SUMMARY: The Department of Defense (DoD) announces a meeting of the Defense Partnership Council. Notice of this meeting is required under the Federal Advisory Committee Act. This meeting is open to the public. The topics to be covered are the Federal Managers Association (FMA) membership on the Council and a discussion of general DoD Human Resources initiatives.

DATES: The meeting is to be held January 22, 1997, in room 1E801, Conference Room 7, the Pentagon, from 1:00 p.m. until 3:00 p.m. Comments should be received by January 14, 1997, in order to be considered at the January 22 meeting.

ADDRESSES: We invite interested persons and organizations to submit written comments or recommendations. Mail or deliver your comments or recommendations to Mr. Kenneth Oprisko at the address shown below. Seating is limited and available on a first-come, first-served basis. Individuals wishing to attend who do not possess an appropriate Pentagon building pass should call the below listed telephone number to obtain instructions for entry into the Pentagon. Handicapped individuals wishing to attend should also call the below listed telephone number to obtain accommodations.

FOR FURTHER INFORMATION CONTACT: Mr. Kenneth Oprisko, Chief, Labor Relations Branch, Field Advisory Services Division, Defense Civilian Personnel Management Service, 1400 Key Blvd., Suite B–200, Arlington, VA 22209–5144, (703), ext. 704.

Dated: December 19, 1996.

L.M. Bynum,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 96–32822 Filed 12–24–96; 8:45 am]

BILLING CODE 5000–04–M

Department of the Navy

Notice of Availability and Public Hearings for the Draft Environmental Impact Statement (DEIS) for Base Realignment Action for the Naval Sea System Command Relocation to the Washington Navy Yard, Washington, DC

SUMMARY: Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500–1508), the Department of the Navy (DoN) prepared and filed with the U.S. Environmental Protection Agency a DEIS evaluating the environmental effects of relocating the Naval Sea System Command Headquarters (NAVSEA) from leased space in Arlington, Virginia to the Washington Navy Yard or other government-owned property in the metropolitan Washington, DC area.

In response to the recommendations of the 1995 Department of Defense Base Realignment and Closure Commission (BRAC–95) and legislative requirements of the 1990 Base Realignment and Closure Act (Pub. L. 101–510), the Navy will relocate approximately 4,100 NAVSEA personnel to the Washington Navy Yard (WNY) in Washington, DC. The Navy's DEIS addresses the environmental impacts associated with an increase of personnel at the WNY, as well as, renovation, demolition and new construction of facilities at the installation necessary to accommodate relocated personnel.

The Washington Navy Yard (WNY) occupies 68 acres along the Anacostia River in southeast Washington, DC. Development at the installation began in the early 1800's and continued in response to National defense efforts. Little if any undeveloped land is currently available for new construction at the WNY. The four alternatives considered in the DEIS center around a small group of existing structures and involve variations of renovation and/or demolition and new construction. The BRAC–95 relocation of NAVSEA corresponds to the current use of the WNY as an administrative center and long range plans to convert underutilized facilities at the installation into office space.

The DEIS has been distributed to various Federal, state, and local agencies, elected officials, special interest groups, and three local libraries. A limited number of single copies are available, and may be obtained by contacting the Navy representative listed at the end of this notice. A public hearing to inform the public of the DEIS findings and to solicit comments will be held on January 23, 1997, in Building 101 at the WNY. The meeting facilities will be open at 6:30 PM with the Navy's formal presentation beginning at 7:00 PM.

Interested parties are invited to attend and participate in the Public Hearing. Oral statements will be heard and transcribed by a stenographer; however, to ensure accuracy of the record, all statements should be submitted in writing. In the interest of available time, each speaker will be asked to limit his/her comments to five minutes. If longer statements are to be presented, they should be summarized for the public hearing and submitted in long-form at the hearing or mailed to the address listed at the end of this announcement. All statements, both oral and written, will become part of the public record.

ADDRESSES: Written comments on the DEIS should be mailed to: Department of the Navy, Naval Facilities Engineering Command, Engineering Field Activity—Chesapeake, Mr. Hank Riek (Code 20E), 901 M Street SE, Building 212, Washington Navy Yard, Washington, DC 20374–5018. Comments must be received no later than February 10, 1997. Additional information concerning this notice may be obtained by contacting the Navy at (202) 685–3064, facsimile (202) 685–3350.

