Amendment 001 to Final
Request for Proposal – Idaho National Laboratory
July, 2004

PART I SECTION C

DESCRIPTION/SPECIFICATIONS/ STATEMENT OF WORK

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Management And Operation

of the Idaho National Laboratory (INL)

DOE VISION

The Department of Energy's (DOE's) vision is for the INL to enhance the Nation's energy security by becoming the preeminent, internationally-recognized nuclear energy research, development, and demonstration laboratory within ten years. The INL will also establish itself as a major center for national security technology development and demonstration. This requires that the INL be a multi-program National Laboratory with world-class nuclear capabilities. The INL will foster new academic, industry, government, and international collaborations to produce the investment, programs and expertise that assure this vision is realized.

C.1 Introduction

The Contractor is responsible for managing and operating the Idaho National Laboratory (INL). The INL is a Federally Funded Research and Development Center (FFRDC) established under Federal Acquisition Regulation (FAR) Part 35.

This Statement of Work describes what the Contractor must achieve. The Contractor's principal focus is providing and directing resources and capabilities to support the nuclear energy and national security missions.

In addition to the broad objectives described here, the Contractor shall receive from DOE specific performance and management objectives, and performance measures. DOE shall provide these in program guidance, financial planning documents, and in other written direction in accordance with other provisions of the contract.

Organizational Conflict of Interest (OCI) and Foreign Ownership, Control, or Influence (FOCI) concerns are important and shall be considered throughout contract performance. OCI and FOCI requirements are described elsewhere in the contract.

The amount of fee earned and contract term are directly tied to achieving the DOE vision and accomplishing the requirements described in this Statement of Work. In implementing the DOE vision, the Contractor shall -

1. Establish the INL as the preeminent, internationally-recognized laboratory in nuclear energy technologies (including advanced fuel cycles).

2. Establish the INL as a major national security technology development and demonstration center.

3. Develop and implement innovative approaches and adopt practices that foster continuous improvement and efficiency in accomplishing the INL missions.

4. Maintain capabilities essential to support the INL's principal and supporting missions.

5. Enhance the INL's role as a multi-disciplinary research center contributing to other national goals and obtain international recognition in the science and engineering fields.

6. Use innovative approaches to achieve the DOE vision effectively and efficiently.

7. Consistent with its missions, make INL's unique scientific and technical capabilities, resources and services available to DOE, other Federal agencies, state and local governments, academia, and the private sector.

8. Market INL capabilities to strengthen programmatic results and impacts.

9. Solve technical, financial, and regulatory issues associated with program objectives.

10. Significantly improve the cost effectiveness of the INL and accept financial and programmatic responsibility for Contractor and Subcontractor conduct.

11. Establish and implement an effective Contractor Assurance System.

12. Identify national or commercial standards and best business practices that can be used in place of DOE requirements and implement those approved by DOE.

13. Conduct activities and the work in a manner that instills public confidence in the INL.

14. Conduct public outreach in a manner that sufficiently informs the public about, and actively generates support for, INL programs.

15. Actively recruit and retain minorities and women in senior technical and management positions.

16. Work in a manner that is safe to workers, the public, and the environment.

17. Comply with legal requirements and the terms and conditions of this contract.

18. Provide for the long-term sustainability of the INL.

C.2 Requirements

2.1 Specific Mission Performance Requirements

The Contractor shall –

1. Advance the research and development (R&D) and engineering capabilities of the INL in support of the Department's principal nuclear energy and national security missions.

2. Establish an appropriate balance among nuclear fuel cycle and nuclear energy technology development, national security, and supporting missions.

3. Maintain a strong multi-program National Laboratory recognized as a valuable science and engineering asset.

4. Win an appropriate share of competitive awards that strengthen INL capabilities where laboratories are allowed to compete.

2.1.A Nuclear Energy

The Contractor shall –

1. Act as the lead systems integrator for the DOE Office of Nuclear Energy, Science and Technology (NE) near and long-term missions to develop Generation IV (GEN IV) nuclear technologies and advanced fuel cycles, and sustain research to develop and refine peaceful use of nuclear energy to the benefit of the nation and the world.

