

SECTION C

DESCRIPTION/SPECIFICATION/WORK STATEMENT

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TABLE OF CONTENTS

Section	Description	Sec C Page
	CONTRACT FOCUS.....	1
C.1	BACKGROUND.....	1
C.2	GENERAL MANAGEMENT AND OPERATING CONTRACTOR RESPONSIBILITIES	2
C.3	FACILITIES DESCRIPTIONS.....	4
	ATTACHMENT C-A-1 - PROGRAM ACCOMPLISHMENT	7
	ATTACHMENT C-A-2 - LABORATORY DEVELOPMENT	22
	ATTACHMENT C-A-3 - ENVIRONMENT, SAFETY, HEALTH AND QUALITY ASSURANCE.....	26

SECTION C

DESCRIPTION/SPECIFICATION/WORK STATEMENT

MANAGEMENT AND OPERATING CONTRACT FOR IDAHO NATIONAL
ENGINEERING AND ENVIRONMENTAL LABORATORY (INEEL)

CONTRACT FOCUS

The INEEL is a science-based, applied engineering national laboratory with EM as its present lead office. It couples scientific, engineering, systems, and business management expertise through operational excellence to execute multi-programmatic missions for the Department of Energy. During the INEEL's history, Nuclear Energy, Defense, and Energy Efficiency have all sponsored major efforts in R&D, testing, and operations. The EM Program now constitutes the major portion of current and future missions, although other user organizations utilize the unique facilities and operations that comprise the INEEL. The primary focus of this contract will be to execute the EM Program's cleanup mission while developing and strengthening the quality and depth of the science underpinning of the INEEL research and development portfolio in support of national missions. The INEEL serves in a leadership role in the provision of science and technology support to the national EM program. This will involve aggressively expanding the contributions to EM nationally, as well as leveraging this science, applied science, and engineering capability to NE, NN, EE, EH, FE, DP, ER and other customers. The INEEL also serves as an NE lead laboratory, and it is planned that the INEEL will increase its contribution to broader national environmental and energy missions. An important benefit and emphasis derived from implementation of these INEEL missions is technology leveraging, which will remain a continuing focus. Significant progress and success is expected in the initial contract period, to build a base for a long-term relationship. The overall performance of the Contractor during the initial contract period will be critical in justifying the exercise of option periods, as well as impacting any competitions that may follow.

C.1 BACKGROUND

Throughout its nearly 50-year history, the INEEL has shifted direction to stay in step with world changes, fitting its core strengths with present and future needs. Today, the INEEL is a technical organization that couples highly trained technical specialists, scientific and engineering expertise with unique facilities and operations to execute missions of the Department of Energy. These missions include, fully addressing the environmental legacy of the Cold War, ensuring a secure, reliable, and sustainable national energy infrastructure, supporting national security programs, and contributing to the leadership in science, technology, and innovation.

The INEEL currently conducts a number of programs that stem from INEEL's role in winning the Cold War. These programs address the environmental legacy mission and represent a substantial portion of the Contractor workforce. Program areas include environmental restoration of the INEEL site, management of all waste streams and spent fuel toward an ultimate goal of permanent offsite disposition, and technology development to support the EM mission. The following national EM programs are managed at the INEEL: (a) National Spent Fuel Program; (b) National Analytical Management Program; (c) Mixed and Low-Level Waste Center of Excellence; (d) Mixed Waste Focus Area; (e) Plutonium Focus Area; and (f) National Transportation Program. The INEEL also has a lead role in EM integration activities.

The INEEL conducts Advanced Test Reactor operations, which includes medical and industrial isotope production, for NE, and operates the Specific Manufacturing Capability for the Department of the Army.

The INEEL conducts R&D programs under the sponsorship of all DOE program offices as well as for a variety of other Federal agencies, commercial sponsors and other non-Federal customers (e.g., Work for Others). The technical needs of the R&D customer base are extremely diverse, encompassing environmental remediation and waste management technology, national security and intelligence technology, various aspects of fossil, nuclear, and renewable energy technologies, military logistics and communications systems, agricultural technologies, and materials processing for a variety of applications. The emphasis in all of these areas is the development and deployment of fully engineered, integrated technical solutions to complex problems. There is strong emphasis on involving technology users in the R&D process to ensure that practical value is built into the solutions developed at the DOE and the INEEL.

C.2 GENERAL MANAGEMENT AND OPERATING CONTRACTOR RESPONSIBILITIES

(a) GENERAL MANAGEMENT AND OVERSIGHT

- (1) The Contractor shall be responsible for continuing and completing the effort of consolidation of INEEL facilities and operations (begun in September 1994) so that it functions and is perceived, from within and from the outside, as a completely integrated organizational entity.
- (2) The Contractor shall apply a high degree of energetic and innovative leadership to all facets of operations at the INEEL. The Contractor recognizes that there are themes associated with the vision of the Government that shall be considered in the management and operation of the INEEL. These themes are: (1) Operational Excellence – Completing our missions and delivering quality products, on time, at a reasonable cost while protecting human health and the environment. (2) Completion of the INEEL EM mission while supporting the solution of complex-wide EM problems through the application of science and technology and using the discipline of the systems engineering approach. (3) Strengthening the science underpinning of the INEEL and application of the core capabilities of this multi-program engineering and environmental laboratory to increase its contribution to solving EM, other DOE, regional, national and global issues. (4) Leveraging INEEL's and DOE's technology and research and development capability to maximize benefits to complex-wide operations and their impact through commercialization, research partnerships, licensing and other parallel paths leading to development. (5) It is anticipated that over time the EM program will be increasingly suited to subcontracting, therefore, there should be a focus on identifying technically appropriate, cost effective, Make/Buy opportunities in the EM program. (6) Regional and local community economic development, support and diversification.
- (3) The Contractor is responsible for the work and services described in this contract including the utilization of information, material, funds, and other property of the Government; the collection of revenues; and the acquisition, sale or other disposal of property for DOE. The Contractor shall manage, operate, and maintain the facilities described in Section C.3. and perform work and services, under the terms and conditions of this contract and in accordance with such directions that the Contracting Officer may deem necessary to give to the Contractor. Subject to contract terms and conditions and to Contracting Officer direction and instructions, if any, the Contractor shall use its best judgment, skill, and care in all matters pertaining to the performance of this contract.
- (4) The Contractor shall be fully responsible and accountable for the safe accomplishment of all work, whether performed by its own personnel or subcontractors. The Contractor shall be responsible for planning, integrating, managing and executing the programs, projects, operations and other activities

as described in this statement of work such that all functions are fully integrated. The Contractor shall provide general management and operating oversight including program management functions that include but are not limited to: legal services, audit services, business systems management, human resources, property management, information resources, financial support, safeguards and security, public information and external communication activities, intergovernmental affairs, training, academic affairs, procurement, and industrial relations. In addition, the Contractor is responsible for the oversight of operations, environment, safety, health and quality assurance within its own organization and its subcontractor's organizations.

- (5) DOE generally commences detailed planning for the upcoming fiscal year in April. At that time, DOE issues Program Execution Guidance (PEG) to the Contractor, which delineates the scope of work DOE expected to be performed based upon projected funding estimates. The Contractor shall use this PEG to prepare an Annual Work Plan (AWP) at the Program/Project level, as appropriate, including indirect funded activities, which provides DOE with the details of how this work will be accomplished. Upon approval of the AWP, the Contractor shall begin execution of the work. The Contractor shall maintain project/program management records, tracking, reporting and control documents for the EM program, including project baselines, resource loaded schedules, life cycle planning packages, performance metrics and change control systems.
- (6) It is recognized that complete identification of work to be accomplished under the scope of this contract is subject to change and the Contractor may be requested to perform services using existing facilities and capabilities for other Federal agencies or non-federal entities, or DOE may decide to contract portions of the work as DOE prime contracts.
- (7) The initial performance objectives for this contract are set forth in the Attachments C-A-1, C-A-2, and C-A-3 to this Description/Specification/Work Statement that may be amended from time to time in writing by the parties.