Dated: December 20, 1996.

D.E. Koenig,

LCDR, JAGC, USN, Federal Register Liaison Officer.

[FR Doc. 96–32778 Filed 12–24–96; 8:45 am]

BILLING CODE 3810–FF–M

DEPARTMENT OF ENERGY

Record of Decision Programmatic Environmental Impact Statement for Stockpile Stewardship and Management

AGENCY: Department of Energy.

ACTION: Record of decision.

SUMMARY: The Department of Energy (DOE) is issuing this Record of Decision for the Stockpile Stewardship and Management Program, the program through which DOE carries out its statutory responsibility for the United States nuclear weapons program. This Record of Decision is based on the information and analysis contained in the Final Programmatic Environmental Impact Statement (PEIS) for Stockpile Stewardship and Management (DOE/EIS–0236) and other factors, including the mission responsibilities of the Department, and comments received on the Draft and Final PEIS. DOE's decisions will continue the ongoing Office of Defense Programs missions at eight DOE sites, making appropriate adjustments consistent with post-Cold War national security policies. Selected facilities for enhanced experimental capability will be constructed and operated; manufacturing capability at existing weapons industrial plants will be maintained; however, manufacturing capacity will be appropriately downsized; plutonium pit component manufacturing capability will be reestablished.

More specifically, for Stockpile Stewardship, the Department has

decided to: (1) Construct and operate the National Ignition Facility at the Lawrence Livermore National Laboratory; (2) construct and operate the Contained Firing Facility at the Lawrence Livermore National Laboratory; and (3) construct and operate the Atlas Facility at the Los Alamos National Laboratory. Additionally, the Department has decided to transfer a small amount of plutonium-242 material from the Savannah River Site to the Los Alamos National Laboratory to support stockpile stewardship activities.

With respect to Stockpile Management, the Department has decided to: (1) Downsize weapons assembly/disassembly capacity at the Pantex Plant; (2) downsize high explosive component fabrication capacity at the Pantex Plant; (3) downsize weapons secondary and case component fabrication capacity at the Y–12 Plant at the Oak Ridge Reservation; (4) downsize weapons nonnuclear component fabrication capacity at the Kansas City Plant; and (5) reestablish pit fabrication capability, with a small capacity, at the Los Alamos National Laboratory.

FOR FURTHER INFORMATION CONTACT: For further information on the Final Programmatic Environmental Impact Statement, or this Record of Decision, please call 800–776–2765, or write to: Jay Rose, Director, Reconfiguration Group, Office of Technical and Environmental Support, DP–45, United States Department of Energy, 1000 Independence Avenue SW, Washington, D.C. 20585.

The Stockpile Stewardship and Management Program maintains an Internet Home Page at http://web.fie.com/fedix/doeoor.html. This can also be accessed by modem by dialing toll-free (800) 783–3349 or (301) 258–0953 in the Washington, D.C. metropolitan area.

For information on the DOE's National Environmental Policy Act (NEPA) process, please contact: Carol M. Borgstrom, Director, Office of NEPA Policy and Assistance, EH–42, United States Department of Energy, 1000 Independence Ave. SW., Washington, D.C. 20585, (202) 586–4600 or leave a message at (800) 472–2756.

SUPPLEMENTARY INFORMATION:

Background

Since the inception of nuclear weapons in the 1940s, DOE and its predecessor agencies have been responsible for the stewardship and management of the nation's stockpile. Through the system of national laboratories and industrial facilities known collectively as the Nuclear Weapons Complex (Complex), DOE has provided the nation with nuclear weapons and ensured that those weapons remain safe and reliable. The Stockpile Stewardship and Management PEIS analyzes the potential consequences to human health and the environment if certain changes to the Complex are implemented to support DOE's Stockpile Stewardship and Management Program.

