnerships will coordinate use of the above facilities with the NRP.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

The above facilities belong to and are fully controlled by the Nuclear Reactor Program, Department of Nuclear Engineering, College of Engineering, North Carolina State University.

11. Signature of responsible corporate official and date of signature:



Paul J. Turinsky
Department Head and Professor of Nuclear
Engineering, North Carolina State University

Resource Commitment Form #15 – Oregon State University

I am committing the following resources to the INL:

1. Resource Description:

Access to the Oregon State TRIGA Reactor. Oregon State University will provide access to its TRIGA Reactor (OSTR) on a priority basis to the Nuclear Energy and Science programs at INL. OSTR is a water-cooled, pool-type research reactor which uses uranium/zirconium hydride fuel elements in a circular grid array. The reactor is licensed by the U.S. Nuclear Regulatory Commission to operate at maximum steady state power of 1.1 MW, and can also be pulsed up to a peak power of about 2500 MW. A gamma-ray spectroscopy system is available for use in neutron activation analysis. A ⁶⁰Co gamma irradiator is also available for use.

The OSTR has a number of different irradiation facilities including a pneumatic transfer tube, a rotating rack, a thermal column, four beam ports, five sample holding (dummy) fuel elements for special in-core irradiations, an in-core irradiation tube, and a cadmium-lined in-core irradiation tube for experiments requiring a high energy neutron flux. The OSTR also has an Argon Irradiation Facility for the production of ⁴¹Ar. Since its initial criticality in 1967, this reactor has been operated safely and efficiently for users throughout the world.

The Radiation Center is also the home to several other world-class research facilities focused on thermal-hydraulic phenomena present in advanced reactor designs, including Advanced Plant Experiment (APEX), Multi-Application Small Light Water Reactor Test Facility (MASLWR), and Air-water Test Loop for Advanced Thermal-Hydraulic Studies (ATLAHS).

2. Location of Resource:

Radiation Center, Oregon State University, Corvallis, Oregon 97331-5902

3. Monetary Value

Estimated Total Monetary Value: \$34M (access)

OSTR: Replacement value : ~\$25M	Annual base operating costs: \$0.75M/year
APEX: Replacement value: ~\$8.5M	Annual base operating costs: \$0.6M/year
MASLWR: Replacement value: ~\$0.7M	Annual base operating costs: \$0.3M/year
ATLATS: Replacement value: ~\$0.2M	Annual base operating costs: \$0.2M/year

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits Nuclear Energy, Science and Technology and Education Programs at the INL. The OSTR's three primary technical thrust areas are neutron activation analysis, radiochemistry and neutron radiography. These capabilities can be used to support a wide variety of projects central to the role of INL as the nation's nuclear energy laboratory. Imaging of two-phase flows, non-destructive analysis, design and characterization of fuel and waste forms, isotope production for radioisotope batteries, detector development and testing are several examples of projects supporting the Gen IV, Advanced Fuel Cycle Initiative, and homeland security missions of INL. The reactor is also an important part of the educational programs offered at Oregon State and other nuclear engineering programs in the western region as the lead institution in the U.S. DOE-supported Western Nuclear Science Alliance.

The thermal-hydraulic test facilities in the Radiation Center, as well as the expertise of Oregon State University faculty in areas of two-phase flow imaging, flow instrumentation development, and separate effects and integral systems computational simulation are currently focused on problems relevant to Gen-IV reactor designs.

Resource Commitment Form #15 (continued)

5. Date the resource will be provided:

OSTR, APEX, MASLWR will be available at contract award. The neutron radiography facility will be online by January 2005.

6. The resource will be provided by:

Radiation Center, Oregon State University

7. Describe any liability related to this resource financial or otherwise:

None. The OSTR carries NRC required nuclear accident insurance. The University is self-insured through the State of Oregon.

8. How the resource will be managed:

The above-listed facilities are managed by the Radiation Center at Oregon State University. The Radiation Center Director reports directly to the Vice-Provost for Research.

9. How the resource will be integrated into the INL:

The INL Director of Education, Training, and Research Partnerships will coordinate the programmatic access to the OSTR. The OSTR will maintain its operational independence from the INL so as to maintain NRC oversight and limit any operational risk and/or liability to INL/DOE. Integration, however, is extremely important at the program level, both with the INL and with other NUC members. The highest priority for experimental access and for the operational schedule will be placed on the programs related to INL.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

Access to the reactor will be on a cost recovery basis, consistent with University Radiation Center Policies. The above facilities belong to and are fully controlled by Radiation Center, Oregon State University. Use of the facilities will require execution of formal contracts/grants with approval of appropriate University administrators.

11. Signature of responsible corporate official and date of signature:



Dr. Jack F. Higginbotham
Office of the Vice Provost for Research
Oregon State University

Resource Commitment Form #16 – The Ohio State University

I am committing the following resources to the INL:

1. Resource Description:

Access to The Ohio State Diversity Research Reactor. The Ohio State University (OSU) will provide access on a cost recovery basis to its 500-KW pool type research reactor and associated research equipment. A high-temperature, dry irradiation facility has been built to test sensors for use in high-temperature gas reactors. A gamma-ray spectroscopy system is available for use in neutron activation analysis. The Nuclear Reactor Laboratory includes ^{60}Co and ^{137}Cs gamma irradiators.

2. Location of Resource:

The Ohio State University, 1298 Kinnear Road, Columbus, Ohio 43210

3. Monetary Value

Estimated Total Monetary Value: \$10M (access). The reactor, built in the early 1960s, is not of a design that is currently available. Replacement cost for a reactor of similar capability is estimated to be ~\$10M. The annual operating budget is ~\$250K.

4. Describe which Project/Program would benefit from the resource and why:

The commitment benefits Nuclear Energy, Science and Technology and Education Programs at INL. The reactor can be used for INL nuclear programs requiring testing of materials and equipment expected to be used in high radiation fields, for non-destructive examination, and for trace element analysis. The high-temperature test facility can be used to test sensors designed for use in high-temperature gas reactors or other current or future generation reactors.

5. Date the resource will be provided:

The OSU reactor will be available at contract start.

6. The resource will be provided by:

Nuclear Reactor Laboratory, College of Engineering, The Ohio State University

7. Describe any liability related to this resource financial or otherwise:

None

8. How the resource will be managed:

Access to OSU Research Reactor is managed by Nuclear Reactor Laboratory staff with INL point-of-contact being INL Director of Education, Training, and Research Partnerships.

9. How the resource will be integrated into the INL:

Use of the OSU Research Reactor or related facilities will be scheduled through the Nuclear Reactor Laboratory staff; coordinated by INL Director of Education, Training, and Research Partnerships.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

The OSU Research Reactor is owned and controlled by OSU, College of Engineering and use of the reactor must be in compliance with rules and regulations governing its use. (Note that usage of facilities will require execution of formal contracts/grants with approval of appropriate university administrators.)

11. Signature of responsible corporate official and date of signature:



David B. Doty, Associate Director
The Ohio State University Research Foundation
The Ohio State University

Resource Commitment Form #17 – University of New Mexico

I am committing the following resources to the INL:

1. Resource Description:

Access to the University of New Mexico Research Reactor. University of New Mexico will provide INL access for conducting research, test, and training activities to its research reactor (5-watt Aerojet General Nucleonics AGN-201M #112) and High Temperature Vacuum Test Facility for advanced thermoelectric and other static conversion devices for use in space nuclear reactor and Advanced Radioisotope Power systems. Access is also available to specially developed modeling and simulation codes for space nuclear reactor power systems; design, optimization, and thermal analysis of Advanced Radioisotope Power Systems; transient analysis of high temperature heat pipes.

2. Location of Resource:

Chemical and Nuclear Engineering Department, including the University of New Mexico's Institute for Space and Nuclear Power Studies, Albuquerque, New Mexico

3. Monetary Value

Total Monetary Value: \$5 million (access to \$5M reactor and facilities)

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits Nuclear Energy, Science and Technology, and Education Programs at INL. Provides unique experimental and analytical capability for space nuclear technology programs, and a regionally-based research reactor for joint educational and experimental activities. This resource commitment will also support the USRA Center for Space Nuclear Research (CSNR).

5. Date the resource will be provided:

Contract Award: Expected February 1, 2005.

6. The resource will be provided by:

Chemical and Nuclear Engineering Department, School of Engineering, The University of New Mexico, Albuquerque, NM 87131-1341

7. Describe any liability related to this resource financial or otherwise:

None.

8. How the resource will be managed:

High Temperature Vacuum Test Facility and space nuclear codes/analysis tools and testing access will be coordinated through the Director of the Institute for Space and Nuclear Power Studies, Albuquerque, NM. Access to the research reactor will be coordinated through the Reactor Supervisor, Chemical and Nuclear Engineering Department, Albuquerque, NM.

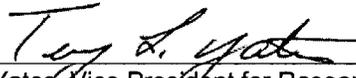
9. How the resource will be integrated into the INL:

In coordination with existing programs on INL Radioisotope Power Systems, with the single point-of-contact at INL being the Director of Education, Training, and Research Partnerships.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

The University of New Mexico will control scheduling of the resource, consistent with other commitments for use of the facility such as teaching and research. Rights to the research will be in accordance with standard university policies.

11. Signature of responsible corporate official and date of signature:



Terry L. Yates, Vice President for Research
University of New Mexico

Resource Commitment Form #18 - Electronic Data Systems (EDS) Rev. 1 ^{Modification M109}

I am committing the following resources to the INL:

1. Resource Description:

Plan for Enterprise-wide IT Development. EDS will develop a proposal for providing an integrated "Nuclear Network system for linking the nation's nuclear engineering universities and National Laboratories to support distance learning, collaboration connections for research, and data exchange/storage. EDS will provide 2 FTEs in the first year of the contract to assess, plan, and design collaborative infrastructure architecture to support new academic, industry, government, and international collaborations to support the INL vision of being the lead systems integrator for nuclear engineering R&D. The proposal will respond to the needs that further the access to information anytime, anywhere, enabling e-mail and access to collaborative data via wireless, Web portals, or kiosks.

2. Location of Resource:

Planning will be conducted at INL.

3. Monetary Value

Total Monetary Value: \$240,000 (2 FTEs in Year One) (program).