2. Lead the U.S. research, development and exploration of Next Generation Nuclear Plant (NGNP) technologies and carry out this mission in cooperation with other national laboratories, universities, international partners, and the private sector.

   The DOE is evaluating the potential of building a prototype facility at the INL to demonstrate an advanced nuclear reactor technology coupled with an advanced hydrogen production facility. Should such a decision be made, final site selection will be subject to compliance with NEPA, other applicable laws and regulations, and the Department's project approval critical decision process. In all events, the Department intends that the INL would play a central role throughout the NGNP effort. The INL shall assist DOE in developing a viable collaborative partnering approach and licensing strategy. The INL shall assist with the establishment and administration of an international private/public consortium to design, build, and operate the NGNP.

3. Assume the lead role in coordinating the Generation IV Nuclear Energy Systems initiative including all technical work conducted by the U.S. in support of its role in the Generation IV International Forum:

   a. Lead the U.S. development and exploration of Super Critical Water Reactor technology in cooperation with collaborative partner nations and the private sector, including responsibility for the design and construction of any test, research, or demonstration capabilities required for this effort.

   b. Lead the U.S. development and exploration of Lead Cooled Fast Reactor technology in cooperation with collaborative partner nations and the private sector, including responsibility for the design and construction of any test, research, or demonstration capabilities required for this effort.

   c. Lead U.S. development and grow and maintain international collaborative relationships to develop Gas Cooled Fast Reactor technology and explore Sodium Cooled Reactor technology. Manage the selection of a future preferred fast reactor and fuel cycle system for long-term application in the U.S.

   d. Lead U.S. development and grow and maintain international collaborative relationships to develop Very High Temperature Reactor technology. Explore and manage the selection of a future preferred reactor and any test, research, or demonstration capabilities required for this effort for application in the U.S.

   e. Provide technical integration and coordination support to the Generation IV International Forum (GIF) and the Policy Group Chair. Serve as the Technical Director of the GIF Secretariat providing the necessary leadership, organizational planning, and project monitoring associated GIF R&D activities.

   Note: All work in 2.1.A.3 is to be done within existing authorities, i.e., this section is not to be read as creating any special authority to negotiate with foreign governments or companies outside the usual process.

4. Assume the lead role in coordinating and implementing the Advanced Fuel Cycle Initiative, including:

   a. Leading the development of pyrochemical processing technologies and their application to the fuel systems of relevant Generation IV technologies.

b. Leading the development of advanced, proliferation-resistant separations technologies for thermal reactor systems and their application to light water reactor and relevant Generation IV technologies.

c. Leading the development of advanced, ultra-high burnup nuclear fuels to support the highly efficient operation of light water reactor plants, NGNPs, and other Generation IV systems.

5. Assume a major role in revitalizing nuclear engineering and science education in the U.S. by:

   a. Establishing accredited nuclear technology programs to facilitate the education of nuclear engineers and scientists using regional and other universities to create a major U.S. center of advanced nuclear engineering learning. INL will also facilitate programs that train technicians.

   b. Developing relationships with Idaho Universities to deliver a strong network of science and engineering education programs at all levels with a goal of making Idaho a world-leading center for nuclear education at the master and doctorate levels.

   c. Developing relationships with universities to provide opportunities such as summer internships for exceptional students, sabbaticals for professors, sabbaticals to universities for INL scientists and engineers, and other innovative programs.

   d. Assisting in the coordination of university participation in DOE's overall nuclear technology program.

   e. Establishing a Center for Advanced Energy Studies in Idaho Falls, Idaho, as directed by DOE. The Center shall be an independent entity, in which the INL and Idaho, regional, and other Universities cooperate to conduct on-site research, classroom instruction, technical conferences, and other events for a world-class academic and research institution.