The term ''stockpile stewardship'' refers to core competencies in activities associated with research, design, development, and testing of nuclear weapons, and the assessment and certification of their safety and reliability under a Comprehensive Test Ban Treaty. Historically, these activities have been performed at the three DOE weapons laboratories (Los Alamos National Laboratory in New Mexico, Lawrence Livermore National Laboratory in California, and Sandia National Laboratories in New Mexico and California) and the Nevada Test Site. The term ''stockpile management'' refers to core competencies in activities associated with the production, maintenance, surveillance, and disassembly of the nuclear weapons in the stockpile. Historically, these activities have been performed at the DOE nuclear weapons industrial facilities (currently, the Y–12 Plant in Tennessee, the Kansas City Plant in Missouri, the Pantex Plant in Texas and the Savannah River Site in South Carolina).

In response to the end of the Cold War and changes in the world's political regimes, the emphasis of the United States nuclear weapons program has shifted dramatically from developing and producing new-design weapons to dismantlement and maintenance of a smaller enduring stockpile. In accordance with national security policy, including the terms of the Strategic Arms Reduction Talk (START) Treaties, the nuclear weapons stockpile is being significantly reduced. The United States is no longer producing new-design nuclear weapons, and DOE has closed or consolidated some of its former weapons industrial facilities. Additionally, in 1992, the United States declared a moratorium on underground nuclear testing. President Clinton extended this moratorium and decided, in August 1995, to pursue a ''zero-yield'' Comprehensive Test Ban Treaty that he signed in September 1996.

Even with these significant changes, however, DOE's responsibilities for the nuclear weapons stockpile continue. The President and Congress have directed DOE to maintain the core intellectual and technical competencies of the United States in nuclear weapons and to maintain the safety and reliability of the enduring nuclear weapons stockpile. In response to this direction, DOE has developed a science-based Stockpile Stewardship and Management Program to provide a single, highly integrated technical program for maintaining core competencies and ensuring the continued safety and reliability of the stockpile. The Stockpile Stewardship and Management Program has evolved from programs that served this mission over previous decades.

With no new-design nuclear weapons production, DOE expects existing weapons to remain in the stockpile well into the next century. This means that the weapons will age beyond original expectations. Because underground nuclear testing will no longer be available, alternative means must be developed in order to assess and certify the weapons' continued safety and reliability. To meet these new challenges, DOE's Stockpile Stewardship and Management Program has been developed to increase understanding of the basic phenomena associated with nuclear weapons, to provide better predictive understanding of the safety and reliability of weapons, and to ensure a strong scientific and technical basis for future United States nuclear weapons policy objectives.

DOE prepared this Record of Decision pursuant to the Council on Environmental Quality (CEQ) Regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 CFR Parts 1500–1508) and the Department of Energy regulations implementing NEPA (10 CFR Part 1021). In making this Record of Decision for the Stockpile Stewardship and Management Program, the Department considered the analysis from the Final Programmatic Environmental Impact Statement (PEIS) for the Stockpile Stewardship and Management Program (DOE/EIS–0236), issued in November 1996, along with other factors such as DOE statutory mission requirements, national security policy, cost, schedule, and technical risks. Additional technical descriptions and assessments of cost, schedule and technical risk are found in the Analysis of Stockpile Management Alternatives (DOE/AL, July 1996), the Stockpile Management Preferred Alternatives Report (DOE/AL, July 1996), and the Technology Basis and Site Comparison Evaluation for the National Ignition Facility (DOE/OAK, September 1996).

In February 1996, DOE published the Draft PEIS for Stockpile Stewardship and Management, which evaluated the siting, construction, and operation of proposed stockpile stewardship facilities and the siting, construction, and operation of facilities proposed for stockpile management at eight alternative sites within the Complex. The 60-day public comment period for the Draft PEIS began on March 8, 1996, and ended on May 7, 1996.

During the comment period, public meetings were held in Los Alamos, Albuquerque and Santa Fe, New Mexico; North Las Vegas, Nevada; Oak Ridge, Tennessee; Kansas City, Missouri; Livermore, California; Washington, D.C.; Amarillo, Texas; and North Augusta, South Carolina. In response to requests from the public, five of the public meetings were joint meetings to obtain comments on both the Stockpile Stewardship and Management Draft PEIS and the Department's Storage and Disposition of Weapons-Usable Fissile Materials Draft PEIS, which were being prepared concurrently. Two of the joint meetings (Amarillo and North Augusta) also addressed issues associated with another EIS then in preparation, the Site-Wide Draft Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components. In addition, the public was encouraged to provide comments via mail, fax, electronic bulletin board (Internet), and telephone (toll-free 800 number).