(b) OPERATIONAL EXCELLENCE

The INEEL has worked intensely on making operational excellence a cornerstone of operations and institutionalizing Integrated Safety Management. Building on the existing program, the Contractor shall promptly establish and promulgate a site-wide program that instills across the laboratory and within all INEEL facility groups an ethic for operational excellence that embraces the highest of industry and government standards. Environmental protection and safety are integral ways of doing business, and shall be instilled in all activities (both nuclear and non-nuclear) including work planning, design, construction, operations, maintenance, decommissioning and subcontract work. Strong programs are required in all environmental and safety disciplines with specific emphasis placed on occupational safety. A program for operational excellence shall establish an underlying philosophy and mindset for all of the INEEL that includes the philosophy that compliance with regulations and standards shall be complete while performing INEEL missions on time, at a reasonable cost, and protecting human health and the environment. An operational excellence program shall include a focus on the requisite rigor and discipline in all aspects of Contractor activities and, in particular, holding management and staff accountable. The graded approach is encouraged; however, it shall neither be used by the Contractor nor accepted by the Department to bypass requirements or as an excuse for substandard performance or results.

C.3 FACILITIES DESCRIPTIONS

The INEEL site occupies 569,295 acres (890 square miles) in southeast Idaho. This vast expanse of land is by itself a major DOE asset. The site consists of eight primary facility areas situated on an expanse of otherwise undeveloped, high-desert terrain. Buildings and structures at the INEEL are clustered within these primary facility areas, which are typically less than a few square miles in size and separated from each other by miles of primarily undeveloped land.

Except for the Naval Reactors Facility and Argonne National Laboratory-West, all of the primary facility areas are under the direction of the DOE Idaho Operations Office. The Naval Reactors Facility, under the supervision of the Naval Nuclear Propulsion Program through DOE's Office of Naval Reactors, is operated under a separate contract. The University of Chicago operates Argonne National Laboratory-West under the direction of DOE's Chicago Operations Office. Several INEEL laboratories and administrative offices are also located in the city of Idaho Falls, some 25 miles east of the INEEL site.

(a) RADIOACTIVE WASTE MANAGEMENT COMPLEX.

Facilities at the Radioactive Waste Management Complex are used to store and dispose of radioactive waste in a safe and environmentally sound manner. In addition to operations and administrative areas, the RWMC contains the Subsurface Disposal Area (SDA); a 97-acre area dedicated to permanent, shallow-land disposal of solid, low-level waste. The SDA also contains pits, trenches, and vaults for underground storage. The SDA has ongoing investigation and characterization activities in support of the environmental restoration program. The RWMC also contains the Transuranic Storage Area; a 56-acre area dedicated to the temporary storage of contact- and remote-handled waste. Numerous other facilities support these waste treatment, storage, and disposal responsibilities. The current focus is on retrieving waste from the earthen-covered berm and processing transuranic waste for disposal at the WIPP. Personnel are also involved in the research and development of technologies that will better enable the complex to manage waste safely and cost effectively.

The RWMC is also the future location of the Advanced Mixed Waste Treatment Facility. This facility, scheduled for completion in 2003, is being constructed and operated under a separate contract with British Nuclear Fuels, Limited.

(b) IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER

Facilities at the Idaho Nuclear Technology and Engineering Center are used to store spent nuclear fuels and radioactive wastes, treat radioactive wastes, and develop waste management technologies. The scope of the spent nuclear fuel storage and movement is increasing as additional fuel shipments are received and fuel in aging INEEL facilities is consolidated within more compliant wet storage facilities or placed in dry storage facilities. New dry storage facilities are planned, including one to accommodate the fuel that came from Three Mile Island and is currently stored at Test Area North. In addition, high-level waste and sodium-bearing waste are presently being calcined, and depending on the EIS outcome, future treatment and disposition decisions will be made and implemented. INTEC has an operational Process Equipment Waste Evaporator and High-Level Liquid Waste Evaporator to control input into the Tank Farm. Other waste management activities at INTEC include storage of the calcine and management of decontamination and decommissioning activities and corresponding waste streams. The environmental restoration activities will address extensive soil and subsurface contamination. INTEC has in-plant technology development activities to accelerate meeting the needs of the varied operations.

(c) IDAHO RESEARCH CENTER

The Idaho Research Center complex in Idaho Falls consists of Multiple Laboratory facilities including many one-of-a-kind advanced labs. They contain laboratories dedicated to the full spectrum of physical and life science. The laboratories are “modular” with respect to their provisions for ease of utility tailoring and flexibility. The IRC also includes the Electric Vehicle Battery Laboratory, the Electric Vehicle Performance Testing Laboratory, an Office Building, and other supporting buildings and facilities. In addition to the IRC, there are other advanced R&D laboratories located in Idaho Falls, including unique engineering scale-up facilities, Robotics Laboratories, material research laboratories, and advanced information technology and computer simulation and modeling facilities.

(d) TEST REACTOR AREA.

The Advanced Test Reactor (ATR) is considered the “cutting edge” of nuclear test reactors. The ATR is projected to remain a major facility for irradiation testing and isotope production until well into the 21st Century. The Test Reactor Area Hot Cells currently process and ship critical isotopes for medicine and industry that have been irradiated in the ATR and are also available for WFO projects. The analytical laboratory provides site-wide analytical services as well as research and development activities in a wide range of fields. The TRA maintenance facility provides services site-wide.

(e) TEST AREA NORTH

The Specific Manufacturing Capability is the major activity at Test Area North and is used to develop and produce tank armor for the United States Army. Other area operations, supporting wet fuel storage activities, will be phased out during the contract performance period. Environmental restoration activities are ongoing and include pumping and treating a contaminated plume from the Snake River Plain Aquifer.

(f) WASTE REDUCTION OPERATIONS COMPLEX

The WROC is divided into five areas: the Power Burst Reactor Area, the Control Area, the Waste Engineering Development Facility, the Mixed Waste Storage Facility, and the Waste Experimental Reduction Facility. The last three areas represent the primary activities and are used to safely treat, store, dispose of, and recycle radioactive, hazardous, mixed, and industrial wastes in accordance with Federal requirements. The reactor is not operational and, unless new missions are assigned, is scheduled for D&D in the outyears.

(g) CENTRAL FACILITIES AREA.

The primary activity at the Central Facilities Area is INEEL-wide programmatic support. This area is projected to continue its mission as the site's primary support area. During the last several years prior to the award of this contract, several infrastructure areas have been upgraded, such as a transportation complex, craft shops, and medical and emergency response facilities. Some of the ongoing support services include environmental monitoring and calibration laboratories, communication systems, security, fire protection, medical services, warehouses, a cafeteria, vehicle and equipment pools, power distribution, bus operations, and vehicle maintenance.

In addition to providing site support, the Transportation Complex supports several different R&D efforts, including: testing of advanced engine technologies; dynamometer testing, and testing “green” technologies for the laboratory's fleet operations. The

complex has also been involved with the development and testing of intelligent transportation systems.

(h) **FORT ST. VRAIN INDEPENDENT SPENT FUEL STORAGE INSTALLATION**

The FSV ISFSI located near Platteville, CO, stores spent nuclear fuel from the decommissioned FSV High-Temperature Gas-Cooled Reactor. This facility is NRC-licensed, and owned by the DOE. It is a massive structure with thick walls of steel-reinforced concrete, and six storage vaults at ground level. Approximately 90 percent of the spent fuel storage positions are filled at this time with no future receipts planned.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

ATTACHMENT C-A-1 - PROGRAM ACCOMPLISHMENT

This section will address summary level expectations for ongoing programs for the period October 1, 1999 to September 30, 2004. In meeting these expectations, the Contractor will seek out, and implement innovative approaches in all INEEL activities to achieve operational enhancements (e.g., pollution prevention, waste minimization, and deployment of new technologies) and cost efficiencies, with continued emphasis on operational excellence.