6. Support the Naval Reactors Program, including fuels and materials testing in the Advanced Test Reactor.

7. Provide the nation with needed radioisotopes.

8. Establish the required capability and facility infrastructure to allow the Department to centralize at the INL all of the nuclear operations associated with the fabrication, testing and assembly of Plutonium-238

(Pu-238) fueled radioisotope power systems that are developed and delivered to user agencies:

a. Establish, as soon as possible, the capability to domestically produce new Pu-238 using the Advanced Test Reactor and existing or new facilities to irradiate Neptunium-237 targets and process the irradiated targets to extract the Pu-238.

b. Establish, as soon as possible, the capability to store, process and encapsulate Pu-238 into fuel forms and heat sources that can be used in radioisotope power systems, including recovery of scrap Pu-238 for reuse, and coordinate with Los Alamos National Laboratory to affect an orderly transition of this capability to the INL.

c. Conduct the heat source and generator assembly and test operations that are currently being established at the INL.

9. Provide development and testing support for advanced space reactor and radioisotope power systems.

10. Participate in the DOE Office of Science (SC) fusion program as the designated lead laboratory in support of safety engineering by:

a. Identifying potential safety concerns in fusion devices and developing analytic and risk assessment methodologies to improve the safety analyses of these devices.

b. Providing fusion regulatory support in areas such as defining regulatory issues for conceptual fusion designs, developing safety guidance for magnetic fusion, and monitoring the evolution of federal regulations and DOE directives /standards.

c. Conducting fusion risk assessments and developing fusion safety codes and their application.

d. Studying the chemical reactivity of tritium, production of neutron activated fusion materials, and mobilization and transport concerns.

11. Support the Nuclear Regulatory Commission (NRC) by:

a. Providing risk, reliability and regulatory support.

b. Conducting facility-specific safe operating envelope analysis through expert hazard identification, site characterization, accident analysis and radiological analysis.

2.1.B National Security

The Contractor shall –

1. Be a lead science and technology provider in nuclear nonproliferation and counter proliferation.

2. Engage in the development, testing, and deployment of systems and technologies to protect the homeland by:

    a. Ensuring the INL becomes the leading center in the nation for developing science-based, technical solutions protecting the nation's critical infrastructure.

    b. Utilizing the INL's test bed infrastructure, such as site-wide electrical distribution, communications, cyber-security and other infrastructures to provide real world testing capabilities aimed at analyzing threats to, or vulnerabilities in, infrastructure systems.

    c. Developing solutions to identified threats and vulnerabilities and testing solution sets in real world conditions.

3. Meet Department of the Army cost, production schedules, and quality requirements for the Specific Manufacturing Capability (SMC).

4. Ensure the INL is a leading provider of applied solutions to satisfy program requirements for Defense and Intelligence Community clients.

5. Develop INL assets, both physical and knowledge based, into a comprehensive test range capability to satisfy developmental, testing and training requirements for Defense, Intelligence Community and Homeland Security clients.

6. Manage and operate the Vulnerability Assessment Center of Excellence.

7. Provide physical security engineering capabilities for use by the INL and external customers.

2.1.C Science and Technology Supporting the Principal Missions

The Contractor shall –

1. Research, develop, and deploy technologies that improve the efficiency, cost effectiveness, and environmental impacts of systems that generate, transmit, distribute, and store electricity and fuels (including fossil and alternative).

2. Support and improve the competitive standing of the INL in a broad range of other science and technology programs, such as biological sciences, earth sciences, physics, chemical sciences, materials science, fusion science, modeling and simulation, and computational sciences.

3. Establish a world-class capability in the modeling and simulation of advanced systems such as Generation IV Nuclear Energy Systems, in particular:

   a. Develop the capability to model advanced nuclear systems from the microscopic to the macroscopic level, enabling advanced experimentation involving Generation IV technologies.

   b. Explore development of an innovative affiliation with the state of Idaho, Idaho Universities and industry in the State to establish a major world center in advanced modeling and simulation. The center would conduct the analysis, research, simulation, and collection of engineering data needed to evaluate all fuel cycles from the viewpoint of cost, safety, waste management, and proliferation resistance.

4. Provide innovative solutions to the management of waste associated with current and future nuclear operations.

5. Provide technical and management support to the Office of Civilian Radioactive Waste Management on an as directed basis.