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy, National Security, Science and Technology and Education Programs at the INL. All INL programs will benefit from the proposed solutions that will include enabling people and workgroups to plan, share, and coordinate data, build digital communities and exchange technical information within applications, and will enhance the ability of remote researchers to interact with INL.

5. Date the resource will be provided:

Commencement of contract.

6. The resource will be provided by:

Electronic Data Systems Corporation (EDS), 13600 EDS Drive, Herndon, Virginia 201 71

7. Describe any liability related to this resource financial or otherwise:

None.

8. How the resource will be managed:

The resource will be accessed through an on-site information technology (IT) manager, seconded from EDS, and an integrated member of the BEA team.

9. How the resource will be integrated into the INL:

The IT manager will report to the INL Director, Business Systems, who will ensure all resources are coordinated and performance metrics included to ensure delivery. The "Nuclear Network" plan will be completed and submitted to the Associate Laboratory Director, Nuclear Programs.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

11. Signature of responsible corporate official and date of signature:

per Termination Agreement No. 5/3/12
Deborah Dyer Johnson, EDS
U.S. Government Services

Resource Commitment Form #19 - EnergySolutions

I am committing the following resources to the INL:

1. Resource Description:

Support for Battelle Energy Alliance (BEA) – EnergySolutions. EnergySolutions commits to support BEA by bringing to bear its experience and expertise in Waste Management and Disposition, to support the INL. EnergySolutions is the leading supplier of waste management services, providing characterization, transportation, treatment and disposal capabilities, to both Federal and Commercial customers. The company has its Headquarters in Salt Lake City, UT. EnergySolutions support to INL will include:

- Provision of Waste Generator services to the INL
- Characterization/packaging of waste and other general waste management activities
- Segregation of waste for economic disposition
- Dispositioning waste to appropriate disposal sites on behalf of INL
- Transport of waste to the appropriate disposal site
- Construction of a waste handling station and/or disposal facilities at the INL (to include a future RH Waste Disposal Facility)
- Personnel support as needed

In addition, EnergySolutions will provide support and consultancy to BEA on matters relating to waste management and other appropriate issues relating to the BEA mission.

2. Location of Resource:

EnergySolutions has operations throughout the US and worldwide including the UK and has an office in Idaho Falls for day to day contacts.

3. Monetary Value:

Up-front costs normally associated with items such as mobilization, procedure development and training, engineering support and project development will be initially absorbed by EnergySolutions up to maximum of \$500 K as part of this agreement. This commitment is made in anticipation of a contractual arrangement for the support services outlined in section 1 over a period of time sufficient to justify this investment. Details will be negotiated as this support scope is defined. Compensation for engineering, construction costs and operational costs of planned construction projects will be recovered on a time/cost average payment schedule that will include finance charges over a defined time period agreed to by both parties.

4. Describe which project/program would benefit from the resource and why:

The INL Waste Management program will benefit all INL Programs, from EnergySolutions experience and expertise to ensure a cost effective low risk solution to BEA needs. We routinely manage more than 1 M m³ / year of radioactive waste for treatment and disposal at Federal facilities including SRS, Oak Ridge and Hanford, and at our Commercial facilities at Clive, UT and Barnwell, SC. Our experience covers the range of waste from hazardous, low level, TRU, high level and covers both DOE and commercial waste. Benefits to INL could include integration of all site waste management services, and provision of an alternative to on site disposal capability. Additionally, EnergySolutions would consider innovative financing options, should that prove advantageous to INL. We will bring our commercial expertise to BEA to assure optimal waste disposition.

5. Date the resource will be provided:

Resource available immediately.

6. The resource will be provided by:

The commitment is made through *EnergySolutions*, 423 West 300 South, Suite #200, Salt Lake City, UT 84101.

7. Describe any liability related to this resource financial or otherwise:

None

8. How the resource will be managed:

The resource will be managed through an on-site *EnergySolutions* Project Manager, who will be accessible to BEA, and who will have complete access to *EnergySolutions* resources.

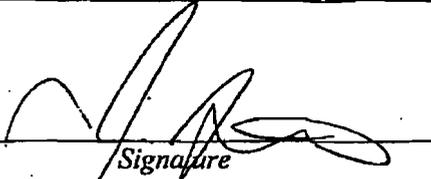
9. How the resource will be integrated into the INL:

The INL Director, Idaho Facilities Management/ Project Management Office will facilitate the interface, and ensure that the approvals and supporting systems are in place to allow the projects and programs supporting INL to be safely, securely and professionally performed.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

This resource commitment is subject to corporate approvals.

11. Signature of responsible corporate official and date of signature:



Signature

Title: Chief Operating Officer, Federal Services

Date: 8 July, 2008

Resource Commitment Form #20 – Westinghouse Electric Corporation (WEC), a BNFL Company

I am committing the following resources to the INL

1. Resource Description:

Support the Center for Nuclear Fuels and Materials Research NEC. BNFL commits to support EPRI in the establishment of a Center for Nuclear Fuels and Materials Research at INL. In addition to the NSTS and BNFL Inc. staff at BNFL's headquarters for nuclear program support, resources from WEC Reactor Technology Group will be relocated to the INL. This resource will bring expertise across the full range of BNFL Group reactor technologies, initially with 3 staff. WEC currently plans to vacate its Science and Technology Center in Pittsburgh during the period of this contract. As part of the evaluation of alternatives, WEC will include INL as a preferred location, particularly for its hot cell facilities.

2. Location of Resource:

Currently at various WEC facilities, but will be located in Idaho Falls/INL

3. Monetary Value:

Total Monetary Value: \$1.5M-\$7.5M in new programs over the first 5 years of the contract (program).

4. Describe which Project/Program would benefit from the resource and why:

Advanced Fuel Cycle Initiative (AFCI), NGNP, and Nuclear Energy, through access to expertise and experience gained in ongoing BNFL fuel cycle technology programs.

5. Date the resource will be provided:

Commencement of contract

6. The resource will be provided by:

The commitment is from WEC; the access will be through BNFL Inc, 1235 Jefferson Davis Highway, Suite 700, Arlington, Virginia 22202.

7. Describe any liability related to this resource financial or otherwise:

None.

8. How the resource will be managed:

The resource will be accessed through an on-site BNFL manager who will be an integrated member of the BEA management team.

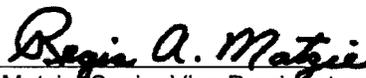
9. How the resource will be integrated into the INL:

The INL Director of Technology Partnerships will manage the interface, and ensure that the approvals and supporting systems are in place to allow the projects and programs being moved to INL to be safely, securely, and professionally performed.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

This resource commitment is subject to corporate approvals. Where WEC provides IP or other proprietary information, WEC will in return have full access to and unfettered rights to use any and all directly resulting information, IP and technology.

11. Signature of responsible corporate official and date of signature:



Dr. Regis Matzie, Senior Vice President and Chief Technology Officer, Westinghouse Electric Corporation

Resource Commitment Form #21 - Nexia Solutions Ltd

This Resource Commitment combines the two previous Commitments #21 and #22 dated November 2004 given by Nuclear Science and Technology Services (NSTS) to BEA ("the Commitments"). It recognizes the progress made in defining both programs and relationships and the restructuring of the BNFL Group that has taken place since the Commitments were made. Nexia Solutions is responsible for managing BNFL's involvement in UK NE programs and is the owner of the bulk of BNFL's UK-based R&D resource.

I, on behalf of Nexia Solutions, am committing the following resources to INL:

1. Resource Description:

Support for the INL and in particular, the Center for Nuclear Fuels and Materials Research – Nexia Solutions Ltd. Nexia Solutions commits to support BEA in the establishment of a Center for Nuclear Fuels and Materials Research and to provide other support to the INL as may be agreed between Nexia Solutions and BEA (together "the Parties").

Nexia Solutions will establish a US presence for nuclear program support in Idaho Falls. This presence will promote collaboration between the Parties and will co-ordinate joint programs between INL and UK laboratories as well as direct US-wide programs involving research, development and the provision of technical services. The size of the presence will be determined by agreed requirements between the Parties to support the INL mission. On request and subject to terms to be agreed, Nexia Solutions will also provide skilled resources to augment INL staff. The Nexia Solutions expertise will assist INL in achieving international recognition as a leading NE laboratory.

Subject to an appropriate non disclosure agreement being entered into by BEA, Nexia Solutions will facilitate access to the \$350M Sellafield Technology Center's unique state-of-the-art facilities and capabilities for fuel cycle development, including radionuclide laboratories, remote handling hot cells and engineering rig halls. This will minimize the need for INL to create duplicate infrastructure. Access will be provided to INL in compliance with relevant UK Government accounting rules. Nexia Solutions will promote staff exchanges between INL and Nexia Solutions.

In its expected future fuel cycle endeavors, Nexia Solutions has identified programmatic investment which, subject to agreed terms demonstrating value-for-money for its customers, could appropriately be performed at the INL, complementing parallel and concurrent U.S. development projects. Subject to obtaining standard approvals from DOE to conduct this work at INL, the availability of INL resources, current competitive labor rates and UK Government appropriation of funds, this investment will help create joint, leveraged research that addresses Nexia Solutions, DOE and UK program goals.

In addition, Nexia Solutions will work with INL to jointly identify synergies from expertise and operations, which offer marketable services in national or international research markets and which may be performed at INL or in the UK. One example is the post-irradiation examination facilities at the Sellafield site in Europe, coupled with the materials test reactor of INL, to offer enhanced services to customers. In specific support of these activities, Nexia Solutions commits to developing a joint communications strategy i.e., marketing literature, press articles and joint conference papers etc to promote the research alliance in the areas identified.

Nexia Solutions will provide access to a network of global influence in the nuclear fuels areas, including database information, intellectual property, access to international research partners and a strong communications system under terms to be agreed. These activities, particularly relating to the advanced fuel cycle work, will support the growth of both NGNP and the Nuclear Energy programs as well as support INL's efforts at collaborative partnering. Nexia Solutions further commits to the participation of its Chief Technology Officer and/or such other Directors and senior members of staff as may be agreed, as consultants, reviewers or advisers to BEA.

Furthermore, Nexia Solutions will, subject to the necessary corporate approvals and subject to a non-disclosure agreement being entered into and also if appropriate in the context of US-UK arrangements for Generation IV collaboration, provide INL staff with full access to the comprehensive UK Fast Reactor Archives and database of fuel development and processing information under terms to be agreed. This information will be available for researchers and planners to use to reduce risk, cost and schedule uncertainties and avoid expensive U.S. duplication of UK research that is being or has been carried out.

