

**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. Our resource commitments come from BEA Team members and a wide range of collaborators.

Provider	Resource Commitment	Type of Resource Commitment		Benefiting INL Area	
		Direct ⁽¹⁾	Program ⁽²⁾	Nuclear Energy	National Security and S&T and Education
Battelle Energy Alliance	1. Upgrades to Advanced Test Reactor Research Capability and Fuel Line	\$20M		4	4
Battelle Memorial Institute	2. Support for Education Programs	\$6M		4	4
	3. Construction Funding Support for the Center for Advanced Energy Studies (CAES)	\$7M		4	4
BWXT	4. National Security Consulting and Access to Battelle Ventures		\$2.0M		4
	5. Access to BWXT Lynchburg Technology Center (LTC)		\$1.5M		4
	6. Provision of BWXT Integrated Fuel Processor	\$14M		4	4
Washington Group	7. Transfer of Smart Secure System Technology	\$0.25M	\$5M	4	
	8. Design and Construction Management Services for the CAES	\$1.12M		4	4
Electric Power Research Institute	9. Establish the Center for Nuclear Fuels and Materials Research (CNFMR)		\$41.2M	4	
	10. Access to EPRI's Technology Application Centers		\$2.9M	4	4
	11. Provision of Technical Support to Critical Infrastructure Testbed		\$1.8M		4
State of Idaho	12. State Support for CAES	\$7.2M		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'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
BNFL Inc.	19. Support the Center for Nuclear Fuels and Materials Research – BNFL Ltd.		\$1.5M	4	
Westinghouse Electric Corp	20. Support the Center for Nuclear Fuels and Materials Research – WEC		\$1.5M	4	
British Nuclear Fuels – Plc	21. Support the Center for Nuclear Fuels and Materials Research – BNFL			4	
British Nuclear Fuels – NSTS	22. Support the Center for Nuclear Fuels and Materials Research (CNFMR)		\$30M	4	
AREVA	23. Support of the Center for Nuclear Fuels and Materials Research (CNFMR)	\$2M	\$20M	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		4	4
Total		\$59.7M	\$107.64M		\$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):

- **\$1M – Remanufacture and Reinstall the Irradiation Test Vehicle (ITV).** The ITV is a unique test facility located in the Center Flux Trap of ATR. The ITV will be removed during the upcoming Core Internal Changeout, due to lack of a replacement facility. The ITV provides a flexible, individually controlled, reconfigurable, multi-capsule testing capability for conducting high-temperature irradiations in the ATR. Reinstallation of the ITV will support a wide variety of potential customers desiring to conduct material testing (e.g., graphite) or fuel testing in a high-temperature and high-flux gas environment.
- **\$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 – Sitewide 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 out 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.

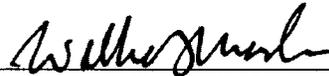
9. How the resource will be integrated into the INL:

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.

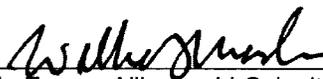
9. How the resource will be integrated into the INL:

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, exempt from Federal income taxation, issued by Idaho State University to finance one-half of 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 of Resource:

The CAES facility will be located in Idaho Falls, Idaho, on land donated by Idaho State University and the University of Idaho.

3. Monetary Value

Estimated Total Monetary Value: \$7 million (guarantee). This commitment is a guarantee that will mature into an obligation only if the rent payments for BEA's occupancy of one-half of the CAES facility are insufficient to amortize the bonds issued by Idaho State University. The maximum liability assumed by Battelle is \$7 million (plus accrued interest).

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:

Within 90 days of contract signing, Battelle will submit a CAES development proposal to the DOE for their concurrence. 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 ~ 50 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 \$7M in bonds.

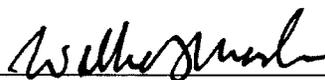
9. How the resource will be integrated into the INL:

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

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 #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

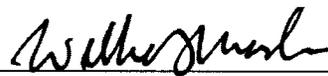
9. How the resource will be integrated into the INL:

- 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 – Washington Group International

I am committing the following resources to the INL:

Resource Description:

Transfer of Smart Secure System Technology. Washington Group commits to move its civilian and defense Smart Secure Systems technology products and services business to Idaho Falls and continue further product development, testing, marketing and production. This technology will enhance and grow INL's nuclear energy, national security, and science and technology programs.

2. Location of Resource:

Equipment systems and resources located in Los Alamos and Carlsbad, New Mexico, to be consolidated and moved to Idaho Falls.

3. Monetary Value

Estimated Total Monetary Value: \$250,000 – Value of test bed equipment (direct)

Estimated Total Monetary Value: \$5M; \$500,000 per year of INL associated programs

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

The National Security Program benefits from this commitment. INL can use personnel, equipment and system components provided by Washington Group for research and demonstrations related to Homeland Security activities, as well as other types of S&T. The ability to monitor, track and survey shipments of sensitive material and equipment in a cost-effective manner has taken on significant importance since 9/11/2001. Washington Group has developed and has a patent pending on a series of smart secure systems for the real-time tracking and monitoring of materials, equipment and containers using a state of the art Global Positioning System (GPS). The systems are cost effective and have been demonstrated for the DOE and DoD. Washington Group commits to move the further development and deployment of its Smart Secure Systems technology from its current locations to the Idaho Falls area. Washington Group will procure INL resources for further development of the technology and will also allow INL to use the technology on a royalty-free basis for the shipment of sensitive materials and components. Further, Washington Group will provide up to 5 test bed demonstration units for use within the Laboratory as part of our team's commitment to grow INL's Homeland Security mission.

Research reflects that the use of this technology could save more than \$300 million a year in material tracking costs. As smart secure systems/container technology matures and is put to effective use, it will generate benefits for industry and could save the U.S. economy more than \$1 billion per year. The benefits will come from fewer delayed and misrouted shipments; improved just-in-time reliability; reduced inventories; better container, chassis, and terminal efficiency; reduced theft and insurance costs; and reduced vulnerability to container-borne terrorist attack. Washington Group's market analysis reflects \$100 million per year of potential business, of which they would conservatively garner \$500,000 per year for INL-based programs over the life of the contract. There would be an increase in utilization of Laboratory resources and manufacturing opportunities as the GPS system is added to containers and other equipment that could be produced locally. This impact could be up to \$5 million per year (up to \$50 million over the contract term) as the cost of the tracking equipment is approximately 10 percent of the value of the containers it is currently used to track.

5. Date the resource will be provided:

Offices and equipment to be relocated to Idaho Falls within one year from contract start date.

6. The resource will be provided by:

Washington Group International

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

None

8. How the resource will be managed:

Washington Group International will supply personnel resources to manage this business. The Laboratory Director's office may request the use of Washington Group equipment and personnel on an as-needed basis.