6. Support other programs (Office of Science, Office of Energy Efficiency, etc.) and other Federal agencies as requested and consistent with the principal missions.

2.2 Facilities and Operations Requirements

The Contractor shall –

1. Provide for the safe and efficient operation of all INL facilities.

2. Systematically evaluate and reduce the cost of providing mission infrastructure by better utilizing existing facilities and undertaking footprint reduction efforts.

3. Aggressively streamline, upgrade, and plan for new infrastructure at the INL using the goals and milestones contained in the INL Ten-Year Site Plan.

4. Manage special nuclear material, waste, Voluntary Consent Order items, and spent nuclear fuel in accordance with Section J, Attachment P.

2.3 General Management Requirements

The Contractor's general management responsibilities include budget and financial management; infrastructure management; property management; project management; construction management; legal services; labor relations; procurement; information resources; records management; public information and external communications; regulatory compliance; integrated safety management; emergency preparedness; transportation services; cafeteria services; counterintelligence; and safeguards and security. The Contractor's success is directly tied to the skill and innovation it brings to leading and managing the INL.

The Contractor shall –

1. Establish and maintain management systems to ensure the work is performed effectively and efficiently.

2. Ensure systems and methodologies are in place to identify and resolve financial, budgetary, and program risks and to establish priorities.

3. Accept assignment of agreements for products and services signed by predecessor contractors. The Contractor may negotiate changes to those agreements if necessary to accomplish the work.

4. Provide effective communications with DOE-NE, the Idaho Operations Office, and other lead DOE and Work for Others project sponsors.

5. Reduce or eliminate non-core services and functions through innovative business arrangements.

6. Continuously challenge laboratory practices and policies that do not provide a favorable cost-benefit return to program missions.

The Contractor shall provide strong leadership and management capabilities to the INL that specifically address -

2.3.A Efficiency

The Contractor shall improve administrative and programmatic efficiency in all aspects of contract performance. The Contractor's efforts at achieving improved efficiency shall –

1. Reduce or eliminate inefficient or unnecessary levels of management.

2. Reduce or eliminate inefficient or unnecessary functions and services.

3. Propose replacement of DOE directives with more efficient national or commercial standards or best business practices in accordance with clause H.5 entitled, “Application of DOE Directives and Alternatives.”

4. Integrate the concepts of continuous improvement into all work activities, including the use of safety and environmental management systems and independent certifications (e.g., International Standards Organization (ISO), Voluntary Protection Program (VPP) Star).

2.3.B Accountability

The Contractor is responsible and accountable for its actions and those actions of its workforce and subcontractors. The Contractor shall -

1. Establish management systems that:

   a. Contain clear lines of authority and identify a line manager accountable for each INL program, facility, and regulatory activity.

   b. Account for how funds are spent and property is managed. These systems shall be current, accurate, and auditable. The Contractor is financially responsible for funds and property as described elsewhere in this contract.

2.3.C Human Resources

The Contractor shall -

1. Establish a human relations program that assures successful accomplishment of all contract activities.

2. Recruit and retain highly skilled, experienced, world-class talent to perform the work. This includes minorities and women in senior technical and management positions. Provide a plan for implementing this provision as specified in Section J, Attachment I.

3. Resolve wage, benefit, working conditions, and employee representation issues fairly, legally, and without negatively impacting the work.

2.3.D Small Business

Small business concerns shall be afforded an equitable opportunity to compete for all contracts that they can perform to the extent consistent with the Government's interest. The Contractor shall –

1. Provide maximum practicable opportunities in its acquisitions for all small business categories listed in FAR 19.201(a). The Contractor shall identify in its Small Business Subcontracting Plan discrete, principal work

activities (e.g., information technology, ES&H support, etc.) that it intends to be performed by small businesses.

2. Consistent with the Government's interest, meet or exceed the small business goals contained in the Contractor's Small Business Subcontracting Plan.

2.3.E Collaboration

The Contractor shall –

1. Establish and maintain flexible and responsive collaborative relationships as required to perform the Statement of Work.