Finally, to enhance INL international partnerships, Nexia Solutions will provide support for an INL European office under terms to be agreed. This office will build on the already strong links that Nexia Solutions has established within the European Union and with its European partners.

2. Location of Resource:

Nexia Solutions facilities in the UK, with required staff to be seconded to Idaho Falls.

3. Monetary Value:

Estimated Total Monetary Value: \$350M (access to use of state-of-the-art Technology Center at Sellafield and access based on the actual cost [around \$5B] of the R&D programs that generated the information related to INL's mission).

4. Describe which Project/Program would benefit from the resource and why:

Advanced Fuel Cycle Initiative, GNEP and NE through access to expertise and experience gained specifically from the fast reactor-related work and in the ongoing UK Advanced Fuel Cycle program.

5. Date the resource will be provided:

As soon as agreed between the Parties following commencement of the contract.

6. The resource will be provided by:

The commitment is from Nexia Solutions whose address is 1100 Daresbury Park, Daresbury, Warrington, Cheshire, WA4 4GB, UK.

7. Describe any liability related to this resource financial or otherwise?

None, other than payment for agreed services to be provided by Nexia Solutions to support INL.

8. How the resource will be managed:

The resource will be accessed through the on-site Nexia Solutions manager.

9. How the resource will be integrated into the INL:

The INL Director of Technology Partnerships will manage the interface and ensure that an approved information access plan is in place regarding any and all material obtained under this Resource Commitment. The INL Director of Technology Partnerships will further ensure that approvals and supporting systems are in place to allow the projects and programs being conducted at INL to be safely, securely and professionally performed.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

This Resource Commitment is subject to corporate approvals. Nexia Solutions will have full access to and unfettered rights to use in any and all information, intellectual property and technology resulting from shared programs, subject to the joint program agreements. Nexia Solutions' information must be protected in an appropriate manner to the satisfaction of Nexia Solutions and will, in turn, result in Nexia Solutions having access to and unfettered rights to use any and all resulting information, intellectual property and technology directly resulting from the use of the information.

11. Signature of responsible corporate official and date of signature:



Dr. Peter Bleasdale
Managing Director
Nexia Solutions Ltd.

Resource Commitment Form #23 – AREVA

I am committing the following resources to the INL:

1. Resource Description:

Support of the Center for Nuclear Fuels and Materials Research. AREVA will collaborate with and support EPRI in the establishment of the Center for Nuclear Fuels and Materials Research at INL (Reference Resource Commitment #9). AREVA will:

1. Provide planning and evaluation methodology for commercial and research reactor fuels
2. Plan a qualified site for the examination, analysis, and data management of nuclear fuel
3. Provide support to critical research needs in fuel cycle management
4. Provide the plan and technical resources to define construction and refurbishment requirements for facilities at INL to support examination, processing and materials testing needs
5. Provide support to promote and advance nuclear fuels knowledge.

In addition to the strategic fuel examination program actions above AREVA can provide support and will participate and collaborate in the following areas:

1. Support, research, development and testing of advanced nuclear fuel types under future planned operating conditions and manufacturing techniques. Operations support for capital equipment to facilitate advances in examinations, waste handling, transportation and related services. Research into advance examination techniques for plant site analysis, modeling, simulation and transportation options. Strategic and tactical plans to address advanced fuel examination needs either in hot cells or at reactor sites, to meet operating conditions, water chemistry changes, heat loads, and life cycle improvements.
2. Training, business development and information including performance data and software (controlled through appropriate proprietary and licensing agreements).
3. Participation in planning and programmatic development of technology and equipment in related areas of transportation, fuel manufacturing, material handling, chemical processing systems and residual fuel or waste processing.
4. Subject to appropriate proprietary and licensing agreements, access to AREVA International Technical Centers, spread out over four sites, two in France (at Chalon and Le Creusot) and two in Germany (at Erlangen and Karlstein). These sites provide access to more than 350 specialists and engineers and nuclear fuel and reactor technology test and evaluation facilities worth more than \$50M. On the same terms, AREVA will also provide access to fuel manufacturing, research and training sites in Richland, WA and Lynchburg, VA where over 600 engineers and \$70 million of facilities are engaged in nuclear fuel research, development and manufacturing.
5. Planning and programmatic development of a nuclear fuel instrument and measurement equipment and facility qualification process.

2. Location of Resource:

Currently at various AREVA facilities but critical resources, including certain equipment and key personnel will be located in Idaho Falls, ID.

3. Monetary Value:

New programs – A target total of \$20 million averaging \$2.0M per year for the ten-year contract in new, private programs will be transferred or added to INL

Direct – \$2.0M in new equipment to enhance this new center will be brought to INL

Access – AREVA will provide access to its International Technical Centers, spread out over six sites, two in France Chalon and Le Creusot; two in Germany Erlangen and Karlstein; and two in

Resource Commitment Form #23 (continued)

the USA, Richland WA., and Lynchburg, VA. The value of these direct new programs, new and refurbished equipment, training, and access to commercial facilities will add value to the INL mission estimated to be worth more than \$50 million.

4. Describe which Project/Program would benefit from the resource and why:

The INL nuclear fuel development, testing and manufacturing program CNFMR, with advanced examination, testing and analysis equipment and facilities will meet the expectation of fuel manufactures, end user utilities and research facilities. This program will enhance the NE mission by being among the leading nuclear fuel development and testing facilities in the world.

5. Date the resource will be provided:

Commencement of contract. Transition of protocols, detailed business plan development, operating parameters, key personnel and work by a transition team will begin at transition. Funded examinations will begin as required by commercial contracts. Research on advanced fuel examination, plant site examinations will begin within 3 months of contract start or facility operational certification, whichever is later.

6. The resource will be provided by:

The commitment and access will be via Framatome-ANP, Inc., 400 South Tryon Street, Charlotte, North Carolina 28285. Attention Thomas R. Stevens, Senior Vice President.

7. Describe any liability related to this resource financial or otherwise:

Standard allowable costs under the contract. Fuel examinations will require the transfer and storage of nuclear fuel and spent nuclear fuel to the INL. Disposition of the material after the examination will remain at and with the INL.

8. How the resource will be managed:

The resource will be accessed through an on-site AREVA manager who will be an integrated member of the BEA management team.

9. How the resource will be integrated into the INL:

The INL Director of Technology Partnerships will manage the interface, and ensure that the approvals and supporting systems are in place to allow the projects, programs, and assets being moved to INL to be safely, securely, and professionally performed. He will also ensure that reverse access to AREVA offered capabilities is being appropriately provided.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

The transportation and storage of nuclear fuel at the INL for any interim period may require an amendment to existing state regulations. Discussions with the appropriate regulators and administrators support the plan to establish a comprehensive Nuclear Fuels and Research Program, however active progress in establishing a specific amendment must move forward on a comparable pace with the Program.

11. Signature of responsible corporate official and date of signature:



Tom Christopher, President and CEO
Framatome ANP, Inc

Resource Commitment Form #24 – Universities Space Research Association

I am committing the following resources to the INL

1. Resource Description:

Center for Space Nuclear Research (CSNR). Universities Space Research Association (USRA) will establish and grow a Center for Space Nuclear Research (CSNR). This center will engage university scientists in research and development of advanced space reactor and radioisotope power systems. USRA will work with the University of New Mexico and its Institute for Space and Nuclear Power Studies, as well as the General Atomics company to create this center.

2. Location of Resource:

USRA is an independent non-profit association of 95 universities, founded in Washington, D.C., in 1969 by the National Academy of Sciences. The CSNR will draw on resources from those USRA member universities. The center will be located in Idaho Falls.

3. Monetary Value

Estimated Total Monetary Value \$1.5M (direct). The cost avoidance for having USRA administer this center is estimated to be \$500K for establishing the CSNR, and approximately \$100K per year for administration, resulting in a total cost avoidance of \$1.5M over the 10-year contract.

4. Describe which Project/Program would benefit from the resource and why:

The center will be a focus for involving university research and education programs in space nuclear research at the INL, and in linking INL to research being performed by USRA's members involving space nuclear.

5. Date the resource will be provided:

Assuming contract award on February 1, 2005, a BEA-funded proposal for the center will be submitted to NASA in FY05 with a target date of establishing the CSNR in 2006.

6. The resource will be provided by:

USRA, 10211 Wincopin Circle, Suite 500, Columbia, MD 21044-3432

7. Describe any liability related to this resource financial or otherwise:

None.

8. How the resource will be managed:

For the CSNR proposal, USRA will nominate a Director who, with NASA approval of the center will direct the development and operation of that center, reporting to the INL Associate Laboratory Director for Nuclear Programs. The CSNR will be co-located with the Center for Advanced Energy Studies in Idaho Falls, Idaho. The CSNR will likely be a seconded employee from USRA or one of its affiliated members, and will be the primary interface between USRA and INL.

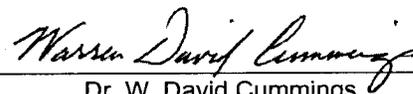
9. How the resource will be integrated into the INL:

The CSNR will be part of the INL Nuclear Programs Directorate, and its activities will be coordinated through that organization.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

Signature of responsible corporate official and date of signature:



Dr. W. David Cummings
USRA Executive Director

Resource Commitment Form #25 – General Atomics

I am committing the following resources to the INL

1. Resource Description:

Support the Center for Space Nuclear Research (CSNR). General Atomics (GA) will support an initiative by the Universities Space Research Association (USRA) to establish a Center for Space Nuclear Research (CSNR). GA will make available its facilities, tools, expertise, and intellectual property supporting small reactor technology development. In addition, in support of ongoing and prospective fusion program activities at INL, GA will make available similar resources that it has developed carrying out the most successful fusion program in private industry.