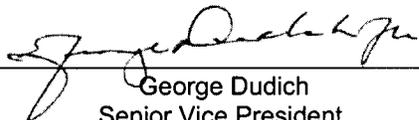
9. How the resource will be integrated into the INL:

Washington Group's resources will work at the direction and discretion of our proposed Associate Laboratory Director for National and Homeland Security. These resources will work in a secured and integrated fashion with INL employees while performing the requested work activities. We will use local suppliers and manufacturers to support this business. Washington Group will test/demonstrate new concepts and ideas at the INL prior to deployment in the marketplace. INL will receive access to the system's performance data and will be able to integrate these data into other DHS missions being conducted at the Laboratory. For example, the Smart Secure Systems technology will be integrated to other similar remote platforms at INL such as the remotely piloted aerial surveillance platforms.

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

During the term of the contract, Washington Group will grant DOE an irrevocable, non-exclusive, royalty-free license to use the intellectual property for INL-funded activities

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



George Dudich
Senior Vice President,
Washington Group International

Resource Commitment Form #8 – Washington Group

I am committing the following resources to the INL:

1. Resource Description:

Design and Construction Management Services for the CAES. Washington Group International will provide design and construction management services for the Center for Advanced Energy Studies (CAES) at cost with no profit.

2. Location of Resource:

Washington Group Corporate Resources in Boise, ID, and Denver, CO, will provide design and construction management services for the CAES, including conceptual, preliminary and final design services. Washington Group will use local and regional craft, contractors, and suppliers in the completion of the Center.

3. Monetary Value

Estimated Total Monetary Value: Foregoing profit on \$14M at 8 percent - \$1,120,000 (direct)

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

All programs at the INL (Nuclear Energy, National Security, Science & Technology, and Education) will 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.

5. Date the resource will be provided:

Conceptual design activities will commence within 180 days of the contract start date, anticipated to be February 1, 2005.

6. The resource will be provided by:

Washington Group International

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

Requires a subcontract stipulating "no profit" between BEA and Washington Group for the design and construction management services. Assumes that funding is secured for the Center by BEA as discussed in the BEA Resource Commitment forms #3 and #12.

8. How the resource will be managed:

Washington Group will be responsible for the design and construction management of the facility under the oversight of BEA. BEA will coordinate the facility design and construction with DOE. Through a separate agreement between BEA and Washington Group, the design and construction management services will be reimbursed at cost. BEA and Washington Group will develop subcontract agreements for subcontracted construction labor and materials.

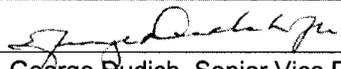
9. How the resource will be integrated into the INL:

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):

N/A

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

I am committing the following resources to the INL:

1. Resource Description:

Provision of Technical Support to Critical Infrastructure Testbed. EPRI will provide resources in the electric power transmission security areas to extend the INL critical infrastructure protection and grid security. EPRI resources committed to INL are summarized below:

- Technology transfer process including pre-qualification of critical infrastructure research and development products. EPRI's network of domestic and international clients and customers opens up a vast market for the qualified products of INL R&D.
- EPRI IP valued at \$1 million per year will be made available to INL in areas relating to critical infrastructure R&D planning, operations, security and maintenance.
- The 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 Managers of Power Delivery and Markets (PDM), on a 0.45 FTE basis to support program development, technical evaluation, technology transfer, program audits and assessment, and program promotion, and act as representatives to the industry and regulatory groups such as Edison Electric Institute, Federal Energy Regulatory Commission, and North American Electric Reliability Council.

EPRI PDM staff will be available to assist in technology transfer of products and services related to the T&D industry on an as-needed basis.

2. Location of Resource:

3412 Hillview Avenue, Palo Alto CA 94304-1395

3. Monetary Value

Total Monetary Value: \$1.8M (Total staff allocated to the resource will be 0.45 FTE (program)
Total Estimated Monetary Value: \$10M (1M per year IP for 10 years) (access)

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

This commitment benefits the National Security program at INL. Critical (electric power) infrastructure test bed and analytical Homeland Security programs will benefit from direct interface with the electric transition and distribution industry. This interface will provide direct connection between the work being evaluated and performed and those who will apply it. Feedback from industry will enhance the technology direction for future work.

The programs will also benefit from the past research in this area and the associated IP. This will provide rapid start-up capability.

Technical expertise will be available for the entire scope of the power system evaluation – from the generator busbar through the delivery system to the microchip in the end use device.

5. Date the resource will be provided:

The resources will be available within 90 days of the project start.

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 PDM personnel. The PDM Director will manage the resources. His interface at INL will be through 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 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, which will develop appropriate use licenses.

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 #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:

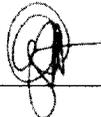
The State of Idaho will work with DOE, Battelle, Washington Group, and BEA to integrate CAES activities with INL operations. BEA will coordinate activities with the DOE as set forth in the requirements of the RFP.

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



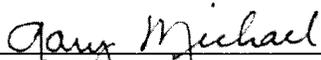
Mary Givens
State of Idaho CST Contract Officer

For Idaho State University



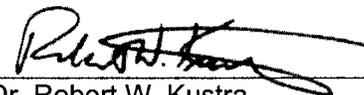
Dr. Richard L. Bowen
President

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.

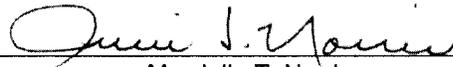
9. How the resource will be integrated into the INL:

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 ^{60}Co 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 ^{41}Ar . 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 University 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.

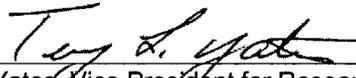
9. How the resource will be integrated into the INL:

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)

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. In concert with the development of that proposal, EDS will establish 150 new jobs in the local community or at the Laboratory within the first 5 years of the contract.

2. Location of Resource:

Planning will be conducted at INL. Growth and relocation of 150 jobs will be in the INL area.

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 20171

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:



Deborah Dyer Johnson, EDS
U.S. Government Services

Resource Commitment Form #19 – British Nuclear Fuels Limited, Inc. (BNFL)

I am committing the following resources to the INL:

1. Resource Description:

Support the Center for Nuclear Fuels and Materials Research BNFL Ltd. BNFL commits to support EPRI in the establishment of a Center for Nuclear Fuels and Materials Research at INL. In addition to the National Science and Technology Services (NSTS) and Westinghouse Electric Company (WEC) staff to be located at BNFL's headquarters for U.S. nuclear program support in Idaho Falls, resources from BNFL Inc. Technology Group will be deployed to INL. BNFL, Inc. will provide the Director of the Idaho Falls operations and two additional staff, experienced in management of technology programs and technology transfer in the area of nuclear fuel cycle.

2. Location of Resource:

Currently at various BNFL Inc. facilities but will be located in Idaho Falls/INL

3. Monetary Value:

Total Monetary Value: \$1.5M 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 and 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. The manager will be a member of the BNFL Group Technology Executive and other relevant committees with links to BNFL Group programs and strategies to facilitate and represent the interests of the INL.

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.

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



Phillip Strawbridge, President and Chief Executive Officer
BNFL Inc.

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.