It is DOE's priority to execute the EM work scope in compliance with all regulatory requirements. The INEEL conducts significant site-specific and intra-site integration of EM activities, as well as performing a major role in national EM programs and complex-wide EM integration. To achieve the EM programmatic objectives, the Contractor shall continue to fully integrate all waste management and environmental activities at the INEEL to achieve cost and operational efficiencies, and to implement applicable EM complex innovations at the INEEL.

As an NE lead laboratory, the Contractor shall leverage INEEL's nuclear technology research capabilities to ensure continued success of current NE programs and to develop INEEL's nuclear energy mission by participation in new NE nuclear technology deployment initiatives. In all areas of performance, the Contractor will seek opportunities to leverage ongoing activities to expand and develop INEEL's capabilities.

(a) ENVIRONMENTAL MANAGEMENT PROGRAM

(1) Science and Technology

In accordance with its designation as the EM Laboratory, the Contractor's Laboratory Director/Organization shall provide support to EM's Office of Science and Technology and to EM Programs executed at the INEEL. On the local level, science and technology support will help assure the successful performance of the Idaho Settlement Agreement and work encompassed in the INEEL Paths To Closure document. The Contractor shall maximize the advantage of having mission implementation and technology at the INEEL. This shall include waste characterization and stabilization, bioremediation, chemical separations, geotechnical characterization, fate and transport simulation and risk assessment. A systems approach shall be applied to the optimization of both local site and complex-wide integration. Maintenance of leadership roles embodied in EM's Office of Science and Technology-designated Focus Group and EM-designated Centers of Excellence is high priority. These include: Mixed Waste Focus Area, Plutonium Focus Area, National Transportation Program, National Spent Fuel Program, National Analytical Management Program, and Mixed Waste/Low Level Waste Center of Excellence. A Verification and Validation Support function based on a combination of the Systems Integration, Technology Roadmapping and core competencies will be deployed in the service of both the local and national S&T program needs.

(2) Environmental Restoration

In 1991, the DOE entered into a Federal Facility Agreement and Consent Order (FFA/CO) with EPA Region X and the State of Idaho for remediation of the INEEL under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The FFA/CO laid out the processes and initial schedule for remediation and divided the site into 10 Waste Area Groups (WAGs). The definition of each WAG, as given in the FFA/CO, is shown in Table C-A-1.1. The

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

Contractor shall be responsible for implementation of remediation of eight of the ten WAGs; Argonne West (WAG 8) is managed by the University of Chicago under contract to DOE's Chicago Operations Office and the Naval Reactors Facility (WAG 9) is managed through the Naval Reactors Program. The expected status of each WAG at the start and end of the contract period is included in Table C-A-1.1. Past practices at the INEEL included direct injection of radioactive and hazardous waste into the Snake River Aquifer, as well as direct burial of hazardous, mixed, and transuranic wastes. Past practices also resulted in many unintentional releases of hazardous and/or radioactive materials to the ground. Because of these legacies, cleanup decisions must take into account the complex hydrology of the Snake River Plain, and the fate and transport of contaminants of concern through soils, through the vadose zone, and in the aquifer.

During this period of contract performance, WAGs 7 and 3 will be the major cost drivers for the Environmental Restoration Program.

Of particular interest within WAG 7, is the Subsurface Disposal Area, an 89-acre disposal site that includes Pit 9, and other disposal pits and trenches. It may have the largest actinide inventory of any disposal unit in the Complex, and materials were not thoroughly characterized or documented before disposal. Most of the buried waste came from weapons production at Rocky Flats, but material from every DOE Laboratory has been buried. The Record of Decision (ROD) which will identify the remedy for this area is scheduled for 2003 and could be influenced by stakeholders' concerns and the uncertainty of both historical information and technical data. The Contractor is expected to evaluate performance of technologies and make recommendations to support decision-making, as well as be responsible for successful implementation of the cleanup activities.

At WAG 3, the Contractor will be responsible for the design, construction, and operations of a soils repository and an extensive sampling program to support the Tank Farm Remedial Investigation/Feasibility Study (RI/FS). The Contractor will be encouraged to propose innovative technological approaches to achieve cleanup needs in a cost-effective manner.

In addition to these two specific areas, the Contractor shall continue to implement the eighteen RODs that have been signed, or will have been signed by October 1, 1999. From an overall programmatic standpoint, the Contractor is responsible for: (a) implementing the technical approach to cleanup outlined in each ROD, within the boundaries of the negotiated cost and schedule; (b) maintaining a records management system that meets CERCLA requirements; (c) using subcontracting approaches to provide specific skills necessary to address changing, short-term programmatic needs of remedial design and remedial action; (d) maintaining close cooperation with the R&D portion of the INEEL and other organizations to identify and use most appropriate technologies in the post-ROD timeframe, to meet long-term monitoring needs; (e) maintaining a long-term surveillance, maintenance, and monitoring program to assure continuing viability of CERCLA remedies, in a cost-effective manner; (f) reducing the inventory of old and abandoned buildings and coordinating with the remediation activities to address known and suspected soils contamination associated with these structures.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

See Table C-A-1.1 for the Environmental Restoration Program – Summary of the Waste Area Groups at the conclusion of Attachment C-A-1.

(3) Spent Nuclear Fuel

In the Idaho Settlement Agreement, the Department of Energy is required to transfer all spent fuel from wet to dry storage facilities by December 31, 2023, with the TMI-2 fuel being moved to dry storage by June 1, 2001. As part of the SNF and WM-EIS ROD, DOE spent fuel will be consolidated at INTEC for interim storage. All spent fuel shall be removed from Idaho by January 1, 2035. Spent fuel shipments, including fuel from foreign research reactors, will be shipped into Idaho during this time frame, if all DOE requirements in the Settlement Agreement are met. The Settlement Agreement requires that new dry fuel storage capacity be built and begin receiving fuel by July 2003. The DOE is acquiring this facility (which will be located at the Idaho Nuclear Technology and Engineering Center) through a DOE prime contract. Newly built dry fuel storage facilities should be NRC-licensed, so that the spent fuel can meet disposal criteria of off-site repositories. To this end, these facilities must be in compliance with:

- > 10 CFR 20 Standards for Protection Against Radiation
- > 10 CFR 21 Reporting of Defects and NonCompliance
- > 10 CFR 71 Packaging and Transportation of Radioactive Materials
- > 10 CFR 72 Licensing Requirements of the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste

The Contractor shall be responsible to manage incoming fuel receipt, manage fuel movements on site, and manage all storage facilities in a safe, compliant, and cost effective manner. During the period of performance for the Dry Fuel storage facility construction and operation, the Contractor shall maintain an effective interface with the Dry Fuel storage contractor, and provide utilities and services as agreed upon.

DOE-ID owns, and will hold the NRC-license for the Ft. St. Vrain dry fuel storage facility in Platteville, Colorado. The Contractor shall assist DOE-ID in the management of this facility, and shall comply with all applicable NRC regulations and license conditions, and with any other applicable federal and state statutes or regulations. The Section I clause of this contract entitled "Nuclear Hazards Indemnity Agreement" shall continue in full force and effect with respect to the Contractor's activities at the Ft. St. Vrain facility, except that the NRC nuclear safety related regulations shall apply instead of the DOE nuclear safety related rules.

The Settlement Agreement specifies that the INEEL is designated as the lead laboratory for spent fuel. Through the National Spent Nuclear Fuel Program, DOE uses the lead laboratory resources to direct the research, development and testing of treatment, shipment and disposal technologies for all DOE spent fuel, so that integrated solutions can be developed and implemented for all the spent fuel in the DOE complex. Also, the Contractor shall provide project management and technical services in support of the National Spent Nuclear Fuel Program's requirements to have a centralized data base, to promote the use of performance-based acceptance criteria, to have DOE-SNF included in the Office of Civilian Radioactive Waste Nuclear Regulatory Commission (NRC) license

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

application for repository storage and disposal, to assist DOE-SNF sites to characterize their SNF, to prioritize fuel transfers between sites, and to conduct the NRC-approved Quality Assurance Qualification Program for DOE sites.