One example of GA's state-of-the-art capabilities is its Surface Analysis Laboratories. Operated by a highly skilled staff, analytical capabilities include Scanning Electron Microscopy, EDX light element detection, XPS, ESCA analysis, Auger Electron Spectroscopy, X-ray Diffraction, Scanning Probe Microscopy, and a Metallography Laboratory. Other commitments include re-locating (as practical) GA activities involving significant neutron production, handling of radioactive material potential contamination, and/or tritium to the INL; designating INL to be the recommended/preferential site (first right of refusal) for inertial fusion target fabrication with tritium fill, in-reactor thermionic cell testing for Space Reactor development, irradiation testing of particle fuel, irradiation testing of metallic-clad fuel, irradiation of Space Reactor materials, hot cell activities, fusion materials testing involving irradiations and/or tritium; and TRIGA fuel elements owned by GA and residing at their main site to INL for use in assembling a new test reactor (if desired). GA commits to supporting the magnetic fusion component testing facility at INL as the next technology step beyond their existing DIII-D National Fusion Facility.

2. Location of Resource:

General Atomics, San Diego, California.

3. Monetary Value

Total Monetary Value: \$150M (access). Access to \$150M in key small reactor development and testing facilities, as well as analytical services.

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy, Science and Technology and Education Programs at INL. General Atomics' support to USRA is essential to ensure that the center can serve as a focus for involving the university research and education programs in space nuclear research at the INL, and in linking INL to the research activities being performed by USRA's members involving space nuclear. General Atomics support will enable the coordination of experimental and analytical resource development. In addition, General Atomics will provide technical leadership for small reactor and fusion development, will help establish INL as the international leader for the development and deployment of small advanced reactors, not only those required for space applications, but also those for efforts towards the deployment of small reactors for electricity generation and district heating; and enhancing national security by providing off-grid sources of electrical power for our nation's military installations. This support will also help ensure that these new small reactors (including fusion demonstration facilities) are constructed and tested both safely and efficiently.

5. Date the resource will be provided:

Assuming contract award on February 1, 2005, the support from General Atomics will be accessible "on-demand."

6. The resource will be provided by:

General Atomics, San Diego, CA

7. Describe any liability related to this resource financial or otherwise:

None

8. How the resource will be managed:

General Atomics will establish a single point-of-contact (Lester Begg) to coordinate their interface with INL. For the CSNR support, General Atomics will work with USRA's CSNR Director who will manage operation of that center, reporting to the INL Associate Laboratory Director for Nuclear Programs. For other support and access relative to fusion and small reactors technology, General Atomics will work directly for the INL ALD for Nuclear Programs.

9. How the resource will be integrated into the INL:

The resource will be integrated into the INL through the ALD for Nuclear Programs.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

Signature of responsible corporate official and date of signature:



Dr. David Baldwin, Senior Vice President
General Atomics Corporation

Resource Commitment Form #26 – Burns & Roe

I am committing the following resources to the INL:

1. Resource Description:

Establish the Center for Nuclear Systems Design and Analysis (CNSDA). Burns & Roe commits to establish a new **Center for Nuclear Systems Design and Analysis (CNSDA)** at INL. The CNSDA will work with industry and organizations to create engineering, design, construction and project management capabilities applicable to advanced nuclear power and interfacing with the university community.

2. Location of Resource:

Resource to be established as a Center for Nuclear Systems Design and Analysis and located in Idaho Falls, Idaho (co-located and integral with the Center for Advanced Energy Studies).

3. Monetary Value

Estimated Total Monetary Value: \$360K (direct)

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy, Science and Technology and Education Programs at the INL. Working with the BEA Team, Burns & Roe will develop at the INL the CNSDA to build understanding and acceptance of advanced nuclear plant designs and technology, support the CAES in training the next generation of nuclear component and plant designers, develop the advanced design tools necessary to take advantage of the modeling and visualization technology available, and help create design basis criteria for future plants that are economically and efficiently achievable.

5. Date the resource will be provided:

Commencing with contract award; office staffing expected over first 2 years consistent with growth of work at INL.

6. The resource will be provided by:

Burns & Roe, 800 Kinderkamack Road, Oradell, New Jersey 03469

7. Describe any liability related to this resource financial or otherwise:

None.

8. How the resource will be managed:

Burns & Roe will provide a Director to manage the CNSDA who will report to INL's ALD, Nuclear Programs.

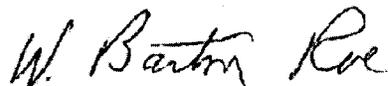
9. How the resource will be integrated into the INL:

This office will be part of a new CNSDA, located in the Center for Advanced Energy Studies and reporting to the INL Associate Laboratory Director for Nuclear Programs.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

11. Signature of responsible corporate official and date of signature:



W. Barton Roe, Vice President Federal Services
Burns & Roe Enterprises, Inc.

Resource Commitment Form #27 – Studsvik

I am committing the following resources to the INL:

1. Resource Description:

Support the Center for Nuclear Systems Design and Analysis (CNSDA). Studsvik Scandpower will establish an expanded analysis capability at INL, specializing in Nuclear Reactor Neutronic Analysis. The capability will be a core part of a new CNSDA. Studsvik Scandpower will also provide access for joint research projects with Studsvik Nuclear, whose facilities in Sweden include the R2 and R2-0 reactors, the Hot Cell Laboratory for nuclear fuel investigations, the Irradiated Metals Laboratory for testing and investigating irradiated materials (cladding and component materials), and the Autoclave Laboratory for corrosion and water chemistry studies.

2. Location of Resource:

Resource to be established as a **CNSDA** and located in Idaho Falls, Idaho (co-located and integral with the Center for Advanced Energy Studies).

3. Monetary Value

Total Monetary Value: \$250,000 (direct)

Total Estimated Monetary Value: \$101.5M (access to equipment and capabilities)

Studsvik will invest up to \$250,000 to establish the analysis component of the CNSDA, using funds to set up the office, re-locate equipment, and support the Director's position. In addition, Studsvik Scandpower will provide access to \$1.5 million in computational equipment and research capabilities managed by Studsvik AB, including test reactors (R2 at 50 MW and R2-0 at 1 MW) with supporting laboratories and hot cell capabilities valued at more than \$100 million.

4. Describe which Project/Program would benefit from the resource and why:

Working with the INL BEA Team, Studsvik will support AFCI, NGNP, and GEN IV activities for neutronic core analysis. It also will support deployment of advanced modeling and visualization technology for future plant design, and help create design basis criteria for future plants.

5. Date the resource will be provided:

Commencing with contract award; office staffing expected over first year.

6. The resource will be provided by:

Studsvik Scandpower, Inc., 504 Shoup Avenue, Suite 201, Idaho Falls, Idaho 83402

7. Describe any liability related to this resource financial or otherwise:

None

8. How the resource will be managed:

Studsvik Scandpower will nominate a Director to manage the analysis component of the center operations. Studsvik will augment the Director, with existing INL staff, new hires, or with their additional Idaho Falls staff (9 FTEs).

9. How the resource will be integrated into the INL:

This office will be part of a new **CNSDA**, located in the Center for Advanced Energy Studies and reporting to the INL Associate Laboratory Director for Nuclear Programs.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

11. Signature of responsible corporate official and date of signature:



Dr. Kord S. Smith, Chief Operations Officer
Studsvik Scandpower, Inc.

Resource Commitment Form #28 – Battelle Energy Alliance (Long-Term Economic Development)

I am committing the following resources to the INL:

1. Resource Description:

BEA will invest \$100,000 in earned fee per year for 3 years (total value of \$300,000) starting in FY-2009 in teacher development and student programs that promote interest in Science, Technology, Engineering, and Mathematics (STEM) education. BEA will also invest \$100,000 in earned fee per year for 3 years (total value of \$300,000), starting in FY-2009, to partially fund a full time equivalent position to lead and coordinate efforts to establish the Idaho Regional Optical Network (IRON). IRON is a high-performance computer network designed to connect research within the state of Idaho and connect the state to the international research community. IRON has been initiated by the Idaho National Laboratory (INL), state universities, and the Idaho Hospital Association and it is governed by a Board of Directors with INL representation. This high-speed network creates opportunities for economic growth and provides the foundation for linking Idaho's education, civil, and rural entities. The total direct investment of fee is \$200,000 per year for 3 years starting in FY-2009.

2. Location of Resource:

Payments will be made through mini-grants and direct sponsoring of events throughout the State of Idaho.

3. Monetary Value

Total Monetary Value: \$600,000 equally spread over 3 years.

4. Describe which Project/Program would benefit from the resource and why:

This commitment benefits the Nuclear Energy, National Security, Science and Technology and Education Programs at the INL. All INL programs will benefit from the proposed IRON solution that enhances high speed connection with educational and research institutions. Investment in STEM supports INL's educational mission and will contribute to creation of higher paying jobs.

5. Date the resource will be provided:

Beginning in FY-2009, and each year thereafter for a total of 3 years.

6. The resource will be provided by:

Battelle Energy Alliance

7. Describe any liability related to this resource financial or otherwise:

None.

8. How the resource will be managed:

The resource will be managed by the Director of the Center for Advanced Energy Studies (CAES).

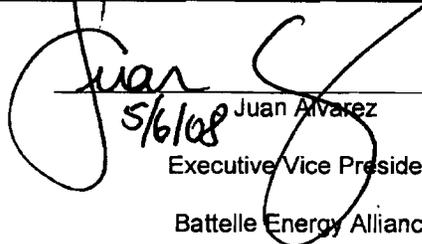
9. How the resource will be integrated into the INL:

By delivering the resource commitment through CAES, the center will play an important role in advancing INL's reputation in STEM education and collaboration with universities.

10. Other pertinent information (e.g., exclusive rights and control of the resource):

N/A

11. Signature of responsible corporate official and date of signature:


5/6/08 Juan Alvarez
Executive Vice President
Battelle Energy Alliance

3(b) Plan for Integrating Resources to Support the INL

Each of the Resource Commitment Forms describes the manner in which the resource will be provided. For each of the resource commitments made by our research affiliates, the commitment and implementation plan for that offer is subject to DOE concurrence. Figure 3-2 shows BEA's approach for integrating the resource commitments.