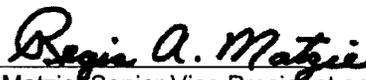
9. How the resource will be integrated into the INL:

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 – BNFL Public Liability Company

I am committing the following resources to the INL:

1. Resource Description:

Support the Center for Nuclear Fuels and Materials Research – BNFL plc. BNFL commits to support EPRI in the establishment of a Center for Nuclear Fuels and Materials Research at INL. BNFL plc 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. These activities, particularly related 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. BNFL expects that its U.S. Nuclear Programs Headquarters could attract up to 200 new science and technology jobs to INL covering the full spectrum of NE program activities – 1/3 based on complementary program activities, 1/3 based on advanced reactor technology resources, and 1/3 based on a growth in joint industry – National Laboratory work in this area.

BNFL will, subject to the necessary corporate approvals and 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. This information will be available for researchers and planners to use to reduce risk, cost and schedule uncertainties and to avoid expensive U.S. duplication of UK research that is being or has been carried out.

BNFL also commits to the participation of its Director of Technology, Dr. Sue Ion, as a member of a subcommittee of the BEA Board.

To enhance INL international partnerships, BNFL will provide support for an INL European office. This office will build on the already-strong links that BNFL has established within the European Union and with other European partners. BNFL also will invite INL staff to chair a semi-annual International Research Planning meeting hosted by BNFL.

In addition, BNFL will work with INL to jointly identify synergies from operations, which offer marketable services in the international research market. One example is the post-irradiation examination facilities at BNFL's Sellafield site in Europe, coupled with the materials test reactor of INL, to offer enhanced services to customers. BNFL will commit to working with INL to identify and exploit such opportunities. In support of these activities, BNFL commits to developing a joint communications strategy, i.e., marketing literature, press articles, joint conference papers to promote the research alliance in the areas identified.

2. Location of Resource:

BNFL Group Headquarters, UK

3. Monetary Value:

Estimated Total Monetary Value: \$50M (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 (AFCI), NGNP, and Nuclear Energy will benefit specifically from the fast reactor related work.

5. Date the resource will be provided:

Commencement of contract.

Resource Commitment Form #21 (continued)

6. The resource will be provided by:

The commitment is from BNFL plc; 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 part 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 an approved information access plan is in place regarding any and all material obtained under this commitment.

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

This resource commitment is subject to corporate approvals. BNFL information must be protected in an appropriate manner to the satisfaction of BNFL and will, in turn, result in BNFL 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. Sue Ion
Executive Director of Technology, BNFL Group

Resource Commitment Form #22 – Nuclear Science and Technology Services (NSTS), a BNFL Company

I am committing the following resources to the INL:

1. Resource Description:

Support the Center for Nuclear Fuels and Materials Research – NSTS. BNFL commits to support EPRI in the establishment of a Center for Nuclear Fuels and Materials Research at INL and, subject to obtaining standard corporate approvals, to make the following commitment. NSTS is the BNFL Group entity 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.

As part of this Center, BNFL will establish its U.S. headquarters for nuclear program support in Idaho Falls. This center will coordinate joint programs between INL and UK laboratories as well as direct U.S.-wide programs involving research, development, and the provision of technical services. The office will be established with six staff sourced from NSTS and is expected to grow to at least 40. BNFL also has identified 12 staff that will transfer over the first year or so of the contract; their expertise will assist INL in achieving international recognition as a leading NE laboratory.

NSTS will also provide INL access to the BNFL Technology Center's unique facilities and capabilities for fuel cycle development, including BNFL's state-of-the-art \$300 million Technology Centre at Sellafield that houses 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 on actual cost terms, in compliance with relevant UK Government accounting rules. BNFL will promote staff exchanges between INL and NSTS.

In its expected future fuel cycle endeavors, BNFL has identified that between 2005 and 2015, programmatic investment in excess of \$30M, to be managed by NSTS, 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, NSTS commits to bringing at least \$30 million of externally (non DOE) funded research to the INL over the first 10 years of the operating contract. This expenditure will be accomplished through a reprogramming of its own planned R&D expenditure and, in consultation with DOE, help create joint, leveraged research that addresses BNFL, DOE, and UK program goals.

In addition, NSTS will provide the INL with the opportunity to compete for an additional \$15 million per year sourced from the NSTS supply chain. NSTS also commits to teaming with the INL to propose other jointly-funded R&D work to be performed at the INL.

2. Location of Resource:

Currently at various BNFL Group facilities, but will be located in Idaho Falls/INL.

3. Monetary Value:

Total Monetary Value: \$30 million (R&D programs over 10 years)

Estimated Total Monetary Value: \$300M (access to use of state-of-the-art \$300 million BNFL Technology Centre at Sellafield.

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

Advanced Fuel Cycle Initiative, NGNP, and NE through access to expertise and experience gained in ongoing UK Advanced Fuel Cycle program.

Resource Commitment Form #22 (continued)

5. Date the resource will be provided:

Commencement of contract.

6. The resource will be provided by:

The commitment is from NSTS; 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 part 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 INNL to be safely, securely, and professionally performed.

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

This resource commitment subject to corporate approvals. NSTS will have full access to and unfettered rights to use in any and all information, intellectual property, and technology resulting from such shared programs, subject to the joint program agreements.

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



Dr. Peter Bleasdale
Chief Executive Officer

Nuclear Science & Technology Services (NSTS)

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.

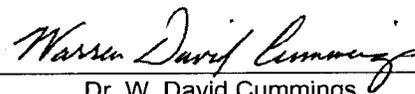
9. How the resource will be integrated into the INL:

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.

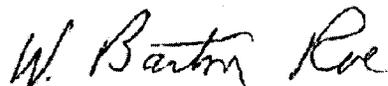
9. How the resource will be integrated into the INL:

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.