Other specific milestones the Contractor shall meet are: (a) Execute transfers and receipts of approximately 2000 fuel handling units (FHU) during the five-year period. See Table C-A-1.2 for details of the INEEL Spent Fuel Program. (b) Prepare CPP-603 and CPP-607 pools for turnover to deactivation activities. (c) Prepare appropriate strategies to ensure all SNF inventoried at the INEEL, shall meet the waste acceptance criteria for the interim or final SNF repository.

See Table C-A-1.2 Spent Nuclear Fuel at the conclusion of Attachment C-A-1.

(4) High Level Waste

The strategic focus of the INEEL High Level Waste (HLW) program at the INTEC is to remove liquids, close tanks and implement final disposition of calcine while meeting legal and technical requirements. The Contractor is expected to implement the current INEEL strategy to convert the liquid HLW to a more stable, solid form that can be safely stored followed by further treatment for final disposition or implement the path forward identified in the Idaho HLW and Facility Disposition EIS ROD. Implementation for the processing and final disposition will be performed in accordance with the Settlement Agreement milestones, NON/COs, and the HLW EIS Record of Decision (ROD). As the Contractor meets these commitments, the following milestones of the HLW program will be met: (a) Final HLW EIS and Record of Decision, first quarter FY 2000 (Note: Since EIS preparation is a DOE activity, the role of the Contractor during preparation and before ROD signature is support to the Department), (b) implement EIS decisions on HLW treatment and disposition, (c) develop innovative approaches to technological applications for HLW treatment and disposition, and (d) by April 2003, five pillar and panel HLW tanks will be emptied and closed under RCRA regulations.

While the HLW program goal is processing the liquid HLW and tank closure, a key component of the contract is ongoing operations and management of the HLW Tank Farm and related operations. Approximately 1,393,500 gallons of liquid waste remains in the Tank Farm. Operations at INTEC continue to generate liquid process wastes that go to the Tank Farm. Management of these wastes involves operations of a Liquid Waste Evaporator for volume reduction, and implementation of an aggressive process waste minimization program. During the period of performance, the Contractor shall maintain effective operation of the evaporator and continue implementation of the waste minimization program to reduce the current Tank Farm liquid inventory. The Contractor shall be expected to bring innovative operational approaches to INTEC.

See Table C-A-1.3 at the conclusion of Attachment C-A-1.

(5) Low Level and Mixed Low Level Waste Streams

The Waste Management Program is involved in managing and disposing of DOE's waste. Under the INEEL Site Treatment Plan, specified waste streams may come to the INEEL for treatment, if the State of Idaho has given approval.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

The Plan requires any off-site waste received at the INEEL to be treated within six months and residues shipped offsite within six months of treatment.

The Contractor shall provide treatment, storage and disposal services for mixed low level waste until the Advanced Mixed Waste Treatment Facility (AMWTF) comes on line in 2003. At this time the Contractor shall be responsible for the RCRA closure of the Waste Experimental Reduction Facility (WERF). Waste which is part of the bermed storage shall be retrieved and staged for treatment by the AMWTF contractor. The AMWTF contractor will be responsible for off-site shipment to a disposal facility. Mixed low level waste, which is not part of bermed storage, or which will be generated as part of ongoing M&O activities shall be stored, by the Contractor pending treatment at the AMWTF. In cases where the AMWTF cannot provide treatment, the Contractor is responsible to obtain treatment, which is compatible with off-site disposal. The Contractor shall abide by a signed Memorandum of Agreement with the AMWTF contractor that outlines responsibilities for delivery schedules, infrastructure support, etc.

The Contractor is responsible for disposal at the RWMC of low level waste generated on site. Currently, it is assumed to be final disposal with the final decision for future actions determined in the ROD for WAG 7. Although site capacity will accommodate the projected volumes of low level waste, the Contractor is responsible to seek out and identify off-site low level waste options that will be viable in the future, when capacity no longer exists on site.

The Contractor shall reengineer the Waste Management Program at the INEEL by streamlining the waste acceptance process and providing technical assistance to waste generators using the best management practices currently employed by commercial treatment, storage and disposal facilities. The objectives of the reengineering should include working with the generators to eliminate waste generation, or where this is not feasible, minimizing the generation of wastes. In addition, facilitating the accurate characterization, storage, shipment, and disposal of wastes managed at the INEEL to eliminate RCRA violations is also an important objective of this improvement initiative.

The Contractor shall provide technical support and project management services to the DOE National Low Level Waste Program during the period of program performance.

See Table C-A-1.3 at the conclusion of Attachment C-A-1.

(6) Transuranic Waste

The Waste Management Program is involved in managing and disposing of DOE's waste. Under the INEEL Site Treatment Plan, specified waste streams may come to the INEEL for treatment. The Plan requires any off-site waste received at the INEEL to be treated within six months and residues shipped offsite within six months of treatment. In addition, the Settlement Agreement provides enforceable milestones for removing, from Idaho, any waste currently stored at the INEEL.

The Contractor shall be responsible for maintaining the shipment schedule to the Waste Isolation Pilot Plant that will allow a minimum of 3100 cubic meters of transuranic waste to be removed from Idaho, by the Settlement

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

Agreement Milestone date of December 31, 2002. In addition, the Contractor shall maintain safe and RCRA-compliant storage for contact- and remote-handled stored transuranic-contaminated waste at the Radioactive Waste Management Complex; provide Radioactive Waste Management Complex base facility operations support; conduct activities that support other Environmental Management programs; and complete transition and turnover of key facilities to support treatment of the remaining inventory of stored transuranic waste to the Advanced Mixed Waste Treatment Project by 2003.

See Table C-A-1.3 at the conclusion of Attachment C-A-1.

(b) EM BUSINESS MANAGEMENT

(1) EM Project Management System

The Contractor will inherit the project management culture and processes developed by LMITCO for the EM program including the established EM project baselines, integrated priority list process, change control process, execution and life-cycle planning process (including standard project management handbook), the project cost-estimating system, continued development of an integrated site-wide baseline and critical path analyses. These processes shall be expanded to functional and crosscutting activities. These processes represent systems that will be retained during the next contract period. It is not envisioned that there will be significant replacement of these systems. However, DOE will entertain approaches, which will reduce the administrative burden and increase effectiveness of this project management and other systems but not at the expense of accuracy or rigor.

(2) Complex-Wide EM Integration

The Contractor shall continue the INEEL lead role on the complex-wide effort to identify, analyze, and recommend integration opportunities that reduce the costs and risks associated with EM activities. This includes opportunities to shorten schedules for cleanup, and further the goals of the EM Accelerating Cleanup: Paths to Closure report. The Contractor shall bring innovative solutions to this process and implement any such solutions at the INEEL, as appropriate.

The following reports can be accessed at:

<http://infoshare.inel.gov/emi/emireports.html>

A Contractor Report to the Department of Energy on Environmental Management Baseline Programs and Integration Opportunities (Discussion Draft) (May 1997)

Contractor Report to the Department of Energy on Opportunities for Integration of Environmental Management Activities Across the Complex (Predecisional Draft) (March 1997)

<http://www.em.doe.gov/progint>

EM Program Integration

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

(3) New Initiatives

The Contractor shall implement a management system specifically designed to facilitate the integration of activities within and across industrial areas (INTEC, CFA, TRA, etc). Systems engineering approaches are encouraged to increase productivity and achieve life-cycle cost reductions by these industrial areas.

(c) INFRASTRUCTURE

(1) Long-term mission support

The INEEL is an EM landlord-designated site and is home to a wide range of programs, projects and facilities with multiple customers. Current and planned projects at the INEEL will require the site infrastructure to exist for at least 30-50 years. However, the site infrastructure program will exist as long as there are needs to provide support to INEEL missions and cleanup activities. The Contractor shall balance short-term pressures to improve operations and reduce costs with needed long-term infrastructure reinvestment planning. This planning shall include innovative methods to maintain an infrastructure that can support new missions as well as address current programmatic needs. Some long term areas of consideration are business systems, functional specialties, roads and utilities, emergency management, facility safety, surveillance and maintenance, safeguards and securities, and asset maintenance. The Contractor shall develop and implement an affordable, yet safety conscious and compliant integrated infrastructure program.