The approach links the individual resource provider with the benefiting INL activity by assigning a cognizant resource manager. To ensure that these resources are fully integrated into the new INL, BEA will establish specific performance objectives for each of the resource commitments to ensure accountability for delivery and impact. In summary, relative to the responsibilities for success:

- **Educational Initiatives** – INL's new Director for Education, Training, and Research Partnerships will be responsible for the \$6 million investment in training and education.
- **New Research Centers** – Given their nuclear focus, INL's ALD for Nuclear Programs will have programmatic responsibility for direct investment by the sponsoring organizations as well as work at the Centers for Nuclear Fuels and Materials, Space Nuclear Research, and Nuclear Systems Design and Analysis.
- **Center for Advanced Energy Studies (CAES)** – The CAES Director will be responsible for the center's performance. Laboratory support to the CAES, including investment, will be coordinated by the primary CAES interface, INL's Director for Education, Training, and Research Partnerships. The INL Infrastructure Review Board will approve plans for the construction of the \$14 million facility housing CAES, which will be configured as a co-located part of the Idaho Falls Branch Campus, constructed and owned by the

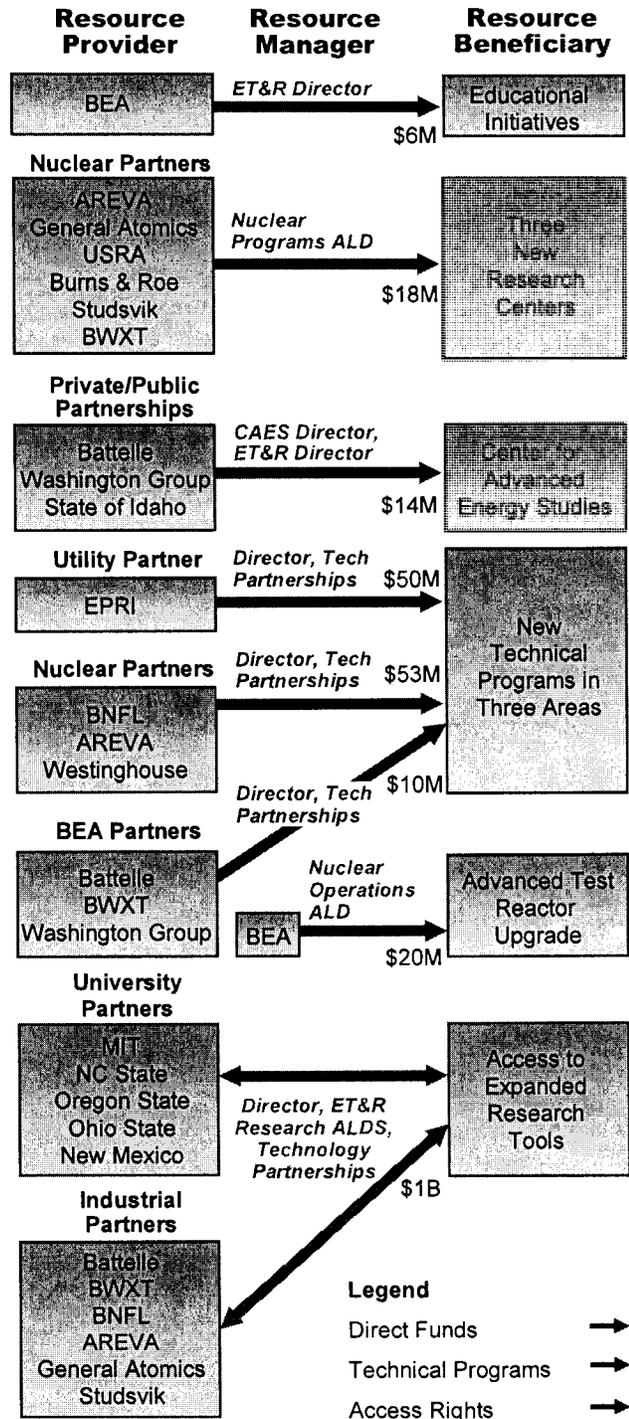


Figure 3-2. Sources and Applications of BEA and affiliates commitments.

Part III Section J, Attachment R

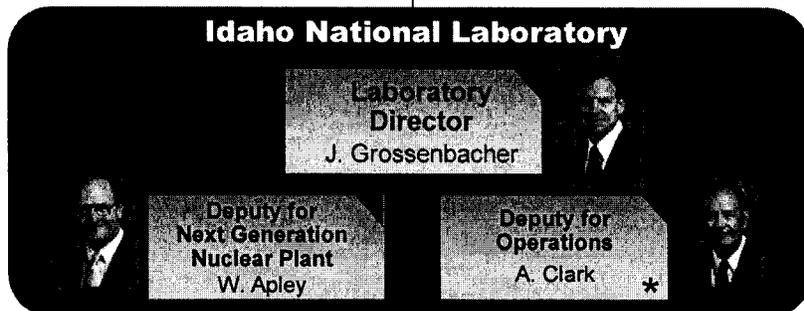
Organizational Structure

DOE

BEA, Board of Managers
J. Grossenbacher, President/CEO

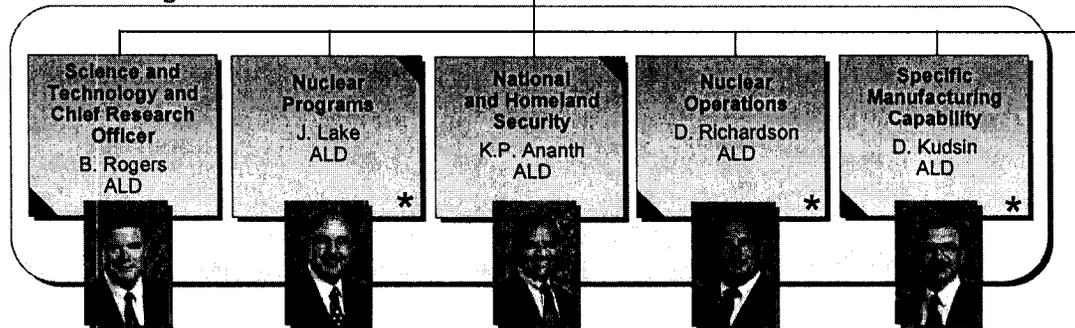
Contract Performance

Level 1



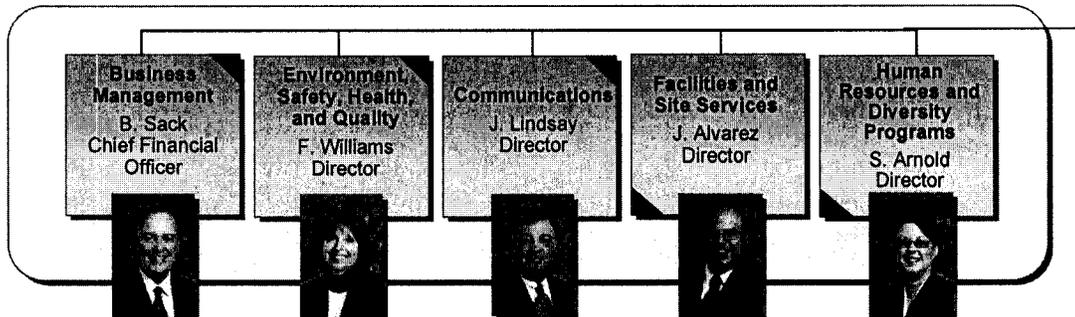
Technical Organizations

Mission Accomplishment



Support Organizations

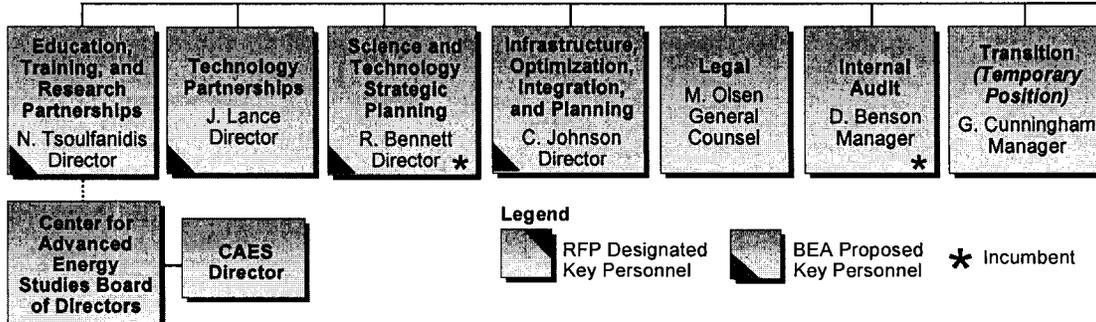
Mission Support and Assurance



Level 2

Staff Functions

Cross-cutting Mission Support and Collaborative Partnerships



Legend

- RFP Designated Key Personnel
- BEA Proposed Key Personnel
- *

Our key leadership positions are briefly described as follows.

The **Laboratory Director**, who is also President and Chief Executive Officer (CEO) of BEA, is responsible for overall contract performance and delivery against the SOW. The Director will lead the renaissance in nuclear energy both within and outside INL; establish and implement overall laboratory strategy in support of DOE's vision; and lead the transition, transformation, and culture change to the new INL.

Deputy Laboratory Directors (DLDs) implement the Laboratory Director's goals and priorities, and address crosscutting issues in broad areas of responsibility. They support the Laboratory Director in providing direction and supervision to the leadership team.

- The **Deputy for the Next Generation Nuclear Plant** will provide overall leadership of this critical project. This Deputy will lead the R&D and licensing support efforts for the NGNP integrator, and integrate Laboratory nuclear programs, the INL science base and research partnerships, and INL infrastructure development to deliver maximum benefit to NGNP.
- The **Deputy for Operations** will ensure safe, cost effective, and environmentally sound operations across INL; lead the transformation of the INL physical plant to modern laboratories and facilities; lead implementation of the Battelle Integrated Management System (BIMS); provide ongoing leadership for the seamless merger of INEEL and ANL-W; and lead INL support to the ICP.

Associate Laboratory Directors (ALDs) are the senior interface between INL and its mission customers. They serve as general managers for INL's primary technical organizations, with responsibility for mission delivery; mission and business strategy; staff selection and management; and research operations within their Directorates.

- The ALD, **Nuclear Programs**, will establish and implement the Laboratory's overall strategy in support of nuclear energy research and development, and build INL's nuclear research and development base.
- The ALD, **Science and Technology**, will lead the development of a robust basic science capability and program for INL, and will lead and manage INL's energy and environmental programs. This individual will also serve as INL Chief Research Officer (CRO), with responsibility for integrating basic science with INL's nuclear and national security missions.
- The ALD, **National and Homeland Security**, will build and manage programs that establish INL: as a science and technology leader in nuclear nonproliferation and counter proliferation; and as a leader in homeland security and critical infrastructure protection.
- The ALD, **Nuclear Operations**, will manage ATR to meet or exceed customer expectations and lead BEA's proposed ATR upgrade program while maintaining safe, efficient nuclear operations.
- The ALD, **Specific Manufacturing Capability**, is responsible for meeting or exceeding the expectations of the SMC customer and defining and marketing future SMC programs while maintaining safe and efficient operations.