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

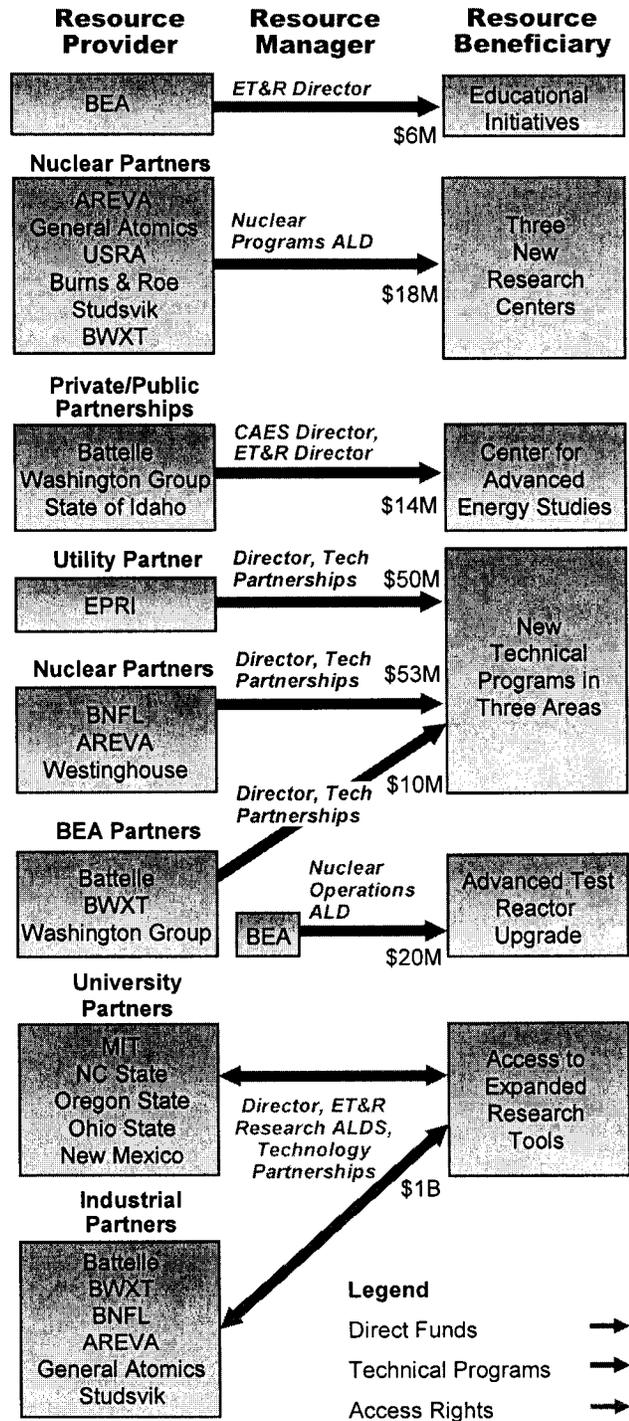


Figure 3-2. Sources and Applications of BEA and affiliates commitments.

Part III Section J, Attachment R

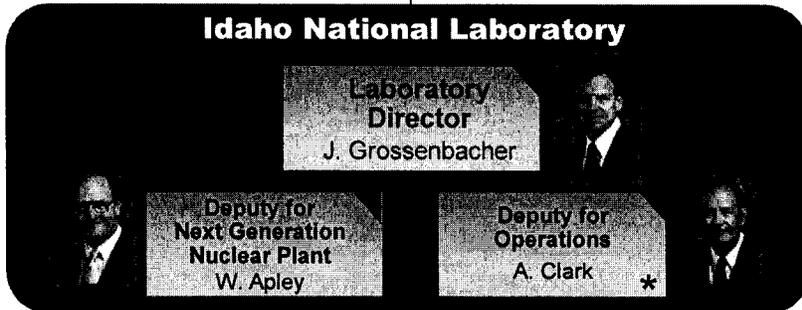
Organizational Structure

DOE

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

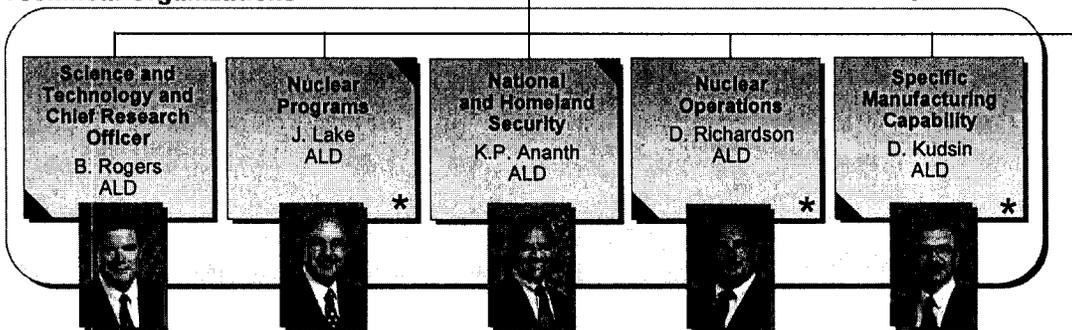
Contract Performance

Level 1



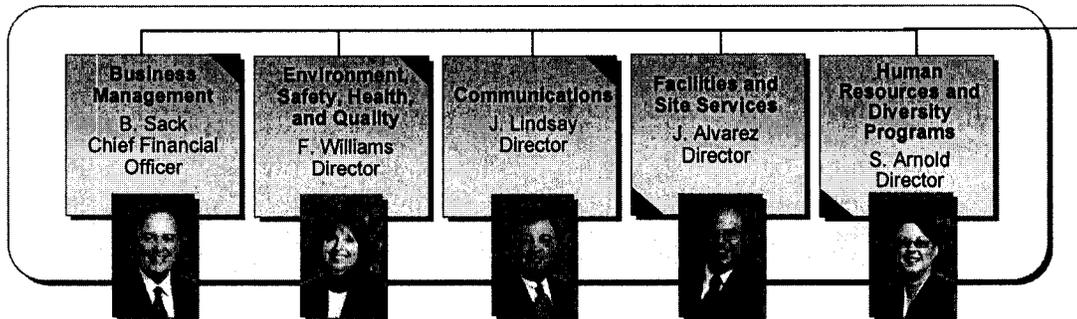
Technical Organizations

Mission Accomplishment



Support Organizations

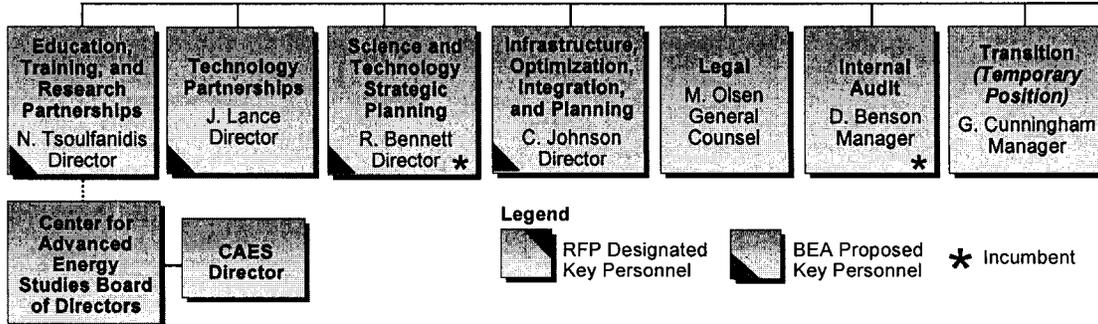
Mission Support and Assurance



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.