(2) Deactivation, Decontamination and Disposition of Excess Facilities, Structures, and Equipment

The Contractor shall develop and implement a cost effective, prioritized, yet safety conscious and compliant integrated plan for deactivating, decontaminating, and dispositioning excess facilities, systems, structures, and equipment that is no longer needed or is no longer cost effective to maintain and utilize. The intent is to identify, characterize, and disposition the legacy of previous and current missions' aging facilities and support structures/systems. The focus shall be on innovative, cost effective, and comprehensive reduction of risks to the environment, working conditions, and the public, focusing on the highest return on investment to reduce out year mortgages, balanced with maximizing risk reduction. This program is not subject to current compliance agreements, but does have RCRA closure milestone commitments to the State of Idaho. The planning must integrate with existing and ongoing missions and the Environmental Restoration Program as defined by the FFA/CO and CERCLA regulations.

(3) Ongoing contract requirements.

The Contractor shall periodically update and maintain the Comprehensive Facility and Land Use Plan (CFLUP) and all necessary supporting systems (e.g. asset inventory, condition, master planning, GIS, space management, PMIS, End State Planning, risk assessment, etc.). This plan integrates mission needs, economics, ecological, social, and cultural factors and provides a basis for facility and land use decisions.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

(4) Reindustrialization.

The Contractor shall provide support to any reindustrialization effort that may be undertaken at the INEEL. Reindustrialization is a means of reducing mortgage, expediting cleanup, and full utilization of legacy facilities.

(d) OPERATIONS

(1) Advanced Test Reactor

The TRA houses extensive facilities for studying the effects of radiation on materials, fuels, and equipment. The ATR, located at the TRA, produces a high neutron flux that allows simulations of long-duration radiation effects on materials and fuels and production of critical isotopes for medicine and industry. The primary customer for the ATR is the Naval Nuclear Propulsion Program. Other testing currently performed in the ATR includes: materials testing for the AECL (Canada) and Toshiba/Hitachi (Japan), MOX fuel testing (DOE), and Reduced Enrichment Test Reactor Fuel testing (ANL). The unique Irradiation Test Vehicle (ITV) which will significantly enhance the testing capabilities of the ATR will be installed in the ATR in early 1999 and will be operational at the start of this contract performance period. The Contractor shall be responsible to continue to expand the user base for the ATR to fully utilize the available irradiation space in the reactor. The Contractor shall continue to develop the collaborative relationships with other laboratories (e.g., ANL).

The Contractor is expected to maintain the current operating efficiency of the ATR which is at or near 100%. Operating efficiency is an incentivized measure of ability to meet operating and outage schedules and is defined as the number of hours actually at test power during a given period divided by the number of hours scheduled for test power operation during that period expressed as a percentage. For other than periodic major outage periods to replace core internals, the average operating time for the ATR is about 80%. The next major outage to replace the core internals is planned for 2002 or 2003. The Contractor shall conduct this outage on schedule and within budget. The ATR is expected to operate well into the next century. To support this long lifetime, the Contractor is responsible to plan and implement the replacement of aging utility and support systems at TRA in a cost efficient and technically sound manner.

(2) Test Reactor Area Hot Cells (TRAHC)

The TRAHC are currently under subcontract to International Isotopes of Idaho Incorporated (I4) for the purpose of marketing, processing and shipping critical isotopes for medicine and industry irradiated in the ATR. This subcontracting approach will continue under this contract. Under the subcontract, I4 operates and maintains the TRAHC. The TRAHC are available for work-for-others projects as needed. The Contractor shall retain safety management oversight responsibilities of the TRAHC.

(3) Specific Manufacturing Capability Facility

The SMC Project is a work-for-others program performed under an agreement between the DOE and the Department of Army. The main functions of the SMC Project are to produce armor for the Abrams Main Battle Tank, conduct a research and development program, and expand research and development capabilities for new Army and non-Army business. Armor unit production throughout the contract period is expected to remain at about 120 units per year. During this period, the Contractor shall

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

continue to deliver armor units on schedule, at or under budget, and with 100% quality acceptance of the final product. Federally Funded Research and Development Center status does not apply to the production operations and activities at SMC.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
 ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

**TABLE C-A-1.1 ENVIRONMENTAL RESTORATION PROGRAM
 SUMMARY OF THE WASTE AREA GROUPS (WAGS)**

Title	FFA/CO Definition	Expected Status in 9/30/99	Expected Status in 9/30/04	Principal Contaminants
WAG 1- Test Area North (TAN)	The boundary of WAG 1 includes the Technical Support Facility, Initial Engine Test Facility, Loss of Fluid Test facility, Specific Manufacturing Capabilities Facility and Water Reactor Research Test Facility fenced areas. It also includes the immediate areas outside of the fences where operations associated with these areas may have taken place.	<ul style="list-style-type: none"> - Groundwater remediation on going, removing primarily trichloroethylene - Comprehensive investigation was completed in 1997 - Comprehensive ROD signed 9/99 	<ul style="list-style-type: none"> - Groundwater remediation still on-going - V-tank cleanup done - PM-2A tanks done - All OU 1-10 Remedial Design will be done - Rad soils cleanup done - Burn pits cleanup done - Institutional controls at TSF-07 pond ongoing - Diesel spill cleanup done 	<ul style="list-style-type: none"> - Radionuclides (Cs-137) - Metals (mercury, lead) - Hydrocarbons, organic compounds, polychlorinated biphenyl (PCBs)
WAG 2- Test Reactor Area (TRA)	The boundary of WAG 2 includes the area within the Test Reactor Area fence and the areas immediately outside the fence where waste operations have taken place.	<ul style="list-style-type: none"> - Remedial Action field work complete, 10/99 - Pre-Final Inspection Report complete, 10/99 	<ul style="list-style-type: none"> - Pre-final inspection report submitted to agencies, 10/99 - Final inspection complete - Remedial Action Report complete - O&M Report complete - Five-year review, 12/02 	<ul style="list-style-type: none"> - Radionuclides (Ag-108, Cs-137, Eu-152) - Metals (mercury, zinc, manganese, barium, arsenic) - Organic compounds, PCBs

* As of October 20, 1998

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
 ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

Title	FFA/CO Definition	Expected Status in 9/30/99	Expected Status in 9/30/04	Principal Contaminants
WAG 3- Idaho Nuclear Technology and Engineering Center (INTEC)	The boundary of WAG 3 includes the area within the INTEC fence and those immediately adjacent areas where waste activities have taken place.	<ul style="list-style-type: none"> - OU 3-13 Comprehensive ROD signed 7/99 - Vadose zone and Snake River Plain Aquifer (SRPA) modeled - 40 sites subject to remedial action - Service (process) wastewater treatment and disposal system being designed - Soil repository being designed - Tank Farm Interim Action remediation being designed - Final action on INTEC Tank Farm soils being handled separately under OU 3-14 RI/FS - OU 3-14 RI/FS Work Plan completed 	<ul style="list-style-type: none"> - Completion of the Soil Repository design - Construction of the Soil Repository - Operation of the Soil Repository - Design and implement the remedial action associated with the INTEC surface soils - Construction of the service wastewater treatment and disposal system - Groundwater monitoring of the Perched Water and SRPA - Construction of the SRPA pump and treatment facility, if necessary - Completion of the Tank Farm Interim Action design and implementation of the Interim Action - Design and implement the remedial action associated with the Buried Gas Cylinders - Design and implement the remedial action associated with the SFE-20 Tank System - Implement the remedial investigation, complete the RI/FS, and prepare the ROD for the Tank Farm RI/FS project (OU 3-14) 	<ul style="list-style-type: none"> - Radionuclides (Tritium, Sr-90, Tc-99, I-129, Cs-137, Eu-isotopes, U-isotopes, Pu-isotopes, and Am-241) - Metals (Chromium, lead, mercury) - Organic compounds - Other (fluorides, nitrates)