2. Obtain from INL collaborative partners substantial financial and technical support for INL programs. In return, DOE will consider unique and innovative approaches to information and data transfer, commercialization, and licensing of intellectual property. These collaborative relationships shall –

    a. Contribute to United States technological competitiveness by capitalizing on INL expertise and facilities.

    b. Involve a broad range of collaborative partners, including Native American Tribes such as The Shoshone-Bannock Tribes, academic research institutions, other DOE laboratories, international organizations, other government agencies, and the private sector.

    c. Establish long-term strategic cooperation aimed at commercialization of inventions or the improvement of industrial products.

    d. Make INL resources accessible to outside researchers including foreign nationals.

3. Develop and use innovative strategies for financing and investing in the laboratory's facility and capital infrastructure requirements and programs.

4. Establish a science and technology liaison with the state of Idaho.

2.3.F Technology Transfer and Commercialization

The Contractor shall maintain an active technology transfer and commercialization program using the flexibilities provided by this contract.

2.3.G Relationship with Existing Site Tenants and the ICP Contractor

The Contractor shall –

1. Assume or support, as applicable, all existing Memorandums of Understanding (MOU's) and other contracts for services and support to INL tenants described in Section J, Attachment J-F entitled, "Tenant Agreements." The Contractor may suggest changes to those agreements if necessary.

2. During the first two years after contract takeover site services shall be provided as described below.

   a. **Mandatory Site Services.** Provide to the ICP Contractor those site support services described in Section J, Attachment F-6.1 entitled, "Mandatory Site Services Provided to the ICP Contractor." The Contractor shall be responsible for these services turnkey to the ICP Contractor at essentially the same level as they exist at contract award, unless the Contractor and the ICP Contractor mutually agree to changes and DOE approves the changes. Changes may be proposed at any time after contract award. The approximate number of people currently performing these functions for BBWI is 535. The Contractor shall employ all of these employees at contract take-over. These numbers are subject to change, depending on employment levels for these services at time of takeover.

   b. **Other Site Services.** Prior to takeover, the Contractor shall have a formal agreement in place with the ICP Contractor describing how the services listed in Section J, Attachment F-6.2 entitled, "Other Site Services" will be managed. This agreement will explain how the INL and ICP Contractors divide, manage, and perform these services. The approximate number of employees currently performing these functions for BBWI is 930. The Contractor shall employ approximately 390 (42% of the total) of these employees at contract takeover, and non-labor costs for these services shall be shared with the ICP Contractor at the same percentage (ICP 58% - INL 42%), unless the Contractor and the ICP Contractor mutually agree to changes and DOE approves the changes. Changes may be proposed at any time after contract award. These numbers are subject to change, depending on employment levels for these services at time of takeover.

3. Submit to DOE-ID for approval, a jointly prepared plan with the ICP Contractor, no later than August 1, 2006, detailing the performance of all site services beyond January 31, 2007.

4. Prepare and sign an interface agreement with the ICP Contractor during transition that describes how the Contractor and the ICP Contractor will interface on cross-cutting issues such as security, facility and program transfers, regulatory compliance, assignment of subcontracts and other commercial obligations, and other arrangements of mutual benefit.

2.4 Environmental, Safety and Health Requirements

2.4.A Environmental Requirements

The Contractor shall -

1. Maintain a compliant environmental protection program addressing permitting and disposal activities.

2. Safely manage waste, including storage, treatment, and disposal of hazardous, mixed, and radioactive wastes.

3. Administer effective waste minimization and pollution prevention programs.

4. Maintain permits or parts/volumes to permits and compliance documentation for INL facilities.

5. Integrate site-wide air and water permitting, monitoring, and reporting.

6. Collect and integrate air and water permit documents and data and Emergency Planning and Community Right to Know Act (EPCRA) data from INL tenants for tenant facilities and operations where site-wide permits or reporting are required.

7. Provide information to and coordination with the ICP Contractor for its maintenance of the site-wide Resource Conservation and Recovery Act (RCRA) permit and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) agreement.