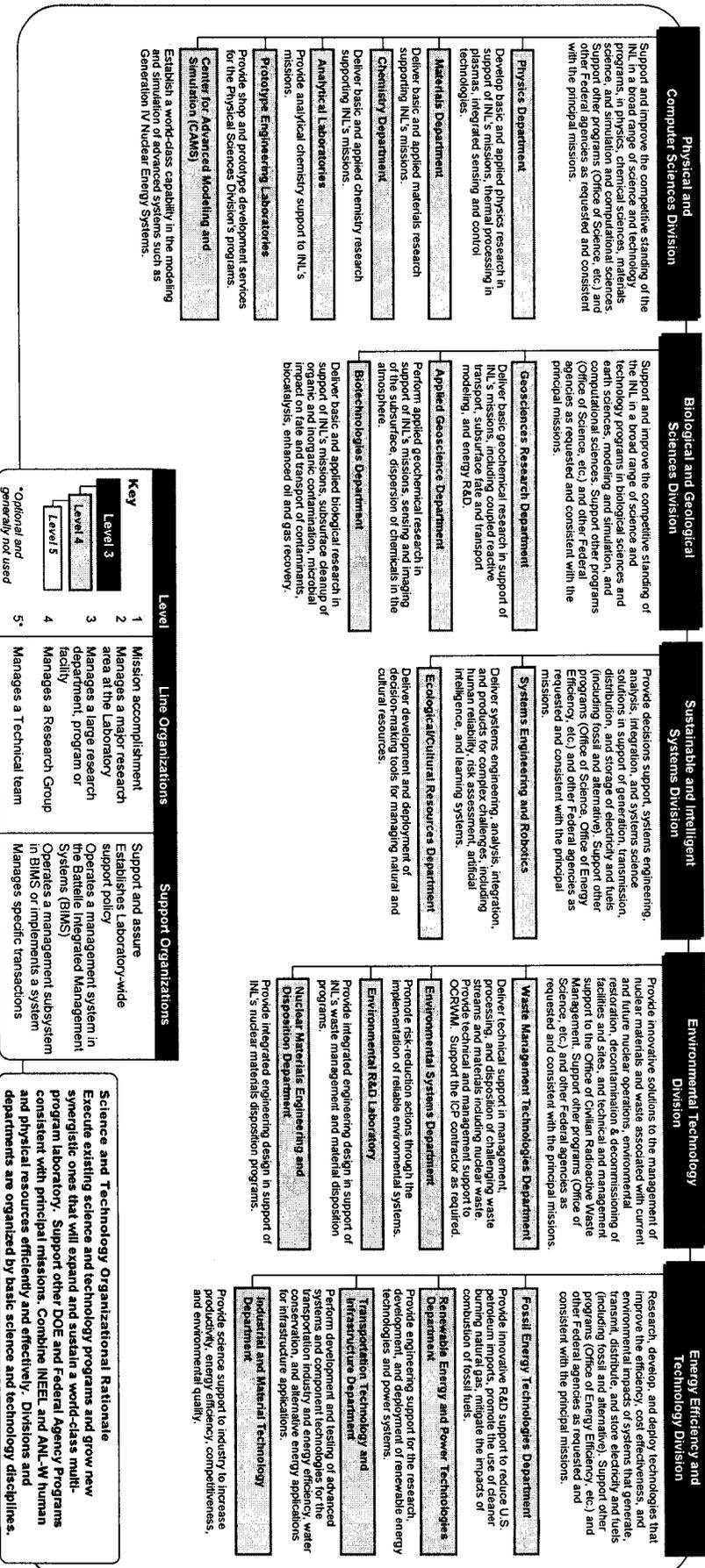
Support Directors operate their assigned functions to enable mission execution, while assuring regulatory and procedural compliance and providing stewardship of DOE assets. They establish the policies and standards for their assigned areas in consultation with their internal mission customers and with 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.

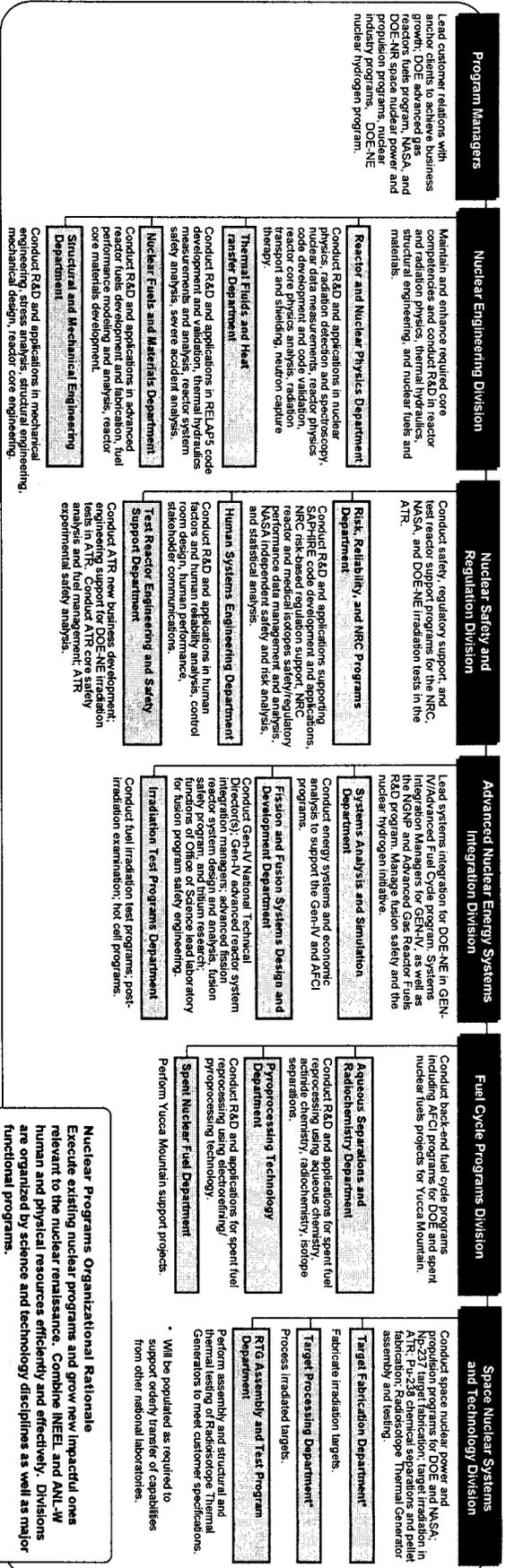
Staff Function Directors are responsible for cross-cutting assignments requiring high levels of leadership and independence. They are expected to deliver results of high strategic value, and to assure integration across INL and between INL and its partners.

- 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.