* As of October 20, 1998

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

Title	FFA/CO Definition	Expected Status in 9/30/99	Expected Status in 9/30/04	Principal Contaminants
WAG 4- Central Facilities Area (CFA)	The boundary of WAG 4 is loosely defined, as CFA does not have an enclosing fence. However, many CFA sites investigated under the agreement are adjacent to buildings (e.g., tanks and dry wells). Others including landfills and a gravel pit adjacent to one of the landfills are located on the outskirts of CFA.	<ul style="list-style-type: none"> - Comprehensive draft ROD submitted, 7/99 - 11 sites subject to remedial action 	<ul style="list-style-type: none"> - Comprehensive ROD signed, 11/99 - Remedial action should be completed or nearing completion on all sites - Monitoring and five-year reviews will continue per the CERCLA process. 	<ul style="list-style-type: none"> - Radionuclides (Cs-137) - Metals (lead, mercury)
WAG 5 – Power Burst Facility (PBF) / Auxiliary Reactor Area (ARA)	The boundary of WAG 5 encompasses the facility locations presently or historically used within the PBF and ARA areas and those immediately adjacent areas where waste activities may have taken place.	<ul style="list-style-type: none"> - Comprehensive draft ROD submitted, 8/99 - 3 remedial actions are complete - 6 sites subject to remediation 	<ul style="list-style-type: none"> - Comprehensive ROD signed - ARA-23 soil remediated - ARA-729 tank remediated - ARA-12 soil remediated - ARA-02 seepage pit remediated - ARA-01 soil remediated - PBF-16 soil remediated 	<ul style="list-style-type: none"> - Radionuclides (Cs-137, U-235, 238, Ra-226,) - Metals (chromium, silver, mercury) - PCBs
WAG - 6/10 Experimental Breeder Reactor No. I (EBR-I) / Miscellaneous surface sites / and ground water	The boundary of WAG 10 is the INEEL boundary, or beyond as necessary to encompass real or potential impact from INEEL activities and any area within the INEEL not covered by any other WAGs. To reduce administrative costs, WAG 6, which includes the EBR-I and Boiling Water Reactor Experiment (BORAX), was combined with WAG 10.	<ul style="list-style-type: none"> - Ecological field sampling complete - 3 removal actions are complete - Site-wide modeling and ecological risk are prominent activities 	<ul style="list-style-type: none"> - Draft RI/FS will be finalized - Limited groundwater monitoring will be conducted - Development of Proposed Plan - Development of the ROD 	<ul style="list-style-type: none"> - Radionuclides (Cs-137, Sr-90) - Metals (lead, mercury) - Unexpected ordnance - Explosive compounds (TNT, RDX)

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
 ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

Title	FFA/CO Definition	Expected Status in 9/30/99	Expected Status in 9/30/04	Principal Contaminants
WAG 7 Radioactive Waste Management Complex including Alt Pit 9 (RWMC)	The boundary of WAG 7 is clearly defined as the RWMC fence, with the SDA as a fenced portion within the RWMC.	<ul style="list-style-type: none"> - Vapor extraction system continues to remove 1200 lbs. VOC/month - RI/FS process options being evaluated - In situ vitrification, in situ thermal desorption, in situ grouting, ex situ soil treatability studies underway - OU 7-10 Stage II design proceeding, start of construction 	<ul style="list-style-type: none"> - Hot test of in situ vitrification begins 11/99 - Comprehensive investigation complete, 2002 - All treatability studies complete - Stage II of OU 7-10 staged interim action complete - Design of selected remedy for SDA (including pit 9) underway - Draft Comprehensive RI/FS submitted - Comprehensive ROD signed 	<ul style="list-style-type: none"> - VOCs (carbon tetrachloride) - Radionuclides (Pu isotopes, Np-237, Am-241, U-234, 238, C-14, I-129, Tc-99, Cs-137, Sr-90)
Decontamination and Decommissioning (D&D)	The mission of this program includes the total D&D and removal of facilities. The contaminated surplus facilities and structures will be transferred into the EM-40 D&D program after they have been deactivated by EM-60.	<ul style="list-style-type: none"> - Complete D&D field work of ARA-1, ARA-II, and ARA-III - Complete D&D of the Certification and Segregation building at RWMC 	<ul style="list-style-type: none"> - Ongoing D&D at ETR, MTR, CPP-601, 603 	<ul style="list-style-type: none"> - Radionuclides (Sr-90, Cs-137) - Metals (mercury, chromium) - Asbestos
Remediation Operations	The remediation operations provide support services to the WAGs (i.e., EM-40 core database maintenance and upgrade, monthly reporting, community relations, record management and administrative records, baseline development, ER information systems, FFA/CO and other grants).	N/A		N/A

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

TABLE C-A-1.2 FIVE YEAR EXPECTATIONS (FY 2000-FY 2004) FOR THE INEEL SNF PROGRAM

Projects	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
CPP-603 Wet Basins	<ol style="list-style-type: none"> Complete transfer of last of SNF & GFOs to CPP-603D. Turn over facility for deactivation. 	NA	NA	NA	NA
CPP-666	<ol style="list-style-type: none"> Receive up to 50 fuel shipments (38 naval max [170 FHUs], 12 ATR max [24 FHUs]). 	<ol style="list-style-type: none"> Receive up to 50 fuel shipments (38 naval max [170 FHUs], 12 ATR max [24 FHUs]). Commence transfer of Fermi fuels to CPP-603D (stretch goal). 	<ol style="list-style-type: none"> Receive up to 12 ATR fuel shipments [24 FHUs]. Receive up to 17 naval fuel shipments [68 FHUs](suspend 12/31/01). Commence transfer of Al plate fuels to CPP-603D (stretch goal). 	<ol style="list-style-type: none"> Receive up to 12 ATR fuel shipments [24 FHUs]. Commence transfer of naval fuel to ECF [224 FHUs]. Continue transfer of Al plate fuels to CPP-603D (stretch goal). 	<ol style="list-style-type: none"> Receive up to 12 ATR fuel shipments [24 FHUs]. Continue transfer of naval fuel to ECF [448 FHUs]. Commence transfer of certain misc. fuels to CPP-603D (stretch goal).
TAN-607	<ol style="list-style-type: none"> Continue transfer of TMI fuel to DOE DSF. 	<ol style="list-style-type: none"> Complete transfer of TMI fuel to DOE DSF by 06/01/01. Commence and complete domestic receipt of WV fuels. 	<ol style="list-style-type: none"> Commence transfer of LOFT/Commercial fuels to DOE DSF to be completed by 07/01/03. Transfer epoxied fuels to CPP603D. Turn over pool for deactivation. 	Operate and maintain pad and hotshop.	Operate and maintain pad and hotshop.
FSV	Operate and maintain facility.	Operate and maintain facility.	Operate and maintain facility.	Operate and maintain facility.	Operate and maintain facility.
CPP-749	Complete transfer of fuels from first generation storage vaults to second-generation storage vaults [24 FHUs].	Operate and maintain facility.	Receive domestic fuels from Oak Ridge	Transfer up to 270 FHUs to new dry storage.	Transfer up to 450 FHUs to new dry storage.
CPP-603 Dry IFSF	<ol style="list-style-type: none"> Receive last of fuels from CPP-603W. Receive FRR fuels. Receive MTR Canal fuels. 	<ol style="list-style-type: none"> Receive FRR fuels. Receive PBF fuels. Commence receipt of Fermi fuels from CPP-666 (Stretch). 	<ol style="list-style-type: none"> Receive FRR fuels. Receive domestic fuels. Receive TAN epoxied fuels. Commence receipt of Al plate fuels from CPP-666 (stretch goal). 	<ol style="list-style-type: none"> Receive FRR fuels. Receive domestic fuels. Continue receipt of Al plate fuels from CPP-666 (stretch goal). 	<ol style="list-style-type: none"> Receive FRR fuels & domestic fuels. Commence receipt of certain misc. fuels from CPP-666 (stretch goal). Transfer up to 312 FHUs to new dry storage
DOE DSF	Continue receipt of TMI fuel from TAN.	Complete receipt of TMI fuel from TAN by 06/01/01.	Commence receipt of LOFT/Commercial fuels from TAN to be completed by 07/01/03.	Operate and maintain facility.	Operate and maintain facility.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
 ATTACHMENT C-A-1 PROGRAM ACCOMPLISHMENT