Volume IV of the Final PEIS, the Comment Response Document, describes the public comment process in detail, presents comment summaries and responses, and provides copies of all comments received.

The PEIS includes a classified appendix that provides additional information about weapons physics as it relates to the proposed actions for enhanced experimental capability, the stewardship need for plutonium-242 and its transfer to a weapons laboratory, and a number of the classified appendices to unclassified documents summarized or referenced in the PEIS. Applicable regulations provide that Environmental Impact Statements which address classified proposals may be restricted from public dissemination; consistent with the regulations, however, the Department has organized the PEIS so that classified information is segregated in order that the unclassified portions can be made available to the public [40 CFR 1507.3; 10 CFR 1021.340(a)].

For the National Ignition Facility, Contained Firing Facility, and the Atlas Facility, the PEIS included project specific environmental analyses (Appendices I, J and K of the PEIS) to address the detailed environmental impacts associated with siting, construction and operation. Based upon this Record of Decision, the Department intends to proceed with the construction and operation of these three facilities with no further National Environmental Policy Act reviews.

Proposed Actions

Broadly stated, all of the existing basic capabilities of the Complex continue to be required both technically and by national security policy objectives established by the President and Congress. The Stockpile Stewardship and Management PEIS concentrates on three major proposed actions that result from the national security policy constraints placed on the Program. The three major proposed actions are: (1) Providing enhanced experimental capability; (2) rightsizing the industrial base; and (3) reestablishing manufacturing capability and a small capacity for plutonium pit components (the pit is the central core of a nuclear weapon containing plutonium and/or highly enriched uranium that is surrounded by a layer of high explosive). Additionally, the Department considered the transfer of a small amount of plutonium-242 from the Savannah River Site to Los Alamos National Laboratory or Lawrence Livermore National Laboratory in support of stockpile stewardship activities.

1. Proposed Action (1)—Providing Enhanced Experimental Capability for Stockpile Stewardship

Historically, nuclear testing provided the Department with an unambiguous high confidence in the safety and reliability of weapons in the stockpile. As described in Chapters 2 and 3 of the PEIS, without underground nuclear testing, DOE must rely on experimental and computational capabilities, especially in weapons physics, to assess and predict the consequences of problems that may occur in an aging stockpile.

DOE concluded that other approaches to stockpile stewardship would not ensure nuclear weapon safety and reliability, and that such approaches are therefore not reasonable. In addition, DOE concluded that only the three facilities discussed below are sufficiently well understood that they could be proposed and evaluated in detail in the PEIS (see Section 3.1.2 of the PEIS, and the sections below entitled, ''Next Generation Experimental Facilities for Stockpile Stewardship,'' and ''Other Considerations.'')

DOE has considered that there are differing opinions on the technical merit of DOE's proposed actions with regard to enhanced experimental capability. Nuclear weapons design information, including the complex physics of nuclear weapon explosions, is generally classified for reasons of national security and nonproliferation. Even if this information were unclassified, the physics problems remain extremely complex; hence, the reason why nuclear testing was so important to the past program. Both the classification of information and technical complexity of the issues form natural barriers to public communication. The technical complexity, alone, engenders significant debate among qualified experts, especially in the area of high energy density physics.

The PEIS attempts to explain the weapon physics issues in an unclassified, comprehensible manner regarding its relation to mission purpose and need (Chapter 2), proposed actions and alternatives (Section 3.3), and project-specific technical detail (Volume III). In the absence of nuclear testing, there are two basic alternatives: (1) Rely on existing facilities, as described by the No Action alternative, as sources of experimental data; and (2) pursue the enhanced capability of the proposed facilities to provide the sources of experimental data needed.