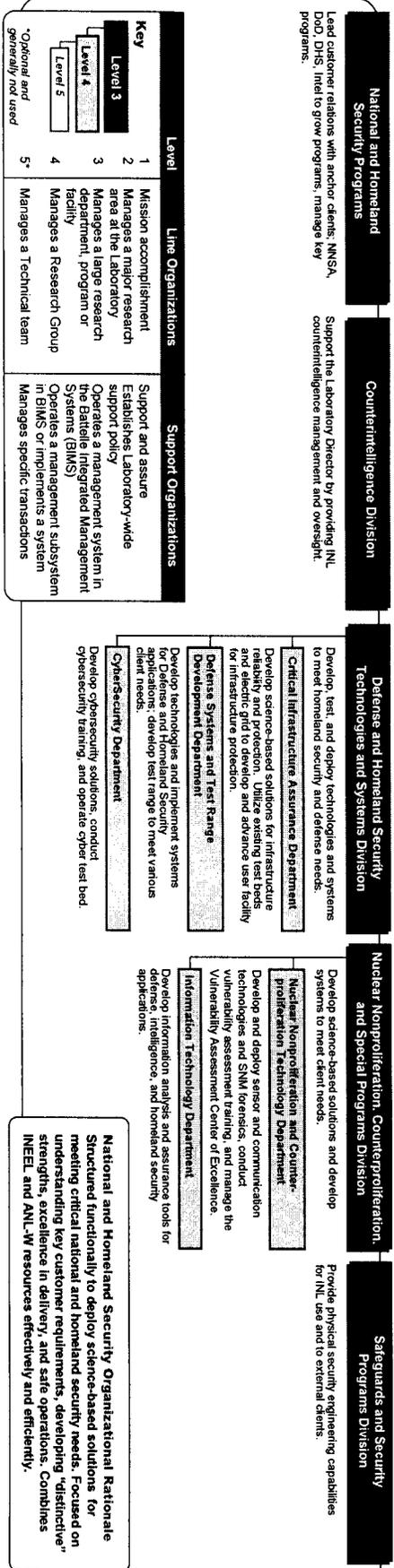
SCIENCE AND TECHNOLOGY DIRECTORATE



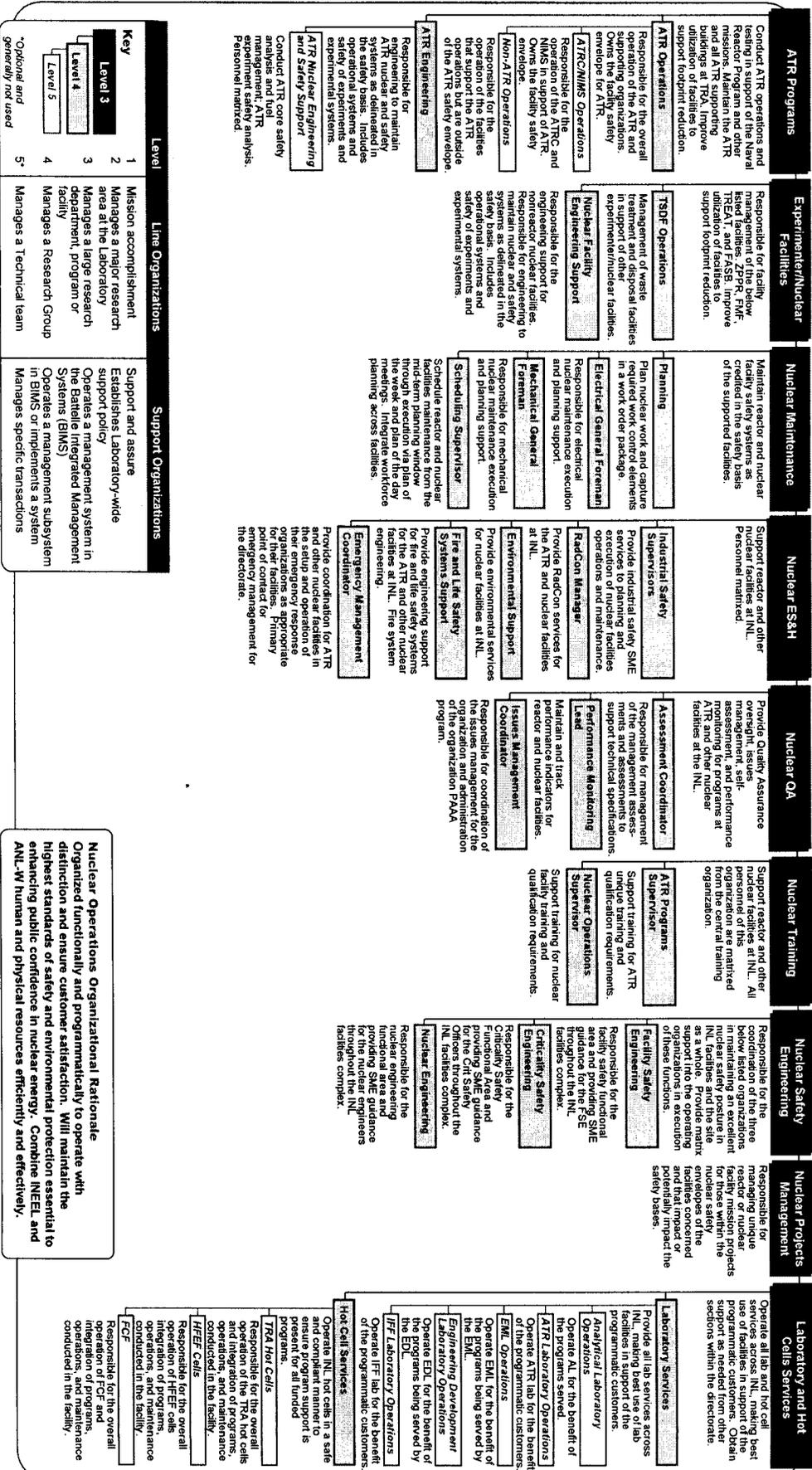
NUCLEAR PROGRAMS DIRECTORATE



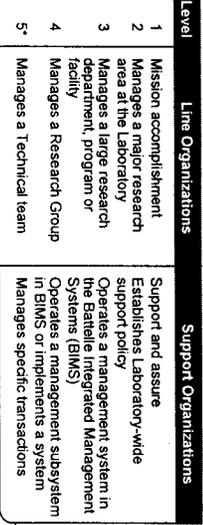
NATIONAL AND HOMELAND SECURITY DIRECTORATE