TABLE C-A-1.3 WASTE MANAGEMENT PROGRAM ACTIVITIES FY 2000 – FY 2004

Activity	FY2000	FY2001	FY2002	FY2003	FY2004
Shipment of TRU Waste to meet 3100 cubic meters milestone	1025m ³	1025m ³	1025m ³	26m ³	
Operation of WERF	Treat 200 cubic meters of MLLW	Treat 200 cubic meters of MLLW	Treat 200 cubic meters of MLLW	Cease WERF operations	Conduct RCRA closure
Operation of AMWTF (performed by BNFL)			Initiate operations	Treat 2000 cubic meters of TRU	Treat 2000 cubic meters of TRU
Continue disposal of LLW	Dispose of 1800 cubic meters	Dispose of 1800 cubic meters			
Develop characterization and certification capabilities for RH-TRU				Receive authorization to certify RH-TRU waste	Initiate characterization and certification
Continue waste generator services	On-going activity	On-going activity	On-going activity	On-going activity	On-going activity
HLW Tanks				Five (5) Pillar and Panel tanks closed and emptied	
Tank Farm operations	On-going activity	On-going activity	On-going activity	On-going activity	On-going activity

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-2 LABORATORY DEVELOPMENT

ATTACHMENT C-A-2 - LABORATORY DEVELOPMENT

(a) INEEL SUPPORT TO NATIONAL MISSIONS

The general vision and broad direction of INEEL's role supporting the DOE and ID Strategic Plans is contained in the current INEEL Long Range Plan. The Contractor shall continuously refine, improve and implement the Long Range Plan to develop the INEEL research and development portfolio in support of national missions. A significant theme of this approach will be assurance that the Contractor will capitalize on INEEL assets by integrating operating programs with R&D programs wherever advantageous. This is especially important with respect to the coordination of the EM programs and science and technology innovations from wherever they arise.

Recognizing the dynamic nature of DOE's mission needs, the Contractor shall leverage the INEEL's existing R&D capabilities, facilities and infrastructure to other programs. This will include an increased emphasis on the multi-program laboratory component of the INEEL. The INEEL serves in a leadership role in the provision of science and technology support to the national EM program. The Contractor shall build upon existing programs, capabilities and technology base to expand programs, including international missions where appropriate, and seek new program involvements consistent with INEEL's long-term direction and emerging needs of Federal, non-Federal (i.e., State and national Governments) and private sector partners. The Contractor shall support University R&D alliances, collaborations and/or teaming as a mechanism for building the quality and depth of the science underpinning and technology partnering to enhance both the broader INEEL operational and research missions. This should include support for ongoing collaborations such as those through the University Research Consortium, local, regional, and national educational institutions, and training provided by local technical institutions.

(b) BUSINESS / MISSION-SUPPORT OBJECTIVES

- (1) Environmental Solutions: INEEL science and technology support will be provided to the local and national EM programs to assure fulfillment of the Idaho Settlement Agreement and INEEL Paths to Closure document. This shall include waste characterization and stabilization, bioremediation, chemical separations, geotechnical characterization, fate and transport simulation and risk assessment. A systems approach shall be applied to the optimization of both local site and complex-wide integration. Maintenance of leadership roles embodied in EM's Office of Science and Technology-designated Focus Group and EM-designated Centers of Excellence is high priority. These include: Mixed Waste Focus Area, Plutonium Focus Area, National Transportation Program, National Spent Nuclear Fuel Program, National Analytical Management Program, and Mixed Waste/Low Level Waste Center of Excellence.
- (2) Nuclear Technology Solutions: The Contractor shall maintain and expand its leadership position in nuclear energy research and development. NE is embarking on new initiatives in nuclear energy technology development. Its mission is to provide DOE with advice and recommendations on a broad range of nuclear energy research topics including development of advanced reactor concepts. The INEEL's nuclear energy science and technology resources are expected to play a significant role in accomplishing the goals of the Nuclear Energy Research Initiative sponsored by NE.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-2 LABORATORY DEVELOPMENT

- (3) Non-nuclear Energy Solutions: The Contractor shall maintain and develop its active support to regional and national non-nuclear energy missions. The INEEL has a long and continuing record of support to DOE's energy technology and energy efficiency research. The systems approach to nuclear power production pioneered on the INEEL site has been continued and leveraged to support of geothermal, hydro, other renewable and fossil energy technologies. In addition, the increased application of science and technology to the systems-based solution of energy and the environmental interface issues is being pursued. Water/soil/air contaminate fate, transport and risk issues are being investigated from a multidisciplinary science base utilizing systems engineering principles.
- (4) National Security Solutions: INEEL capabilities in software and systems integration, detectors and sensors, nuclear science, and materials science have long been utilized in support of a variety of national security missions. The INEEL shall continue to leverage its capabilities in strengthening its support of nuclear non-proliferation and chemical demilitarization programs of the Department.

In addition to the specific objectives detailed above, the Contractor shall leverage the full capabilities and knowledge derived from the above programs to other national needs.

(c) NUCLEAR ENERGY, ENERGY EFFICIENCY, NATIONAL SECURITY, ENERGY RESEARCH, FOSSIL ENERGY AND OTHER RESEARCH PROGRAMS

The Contractor shall maintain and develop the following programs:

- (1) Nuclear Energy (NE): The Contractor shall play a significant role in the NE nuclear technology development incentives by: expanding the use of the Advanced Test Reactor and associated Test Reactor Area Hot Cells for nuclear energy and associated technology research and development and isotope production; increasing support for the NE University Research Reactor program and other nuclear technology programs at universities; and playing a key role in the NE Space Power Systems Program.
- (2) Energy Efficiency (EE)

The INEEL performs work for the program offices reporting to the DOE Assistant Secretary for Energy Efficiency. The focus of this work is to develop technologies to reduce energy consumption and the environmental impacts of energy usage. The ongoing work is generally collaborative and involves technology development in partnership with industry and/or university collaborators.

Office of Industrial Technology: Work for this Office involves joint responses with partners from the private sector to solicitations under the "Industries of the Future" initiatives. These initiatives, which are competitively awarded for joint industry/National Laboratory partnerships by the Office of Industrial Technology, support technology development of both national and regional interest, e.g. Forest Products, Agriculture, Glass Iron and Steel, Metal Castings, Chemical Manufacturing, Aluminum Industry, Refineries and Combustion Science.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-2 LABORATORY DEVELOPMENT

Office of Utility Technologies: Work supporting the Utility Sector at the INEEL includes national leadership in geothermal and hydropower technology.

Office of Transportation Technologies: Support to the Office involves maintenance of significant User facilities and support of testing programs including batteries, capacitors, emissions, and dynamometers. This work includes analysis and reporting of data derived from testing. INEEL also maintains an innovative alternately-fueled heavy vehicle pool, along with the R&D needed to support the infrastructure of an alternative fuel fleet.

(3) Fossil Energy (FE)

The INEEL supports ongoing programs in fossil energy technologies related to innovative hydrocarbon fuel conversions. This includes methane hydride research as a long-term energy resource and approaches for wellhead treatment of natural gas and fuel transportation, as well as advanced oil recovery technologies, innovative oil tar processing and petroleum plant life extension studies. Work is also performed through CRADAs with Oil and Gas Industry associations. Additionally, the INEEL supports environmental studies for FE programs with particular emphasis on Alaskan programs.