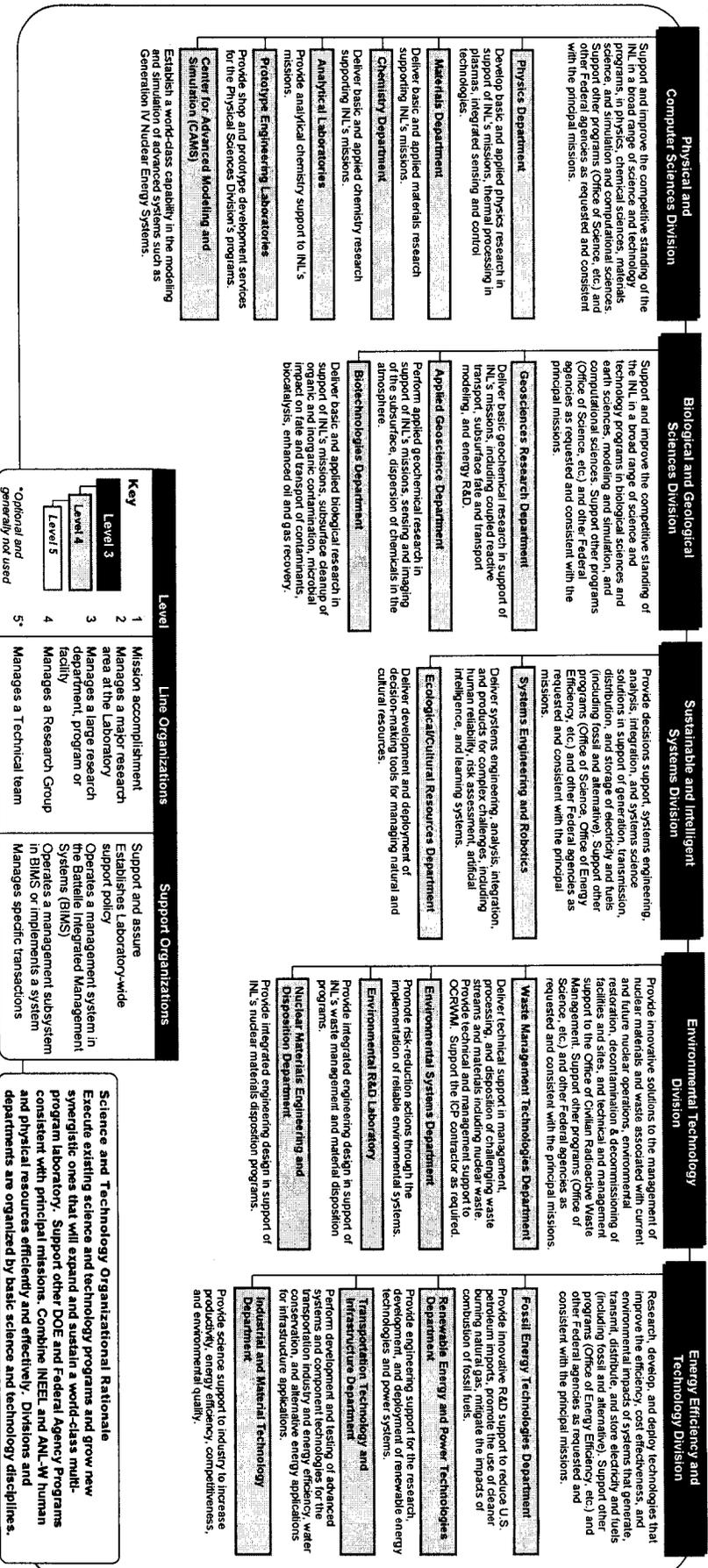
Support Directors operate their assigned functions to enable mission execution, while assuring regulatory and procedural compliance and providing stewardship of DOE assets. They establish the policies and standards for their assigned areas in consultation with their internal mission customers and with the DOE. They deploy subject matter experts (SMEs) into line organizations, operate their assigned management systems, and serve as line managers for INL's primary support organizations.

- The **Chief Financial Officer** provides financial, contracting, and other business systems that enable efficient research and laboratory operations and reduce cost.
- The **Director, Environment, Safety, Health, and Quality (ESH&Q)**, establishes and maintains best-in-class ESH&Q management systems, and leads the development of a culture that emphasizes safety and environmental stewardship.
- The **Director, Communications**, is responsible for media relations and development of best-in-class external communications programs. The Director also leads INL's internal communications programs in support of transition and culture change.
- The **Director, Facilities and Site Services**, maintains the full suite of INL's facilities, operations, security, fire protection, and engineering support services. The Director implements INL's infrastructure renewal, facilities consolidation, and facilities construction programs.
- The **Director, Human Resources and Diversity Programs**, supports line management in attracting, motivating, and retaining the world-class staff necessary to accomplish the INL vision. The Director supports and guides culture change, and will ensure balance and equity in the treatment of each employee affected by the INEEL – ANL-W merger.

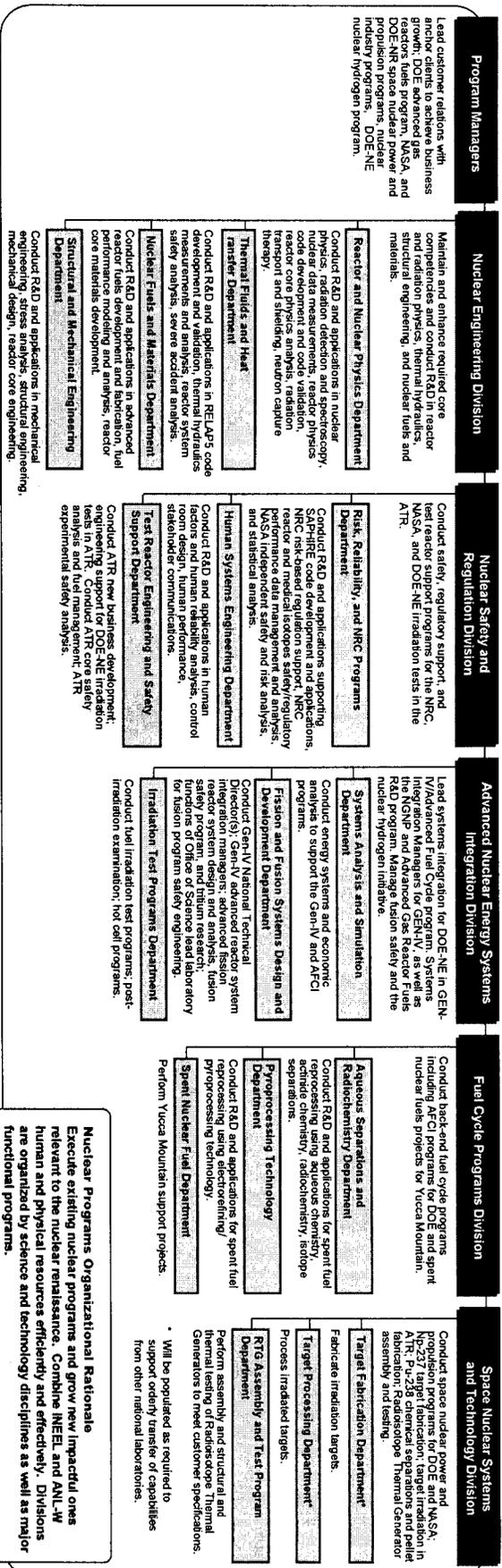
Staff Function Directors are responsible for cross-cutting assignments requiring high levels of leadership and independence. They are expected to deliver results of high strategic value, and to assure integration across INL and between INL and its partners.

- The **Director, Education, Training, and Research Partnerships**, will support the SOW by developing mission-enabling university-Laboratory partnerships; leading and delivering a nationwide renaissance in nuclear science and engineering education in partnership with the NUC; maintaining institution-level relationships with Idaho universities; and leading the establishment of CAES.
- The **Director, Technology Partnerships**, will support the SOW by facilitating and promoting broad RD&D collaboration with the commercial nuclear industry, its vendors and suppliers, and electric utilities worldwide. The Director will secure new partner resource commitments to advance INL missions.
- The **Director, Science and Technology Strategic Planning**, will serve as the Office of Nuclear Energy, Science, and Technology (NE) system integrator at INL and provide leadership, in partnership with DOE, in establishing integrated strategies and roadmaps for the nuclear mission. The Director will manage INL's strategic planning process, analyze market opportunities, and recommend strategic investments.
- Our proposed **Director for Infrastructure Optimization, Integration, and Planning** provides critical focus on the complex task of consolidating INL and ANL-W facilities, eliminating unsuitable facilities, reducing cost, and planning and building new facilities necessary for INL's future missions.
- The **General Counsel** will provide legal advice to the Laboratory Director and leadership team, and will be asked to concur in legal documents committing INL or BEA.
- The **Manager, Internal Audit**, will conduct independent audits of Laboratory elements as required. The Manager will maintain a direct reporting relationship to the BEA Board of Managers as needed.
- The **Transition Manager** is a temporary position. This individual will develop and oversee execution of the transition plan and independently verify BEA's readiness to assume management and operation of INL.