NUCLEAR OPERATIONS DIRECTORATE

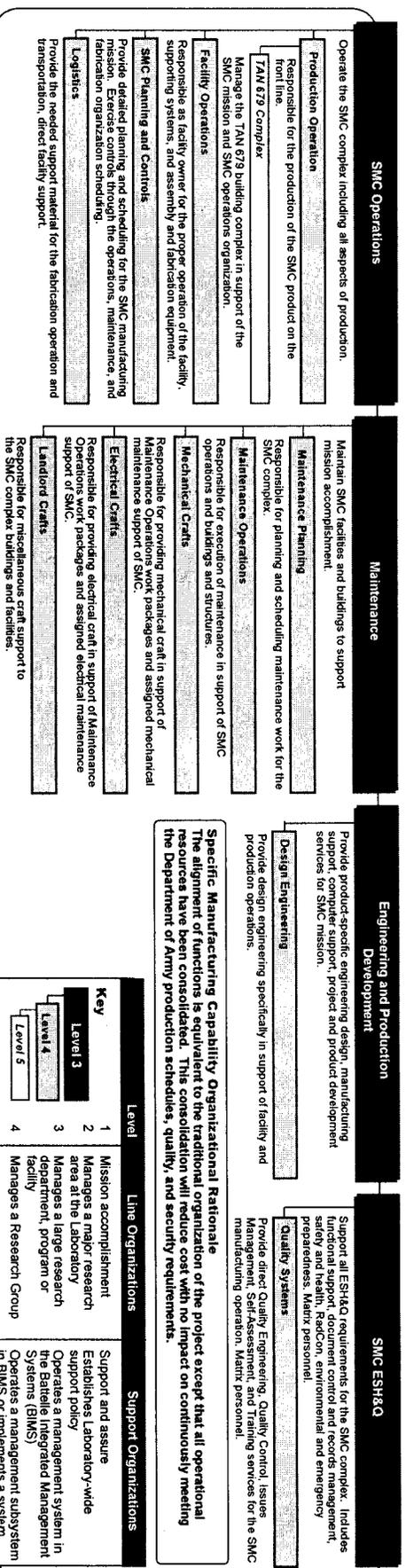


*Optional and generally not used

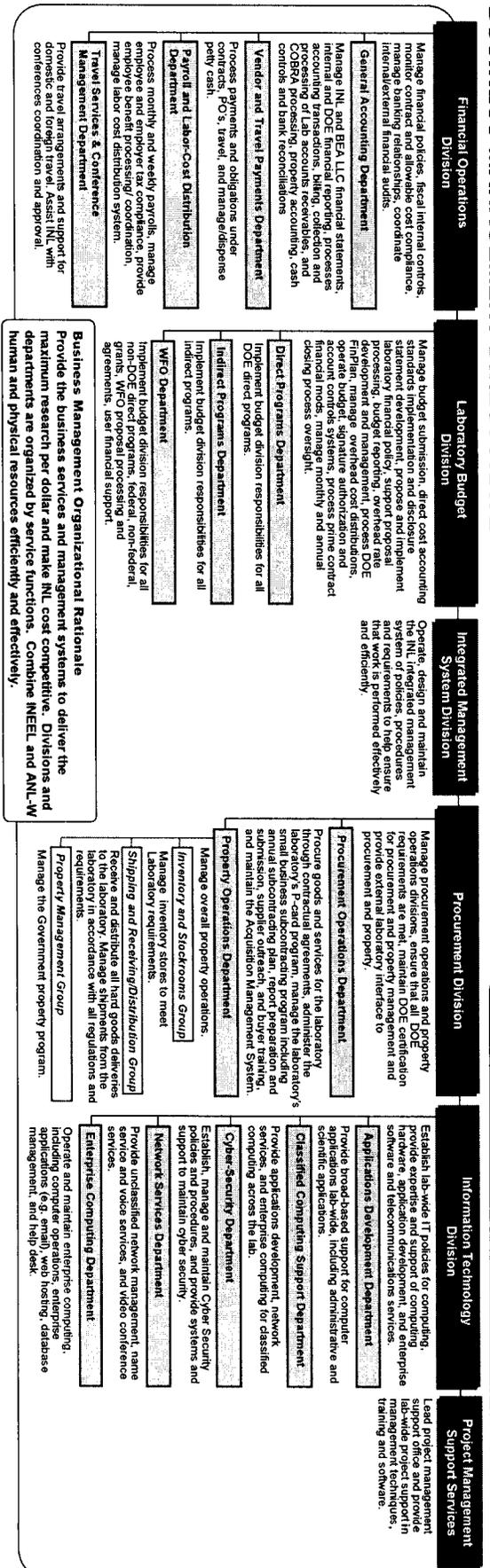


Nuclear Operations Organizational Rationale
 Organized functionally and programmatically to operate with distinctiveness and ensure customer satisfaction. Will maintain the highest standards of safety and environmental protection essential to enhancing public confidence in nuclear energy. Combine INEEL and ANL-W human and physical resources efficiently and effectively.

SPECIFIC MANUFACTURING CAPABILITY DIRECTORATE



BUSINESS MANAGEMENT DIRECTORATE



Business Management Organizational Rationale

Provide the business services and management systems to deliver the maximum research per dollar and make INL cost competitive. Divisions and departments are organized by service functions. Combine INEL and ANL-W human and physical resources efficiently and effectively.