(4) Energy Research (ER)

The INEEL serves ER as a principal laboratory for two programs, Fusion Safety and Engineering Sciences. Components of the Engineering Sciences Program include robotics, and scale-up modeling. The Fusion Safety Program includes significant collaborations with international participants in the ITER Program. Other ER programs include support to the Office of Basic Energy Sciences in areas of Chemistry, Spectroscopy, and Welding. INEEL performs work for Biological and Environmental Research in bioremediation, geochemistry, ground water science and fractured rock science. Nuclear Medicine programs at the INEEL include software and chemistry research for the BNCT Program.

(5) Defense Programs (DP)

The Environmental Surety Program at the INEEL provides systems engineering environmental support to DP's new production facilities. The INEEL also leads DP's International Criticality Safety Program.

(6) Nuclear Non-proliferation (NN)

The INEEL provides support to NN through technology development using its core capability in detectors and sensors for deployment in support of Chemical Demilitarization and Non-Proliferation. INEEL also provides science underpinning for counterintelligence programs.

(d) TECHNOLOGY LEVERAGING

The Contractor shall develop and utilize external partnerships to leverage Federal resource inputs and maximize the rapid deployment and exploitation of technology outputs. The Contractor shall utilize best practices in intellectual property management and employ the full range of commercialization strategies practiced in the private sector (technology commercialization, spin-offs, R&D partnerships, university agreements and

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-2 LABORATORY DEVELOPMENT

other combinations of strategies). The Contractor shall use the core competencies of the INEEL to address a broad spectrum of national issues.

(e) WORK FOR OTHERS

The INEEL provides support to other Government agencies and other entities through the Work For Others Program. This work scope is dynamic in nature, but the following examples of work in progress are provided as an indication of the programs to be performed under this contract.

National Park Service: Under an Interagency Agreement with Yellowstone National Park, INEEL provides systems engineering, simulation and specific technology support to a broad range of energy efficiency initiatives including transportation and infrastructure management. This work performed as "Natural Resource Institute" support has a common theme related to environmental and energy-related management and includes the science underpinning of regional and natural resource issues.

Department of Justice: Work includes continuing research related to non-lethal interdiction, and Officer Protection and Safety.

Department of Defense: Multiple projects at the INEEL support DOD, especially in areas of integrated operating deployment systems, sensor and sensor suite development and Energy Analysis and Systems integration.

NRC: Work at the INEEL includes advanced nuclear reactor design and reactor safety analysis, including code development and advanced modeling.

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-3 ENVIRONMENT, SAFETY, HEALTH AND QUALITY ASSURANCE

ATTACHMENT C-A-3 - ENVIRONMENT, SAFETY, HEALTH AND QUALITY ASSURANCE

(a) INEEL SYSTEMS AND PROGRAMS

The Contractor shall implement a single, site-wide integrated Safety Management System (ISMS), building on the ongoing systems and programs at the INEEL, which includes the existing: INEEL ISMS, International Standards Organization (ISO) 14001 Program, Voluntary Protection Program (VPP), Enhanced Work Planning (EWP) system, and the Voluntary Consent Order Program (VCOP). The Contractor shall implement the existing INEEL Quality Assurance (QA) Program. These existing systems and programs can be improved through innovation, but shall not be replaced. The Contractor's ISMS shall reflect the core values, guiding principles, and tenets of ISO 14001, VPP, and EWP. All Contractor ES&H programs shall support the ISMS.

The Contractor shall not be required to develop a new Safety Management System Description under the provisions of the Section I clause entitled DEAR 970-5204-2, INTEGRATION OF ENVIRONMENT, SAFETY, AND HEALTH INTO WORK PLANNING AND EXECUTION. The Contractor shall update the Safety Management Systems Description Document that is in effect at the start of the contract, and the safety performance objectives, performance measures, and commitments discussed in DEAR 970.5204-2, paragraph (d) and (e) as soon as practical during the contract performance period, but no later than January 31, 2000.

The Contractor shall complete any open corrective actions identified by prior ISMS Verifications (ISMSV). In the event that the Phase 2 ISMSV is incomplete for any INEEL facility, the Contractor shall complete implementation and ISMSV as soon as practical, but no later than June 30, 2000.

(b) PROTECTION OF WORKERS, THE PUBLIC, AND THE ENVIRONMENT

Protection of workers, public, and the environment are fundamental responsibilities of the Contractor. The Contractor's ES&H program shall be operated as an integral, but visible, part of how the Contractor conducts business, including prioritizing work planning and execution, establishing clear ES&H priorities, and allocating resources to address programmatic and operational considerations, and shall address all hazards for all INEEL facilities, operations, and work, both nuclear and non-nuclear. The Contractor shall ensure that cost reduction efforts and efficiency efforts are fully compatible with ES&H performance.

The Contractor shall:

- (1) Perform all activities in compliance with applicable health, safety and environmental laws, orders, and regulations; and governing agreements and permits executed with regulatory and oversight government organizations. The Contractor shall use appropriate national consensus standards to meet these obligations.
- (2) Take necessary actions, to preclude serious injuries and fatalities, and keep worker exposures and environmental releases as low as reasonably achievable below established limits, minimize the generation of waste, and maintain or increase protection to the environment, public and worker safety and health.
- (3) Continue implementation of the single, site-wide INEEL ISMS at all organizational levels, conforming to DEAR 970.5204-2, "Integration of Environment, Safety, and Health Into Work Planning and Execution," and DOE P 450.4, "Safety Management System Policy," to include implementation of the five core functions and seven guiding principles. The ISMS shall include "worker involvement" as an eighth guiding principle, such that

SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT
ATTACHMENT C-A-3 ENVIRONMENT, SAFETY, HEALTH AND QUALITY ASSURANCE

employees provide input into work planning and procedures, and identify concerns prior to the start of work.

- (4) Establish clear ES&H roles, responsibilities, and authorities of line managers. The senior management official shall hold line managers, including direct reports, accountable for implementing necessary controls for safe performance of work in their area of responsibility.
- (5) The ISMS shall include systems for: (a) performance measures and indicators, (b) line and independent evaluations, (c) compliance with applicable requirements, (d) data collection, analysis and corrective actions and (e) continuous feedback and performance improvement.
- (6) These systems shall address ES&H and other compliance issues (e.g., permitting, environmental reporting, National Environmental Policy Act, Defense Nuclear Facilities Safety Board commitments, NRC licensing commitments, safety deficiencies, compliance findings and so forth). These systems shall include lessons learned and additional relevant information from other DOE sites and related industries.
- (7) Assure that employees are trained and equipped to safely perform work.
- (8) Consider ES&H performance as an evaluation factor in the selection of subcontractors performing work in INEEL-owned or -leased facilities, and flow ES&H requirements into subcontracts.
- (9) Promptly evaluate, report to DOE and external regulators, and resolve any non-compliance with applicable ES&H requirements and the ISMS.
- (10) Achieve ISO 14001 certification by June 30, 2002.

(c) QUALITY ASSURANCE

Perform all work at the INEEL to the requirements of the existing INEEL Quality Assurance Program, which is based on DOE O 414.1 "Quality Assurance," 10 CFR 830.120 "Nuclear Safety Management Quality Assurance Requirements," 10 CFR 71 "Packaging And Transportation Of Radioactive Material," 10 CFR 72 "Licensing Requirements For The Independent Storage Of Spent Nuclear Fuel And High-Level Radioactive Waste," DOE-RW-0333P "Quality Assurance Requirements and Description," and ASME NQA-1-1997, "Quality Assurance." The Contractor's QA Program shall be operated as an integral, but visible, part of how the Contractor conducts business, including applying a graded approach for clear ES&H priorities and NRC licensing activities, and allocating resources to address programmatic and operational considerations. The Contractor shall ensure that cost reduction efforts and efficiency efforts are fully compatible with quality performance.