8. Integrate required site-wide environmental surveillances or studies not covered under CERCLA or RCRA. (Site-wide CERCLA and RCRA activities are the responsibility of the ICP Contractor.)

9. Perform other environmental reporting as required by the regulations. This may require coordination with INL tenants.

10. Perform all WAG 9 (ANL-W) CERCLA work scope. All other CERCLA work scope is the responsibility of the ICP Contractor.

2.4.B Safety Requirements

The Contractor's ability to work safely is critical to successful outcomes. The Contractor shall –

1. Establish clear safety, environmental protection, health, and quality assurance priorities and manage activities consistent with those priorities.

2. Use a graded approach to program and project risk management.

3. Have an effective employee involvement program.

4. Maintain an effective integrated safety management system.

2.5 Laboratory Consolidation and Transition Requirements

2.5.A Consolidation

A critical aspect of contract performance is consolidation of programs, facilities, operations, and personnel formerly administered by the Idaho National Engineering and Environmental Laboratory (INEEL) and Argonne National Laboratory-West (ANL-W). The Contractor shall ensure-

1. Consolidation of INEEL and ANL-W facilities, operations, and services occur early in the contract to reduce both the existing building footprint square footage and laboratory overhead costs to a level that is both highly efficient and operationally effective.

2. Continuity of operations and program execution during the consolidation process and at all times during contract performance.

3. The INL operates and is recognized as a completely integrated organizational entity.

4. A laboratory culture focused on delivering world-class science and technology outputs.

2.5.B Transition

The Contractor shall efficiently and effectively complete the transition from the incumbent contractors by the end of the transition period in Section F, F.1 entitled, “Term of Contract.” The Contractor shall use the transition plan submitted with its proposal to begin transition activities. The Contractor shall submit a final transition plan not later than 10 working days after contract award date. The transition plan shall be approved by the Contracting Officer.

The transition plan shall detail the Contractor’s prioritized approach to accept complete responsibility for all work scope, business systems, site services, safeguards and security operations, and environmental, safety and health management by the end of the transition period. The plan shall include a schedule of major activities, and address as a minimum:

1. Communication process among the Contractor, incumbent contractors, site tenants, the ICP Contractor, and the DOE.

2. Identification of key transition issues and milestones.

3. Identification of a transition team.

4. Integration of work packages (direct and indirect) and budgets from incumbent contractors.

5. Approach to minimizing impacts on continuity of operations.

6. Dispute resolution.

7. Assumption of the INL's scientific programs and projects.

8. Comprehensive human resource management as described in clause H.14 entitled, "Work Force Transition and Human Resources Management."

9. Implementation of existing or proposed management systems (e.g., Project Management, Integrated Safety Management, General Electronic Data Processing, Budget and Planning, Purchasing, Material, Compensation, Labor/Payroll, Indirect and Direct Costs, Property Management, Billing and Estimating).

10. Assumption of all ES&H responsibilities, functions, and activities.

11. Identification and prioritization of issues after transition.

12. A detailed cost breakdown by transition activity (include cost breakdown as an appendix to the plan).

For purposes of preparing the transition plan, the Contractor should assume no government facilities, equipment, or services are available during the transition period. However, at contract award, government facilities, equipment and services may be made available in order to minimize costs.

C.3 Deliverables

Contract deliverables are defined in Section J, Attachment I entitled, "Contract Data Requirements List" (CDRL). DOE, through written direction from the Contracting Officer, may require additional reports, analysis, or other information relevant to contract performance.

The Contractor shall define and implement a cost effective electronic delivery and retrieval system (e.g., a "repository" accessible via intranet) for the CDRL data deliverables that is accessible to the DOE customer. The system shall include a notification to DOE (see CDRL column titled "Distribution / Notification") when a document is available on the system. The general system and electronic deliverables must be accessible to a wide audience (e.g., DOE staff, possibly INL Contractor staff), however the system must also have the capability for segregating and limiting access to

information which is sensitive or otherwise restricted. This electronic system shall be operational prior to the end of FY2005. Until this system is operational, deliverables shall be provided in electronic form on compact disk (CD) or hard copy where required in the CDRL.