FACILITIES AND SITE SERVICES DIRECTORATE

Document Resources Division	Security and Emergency Services Division	Engineering Services Division	Training Services Division	Physical Assets M&O Services Division
<p>Develop and manage enterprise information systems and services to provide world-class technical information in support of INL research, establish policies, procedures, and services to manage laboratory operations, and provide technical support and management services for hardware and electronic/web content generation, and provide lab-wide distribution services.</p> <p>Technical Library and Information Services Department Develop and maintain library collection and deliver library services in support of research missions.</p> <p>Reference and Circulation Group Provide library reference, circulation, inter-library loans, document delivery, and other user services.</p> <p>Library Services Group Manage library acquisitions, cataloging site licensing, and managed services.</p> <p>Systems Support Group Provide technical systems support to enterprise information management systems and related division functions.</p> <p>Publications Department Manage content generated by the laboratory from creation through publication/dissemination.</p> <p>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.</p> <p>Technical Writing and Editing Group Provide lab-wide support for preparation of documents for publication or broad dissemination, regardless of media or format.</p> <p>Photographic Services Group Produce professional photographic documentation, including still photography and video.</p> <p>Graphics Arts Group Design high-impact reports, web pages, presentations, posters, and other communications products and ensure consistent application of INL graphic identity.</p> <p>Publications Review and Release Group Administer the INL system for ensuring that scientific and technical information is subject to the required reviews.</p> <p>Copy and Printing and Distribution Services Group Provide document reproduction services including photocopying, offset printing, scanning, binding, and mail distribution services.</p> <p>Records Management Support Service Department Develop and maintain enterprise system, policies, and procedures to ensure compliant management of INL records, ensuring the accuracy, preservation and disposition of records and archival information.</p>	<p>Develop and deploy policies, programs, and resources to protect INL and ICP assets, and plan, prepare, and respond to emergencies.</p> <p>Safeguards and Security Department Maintain the INL safeguards and security posture including planning and execution of safeguards and protection strategies.</p> <p>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 INL.</p> <p>Security Operations 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.</p> <p>Physical Security Systems Responsible for the oversight, maintenance, and support of systems supporting physical security.</p> <p>Special Response Team Responsible for response in accordance with classified INL complex emergency response strategies at the INL complex.</p> <p>Safeguards/Personnel Security Responsible for the management of the SNM safeguards and administration of the required personnel security, including the Human Reliability Program administration.</p> <p>Operations Readiness Responsible for the planning and administration of exercises to evaluate the safeguards and security posture of the INL.</p> <p>Emergency Services Department Operate the emergency services of INL, to include planning, exercises, and execution of emergency response as required to protect INL assets.</p> <p>Program Implementation Responsible for the emergency preparedness of the INL. This includes training, qualification, and certification of personnel, and the development of programs in the computer and industry.</p> <p>Program Development Responsible for the development of emergency management programs for the INL.</p> <p>Fire Department Responsible for overall fire operations for the INL. Includes oversight of training, qualification, performance, evaluation, and exercises for the INL. Work with other emergency services in maintaining the incident command structure of the INL.</p>	<p>Deliver engineering services to support world-class INL research and operations. Maintain INL engineering design and design review processes in accordance with applicable regulations and national consensus codes and standards.</p> <p>Design Engineering Department Provide design engineering services and design engineers to INL organizations.</p> <p>Conduct of Engineering Department Functional area management of conduct of engineering. This includes engineering protocols, configuration management directives, and program management.</p>	<p>Develop and deploy laboratory-wide training, qualification, and programs and instructional resources that enable world-class research and operations.</p> <p>Center for Human Performance Improvement Evaluate performance in the field and make recommendations where modifications to practical or the execution of personnel performance in the field.</p> <p>Training Program Management Responsible for maintenance of INL policies and procedures for implementing required training for INL personnel. Responsible for training to fulfill site training needs and maintain central records of individual training received by site personnel.</p> <p>Site-Wide Training Support Department Deliver training and coordination resources of field training requirements.</p> <p>Nuclear Facility Training Responsible for the maintenance of the required training for personnel operating in or required to operate within INL nuclear facilities.</p> <p>Engineering Technical Training Develop and deploy a systems support of INL facility operations.</p>	<p>Provide safe, effective, and efficient operation of facility and INL 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.</p> <p>Operations Department Operate the infrastructure support systems for INL, including building management, roads and grounds, life safety systems, and power, water, sewer, and steam systems.</p> <p>Nonnuclear Facility Operations Overall responsibility for operations of systems and overall operation of nonnuclear facilities on site. Function as facility or building owner (the landlord).</p> <p>Project Management Provide project management services to the BAAQO organization infrastructure and business management to address subcontracting issues in execution of the PAMO responsibilities.</p> <p>Roads and Grounds Responsible for maintenance of roads and grounds to include mow, repair, overall routine maintenance including snow removal, and assistance with emergency response to fires on the site.</p> <p>Utilities Responsible for operation of site systems for water, steam, and sewage.</p> <p>Power Management Responsible for operation of site electrical system and switching up to defined facility interties.</p> <p>Life Safety Systems Responsible for surveillance, operation, and inspection of site life safety systems.</p> <p>Maintenance Department Maintain the INL complex, facilities equipment and grounds. Home organization for some matrix maintenance personnel.</p> <p>Technical Support and Material Control Provide technical support to maintenance organizations in the procurement and management of support assigned maintenance tasks.</p> <p>Real Property Maintenance Responsible for centralized manufacturing, craft support (labor management, and utilities maintenance.</p> <p>Maintenance Coordination Responsible for providing maintenance SME support, work coordination, project control, and maintenance systems applications and performance.</p> <p>General Services Responsible for fleet transit services, civil engineering support equipment, and food services.</p> <p>Nuclear Facility Program Maintenance Responsible for nuclear facilities maintenance for nonnuclear facilities and BAAQO.</p> <p>Nonnuclear Facility-M&O Team Responsible for quick response repairs of a low-hazard nature in nonnuclear facilities.</p>
<p>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. Combine NIEEL and ANL-W human and physical resources efficiently and effectively. Focus on reducing non-core services and functions.</p>				

* Optional and generally not used

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 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



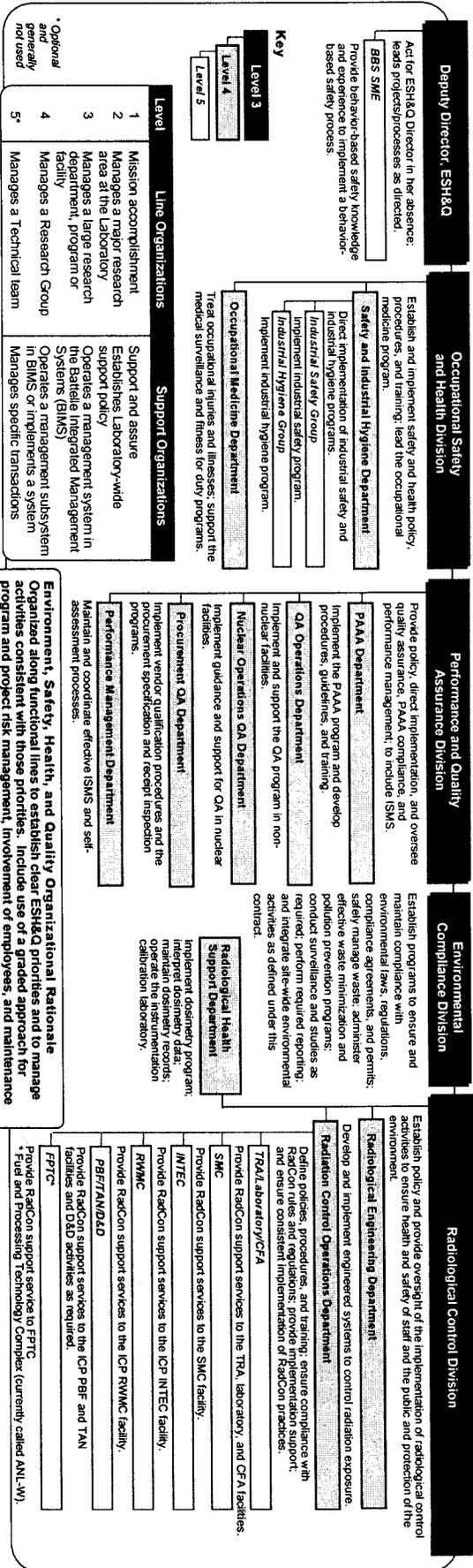
Key

Level 3

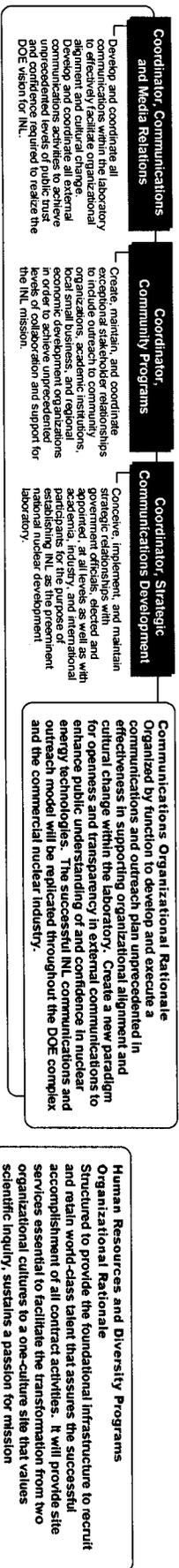
Level 4

Level 5

ENVIRONMENT, SAFETY, HEALTH, AND QUALITY DIRECTORATE



COMMUNICATIONS DIRECTORATE



HUMAN RESOURCES AND DIVERSITY PROGRAMS DIRECTORATE