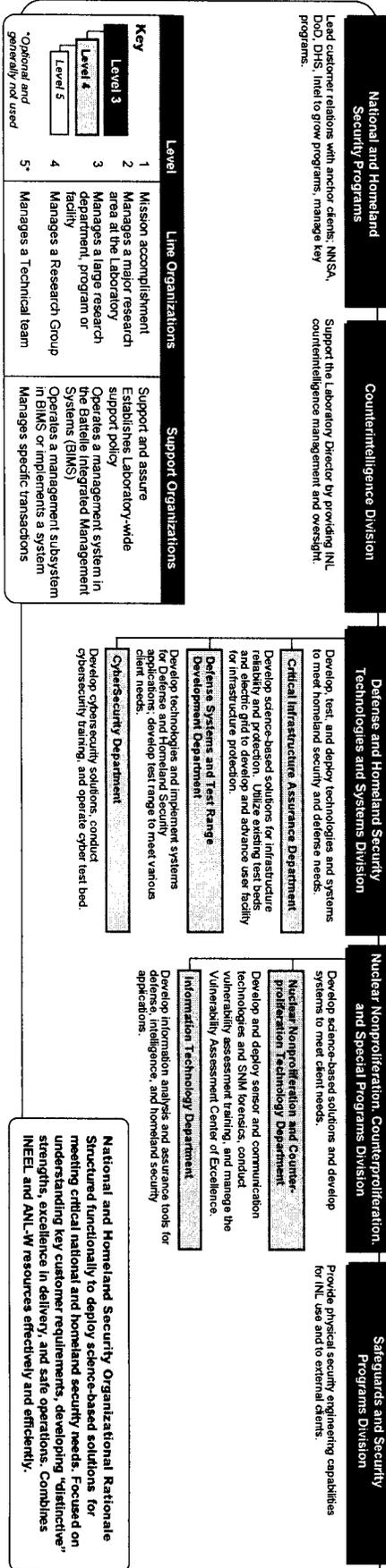
SCIENCE AND TECHNOLOGY DIRECTORATE



NUCLEAR PROGRAMS DIRECTORATE



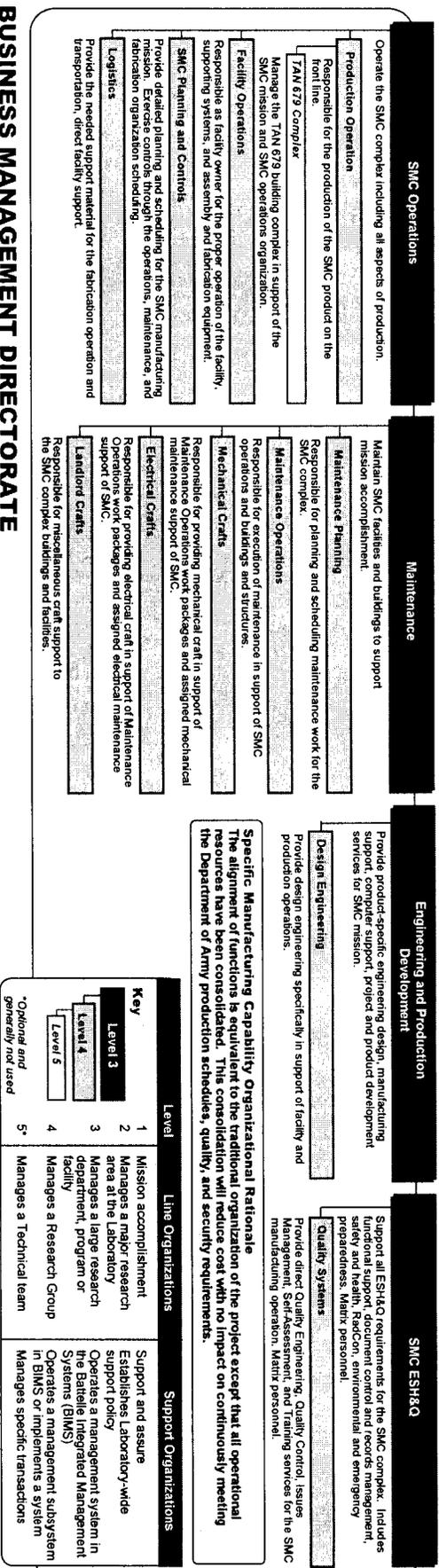
NATIONAL AND HOMELAND SECURITY DIRECTORATE



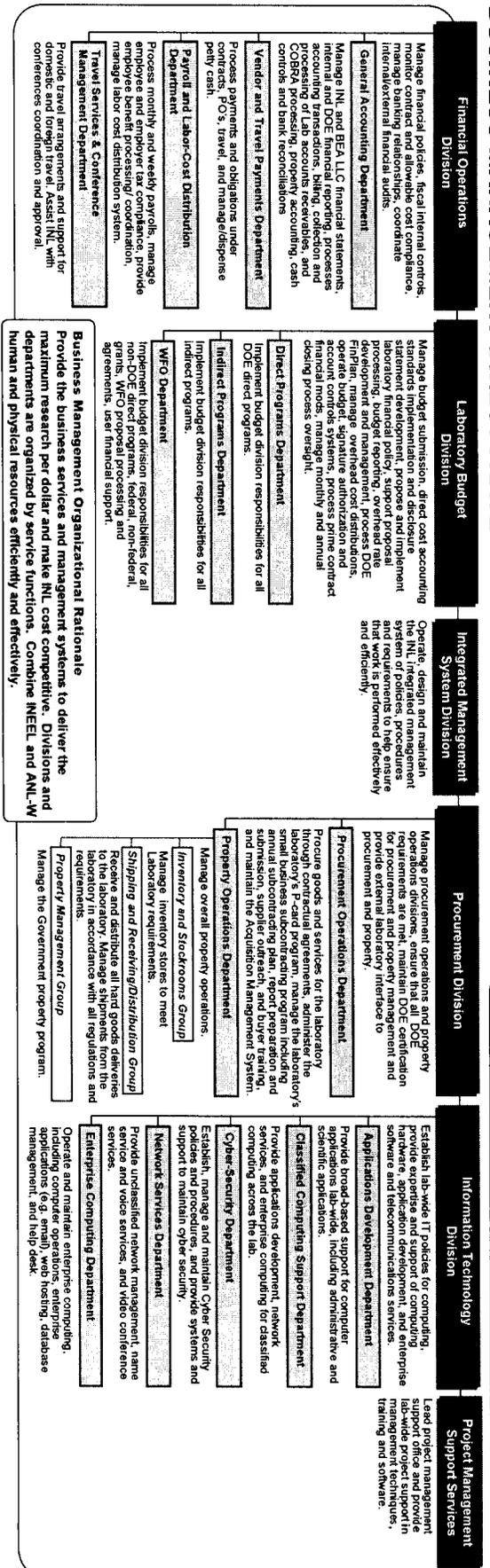
Level	Line Organizations	Support Organizations
1	Mission accomplishment area at the Laboratory	Support and assure support policy
2	Manages a major research area at the Laboratory	Establishes Laboratory-wide support policy
3	Manages a large research department, program or facility	Operates a management system in the Battelle Integrated Management Systems (BIMS)
4	Manages a Research Group	Operates a management subsystem in BIMS or implements a system
5*	Manages a Technical team	Manages specific transactions

*Optional and generally not used

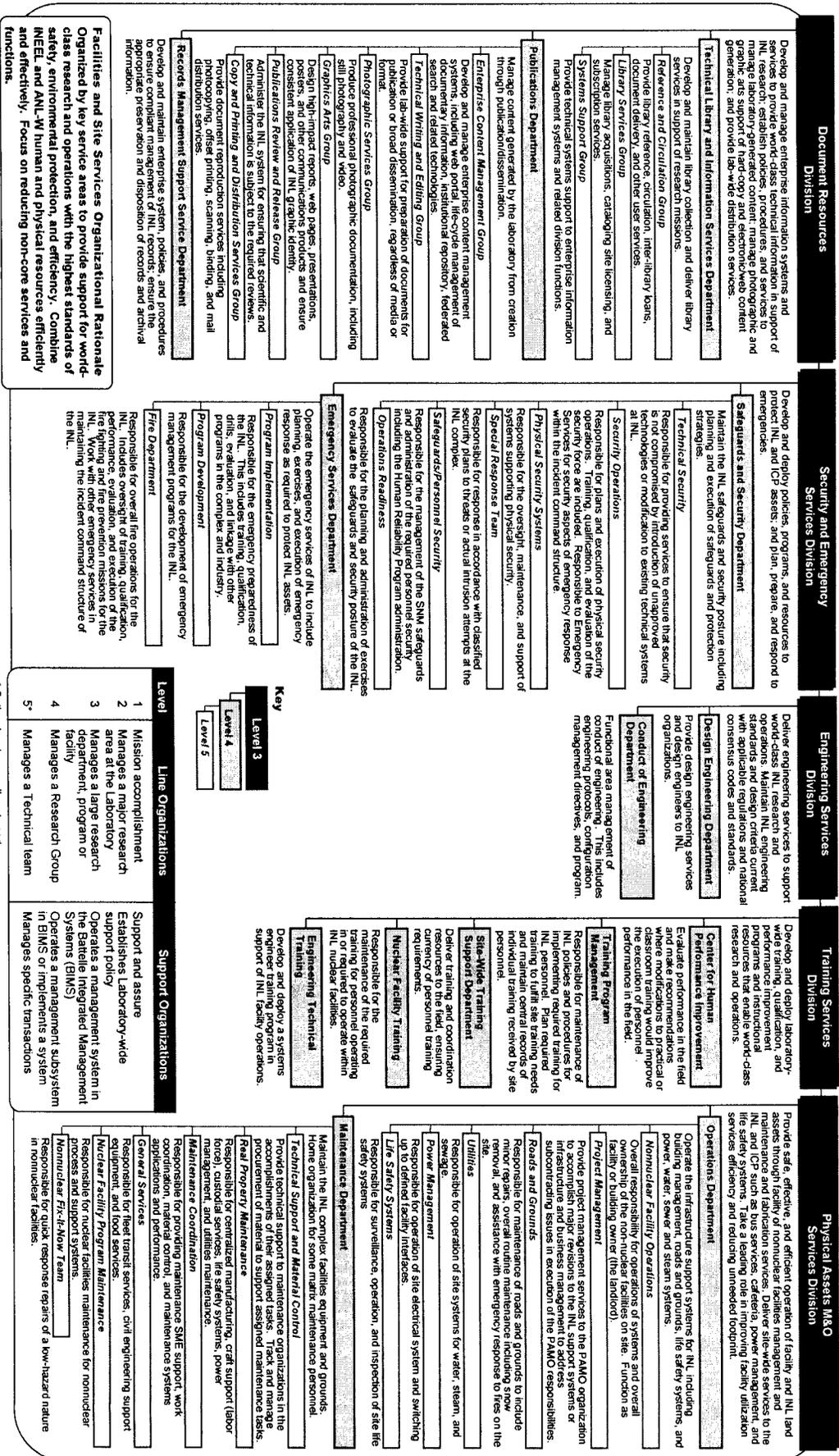
SPECIFIC MANUFACTURING CAPABILITY DIRECTORATE



BUSINESS MANAGEMENT DIRECTORATE



FACILITIES AND SITE SERVICES DIRECTORATE



Document Resources Division

Develop and manage enterprise information systems and services to provide world-class technical information in support of INEL research, establish policies, procedures, and services to manage laboratory research, technology and electronic content generation, and provide lab-wide distribution services.

Technical Library and Information Services Department
Develop and maintain library collection and deliver library services in support of research missions.

Reference and Circulation Group
Provide library reference, circulation, inter-library loans, document delivery, and other user services.

Library Services Group
Manage library acquisitions, cataloging site licensing, and managed services.

System Support Group
Provide technical systems support to enterprise information management systems and related mission functions.

Publications Department
Manage content generated by the laboratory from creation through publication/dissemination.

Enterprises Content Management Group
Develop and manage enterprise content management systems including web portal, life-cycle management of documentary information, institutional repository, federated search and related technologies.

Technical Writing and Editing Group
Provide lab-wide support for preparation of documents for publication or broad dissemination, regardless of media or format.

Photographic Services Group
Produce professional photographic documentation, including still photography and video.

Graphics Arts Group
Design high-impact reports, web pages, presentations, posters, and other communications products and ensure consistent application of INEL graphic identity.

Publications Review and Release Group
Administer the INEL system for ensuring that scientific and technical information is subject to the required reviews.

Copy and Printing and Distribution Services Group
Provide document reproduction services including photocopying, offset printing, scanning, binding, and mail distribution services.

Records Management Support Service Department
Develop and maintain enterprise system, policies, and procedures to ensure compliant management of INEL records, ensuring the integrity, preservation and disposition of records and archival information.

Facilities and Site Services Organizational Rationale
Organized by key service areas to provide support for world-class research and operations with the highest standards of safety, environmental protection, and efficiency. Combines INEL and ANL-W human and physical resources efficiently and effectively. Focus on reducing non-core services and functions.

Security and Emergency Services Division

Develop and deploy policies, programs, and resources to protect INEL and ICP assets, and plan, prepare, and respond to emergencies.

Safeguards and Security Department
Maintain the INEL safeguards and security posture including planning and execution of safeguards and protection strategies.

Technical Security
Responsible for providing services to ensure that security is not compromised by introduction of unapproved technologies or modification to existing technical systems at INEL.

Security Operators
Responsible for plans and execution of physical security operations. Training, qualification, and evaluation of the security force are included. Responsible to Emergency Services for security aspects of emergency response within the incident command structure.

Physical Security Systems
Responsible for the oversight, maintenance, and support of systems supporting physical security.

Special Response Team
Responsible for response in accordance with classified INEL complex emergency scenarios to the task of actual intrusion attempts at the INEL complex.

Safeguards/Personal Security
Responsible for the management of the SNM safeguards and administration of the required personnel security, including the Human Reliability Program administration.

Operations Readiness
Responsible for the planning and administration of exercises to evaluate the safeguards and security posture of the INEL.

Emergency Services Department
Operate the emergency services of INEL to include planning, exercises, and execution of emergency response as required to protect INEL assets.

Program Implementation
Responsible for the emergency preparedness of the INEL. This includes training, qualification, exercises, and readiness of emergency response programs in the complex and industry.

Program Development
Responsible for the development of emergency management programs for the INEL.

Fire Department
Responsible for overall fire operations for the INEL. Includes oversight of training, qualification, performance, evaluation, and exercises for the INEL. Work with other emergency services in maintaining the incident command structure of the INEL.

Engineering Services Division

Deliver engineering services to support world-class INEL research and operations. Maintain INEL engineering standards and ensure compliance with applicable regulations and national consensus codes and standards.

Design Engineering Department
Provide design engineering services and design engineers to INEL organizations.

Conduct of Engineering Department
Functional area management of conduct of engineering. This includes engineering protocols, configuration management directives, and program management.

Training Services Division

Develop and deploy laboratory-wide training, qualification, and programs and instructional resources that enable world-class research and operations.

Center for Human Performance Improvement
Evaluate performance in the field and make recommendations where modifications to practical or theoretical training are needed to improve the execution of personnel performance in the field.

Training Program Management
Responsible for maintenance of INEL policies and procedures for implementing required training for INEL personnel.

Site-Wide Training Support Department
Deliver training and coordination resources of technical training requirements.

Nuclear Facility Training
Responsible for the maintenance of the required training for personnel operating in or required to operate within INEL nuclear facilities.

Engineering Technical Training
Develop and deploy a systems training program to provide support of INEL facility operations.

Physical Assets M&O Services Division

Provide safe, effective, and efficient operation of facility and INEL land assets through facility of nonnuclear facilities management and maintenance and real estate services. Provide power management and life safety systems. Take a leading role in improving facility utilization services efficiency and reducing unneeded footprint.

Operations Department
Operate the infrastructure support systems for INEL, including building management, roads and grounds, life safety systems, and power, water, sewer, and steam systems.

Nonnuclear Facility Operations
Overall responsibility for operations of systems and overall operation of non-nuclear facilities on site. Function as facility or building owner (the landlord).

Project Management
Provide project management services to the BAAQO organization infrastructure and business management to address subcontracting issues in execution of the F&MO responsibilities.

Roads and Grounds
Responsible for maintenance of roads and grounds to include snow removal, overall routine maintenance including snow removal, and assistance with emergency response to fires on the site.

Utilities
Responsible for operation of site systems for water, steam, and sewage.

Power Management
Responsible for operation of site electrical system and switching up to defined facility interfaces.

Life Safety Systems
Responsible for surveillance, operation, and inspection of site life safety systems.

Maintenance Department
Maintain the INEL complex, facilities equipment and grounds. Home organization for some matrix maintenance personnel.

Technical Support and Material Control
Provide technical support to maintenance organizations in the procurement and management of support assigned maintenance tasks.

Real Property Maintenance
Responsible for centralized manufacturing, craft support (labor management), and utilities maintenance.

Maintenance Coordination
Responsible for providing maintenance SME support, work coordination, project control and maintenance systems applications and performance.

General Services
Responsible for fleet transit services, civil engineering support equipment, and food services.

Nuclear Facility Program Maintenance
Responsible for nuclear facilities maintenance for nonnuclear facilities and BAAQO systems.

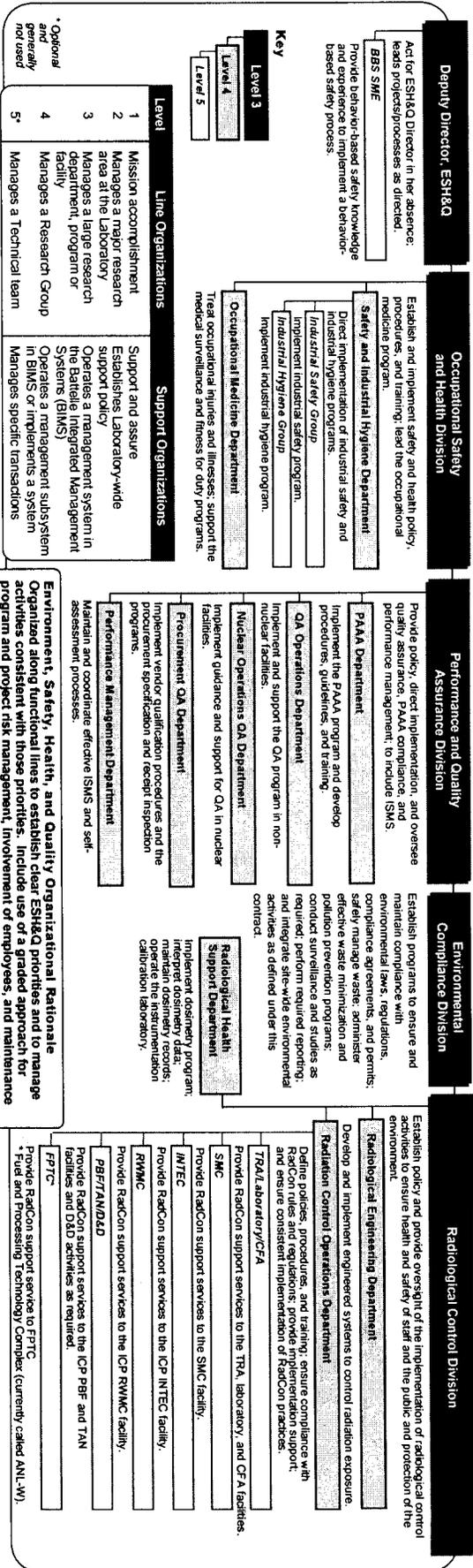
Maintenance and Repair Team
Responsible for quick response repairs of a low-hazard nature in nonnuclear facilities.



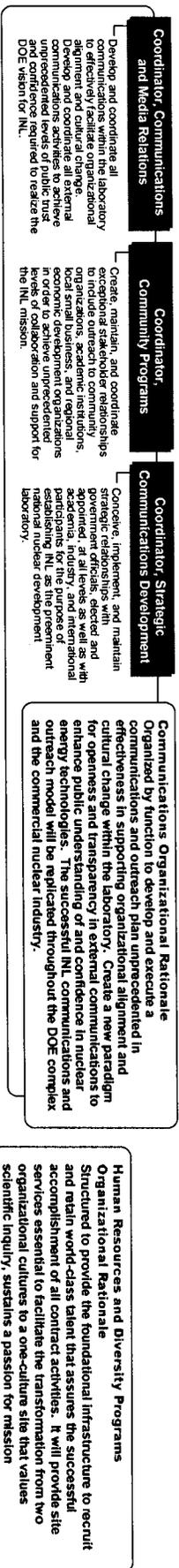
Level	Line Organizations	Support Organizations
1	Mission accomplishment	Support and assure
2	Manages a major research area at the Laboratory	Establishes Laboratory-wide support policy
3	Manages a large research department, program or facility	Operates a management system in the Battle Integrated Management Systems (BIMS)
4	Manages a Research Group	Operates a management subsystem in BIMS or implements a system
5*	Manages a Technical team	Manages specific transactions

* Optional and generally not used

ENVIRONMENT, SAFETY, HEALTH, AND QUALITY DIRECTORATE



COMMUNICATIONS DIRECTORATE



HUMAN RESOURCES AND DIVERSITY PROGRAMS DIRECTORATE