The nuclear weapons phenomena involved in enhanced experimental capability can be broadly grouped into three categories: (1) Physics of nuclear weapons primaries (the primary contains the main high explosive and the plutonium pit); (2) physics of nuclear weapons secondaries (the secondary contains highly enriched uranium, lithium deuteride and other materials to produce a thermonuclear explosion); and (3) weapons effects (the effects of radiation on nuclear weapons and military systems). Because there are no proposed actions in the PEIS for new facilities designed primarily for weapons effects testing, this issue is not discussed further in this Record of Decision. The physics of nuclear weapons primaries and secondaries are described below, as well as alternatives that are assessed in the PEIS. More detail on the physics of nuclear weapons can be found in Section 2.4.1, 3.3, and Appendices I and K of the PEIS.

1.A. Physics of Nuclear Weapons Primaries

With respect to the physics phenomena from the implosion of the primary, experimental facilities provide physics and computational model validation, material behavior information, improved understanding of the implosion and the ability to assess the effects of defects. Proposed new facilities and site alternatives considered, along with the existing facilities which are part of the No Action alternative, are discussed below.

1.A.1 Alternatives. 1.A.1.1 No Action. The principal diagnostic tools DOE currently uses to study initiation of nuclear weapons primaries are hydrodynamic tests and dynamic experiments (see Section 3.3 of the PEIS). Under the No Action alternative, DOE would continue to use the hydrodynamic and dynamic testing facilities currently available at Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL), and the Nevada Test Site (NTS), including the Dual-Axis Radiographic Hydrodynamic Test (DARHT) facility currently under construction at LANL (see Section 1.6.2 of the PEIS).

1.A.1.2 Action Alternative—Construct and Operate the Contained Firing Facility (CFF) at Lawrence Livermore National Laboratory (LLNL). Under this alternative, the capabilities of the CFF would be added to the existing facilities at LLNL used to study the physics of primaries. Specifically, the CFF would be an addition to the existing Flash X-Ray Facility (FXR) at LLNL Site 300, Building 801. The facility would provide an enclosed blast chamber to contain debris from high explosive experiments that support the stockpile stewardship program. The containment enclosure would reduce the environmental, safety, and health impacts of current outdoor testing. The enclosure would also improve the quality of diagnostics data derived from testing by better controlling experimental conditions. Because the CFF is an upgrade to an existing facility, sites other than Building 801, at LLNL, would have significant technical disadvantages, and were not evaluated in detail.

1.A.2 Comparison of Alternatives. 1.A.2.1 Cost and Technical Factors. The CFF addition to the existing FXR Facility would cost about $50 million to construct and take about two years to complete. The CFF would improve the quality of diagnostics data derived from testing. Improving diagnostic capability to understand weapon primary behavior is crucial to DOE's ability to continue to certify the safety and reliability of the stockpile in the absence of nuclear testing.

1.A.2.2 Environmental Factors. DOE prepared a Project Specific Analysis (Appendix J of the PEIS) to address the environmental impacts associated with construction and operation of the CFF. Because the proposal for the CFF involves modification to the existing FXR Facility, construction impacts would be negligible. Very little land would be disturbed (less than 1 acre) and the construction activities would largely involve internal modifications to the existing facility.

Impacts associated with operation would also be negligible. The CFF enclosure would reduce gaseous and particulate air emissions from explosives testing, reduce the generation of solid low-level radioactive waste, reduce testing noise, and improve the safety of testing by controlling fragment dispersion. The CFF would not utilize any significant quantities of natural resources, and would not cause any significant socioeconomic impacts at LLNL. LLNL has adequate existing waste management facilities to treat, store, and/or dispose of wastes that would be generated by the CFF. Impacts to human health from CFF operation are expected to be within regulatory limits, and extremely small.

1.A.3 Environmentally Preferable Alternative. The environmentally preferable alternative is to construct and operate the CFF as an addition to FXR, at LLNL. Although this alternative would require construction and additional land utilization, the impacts associated with the construction and operation of this facility are minor and offset by the environmental benefits of the CFF. The CFF would contain releases to the atmosphere from the conventional high explosive detonations presently being conducted uncontained at the FXR Facility, which would continue operation under the No Action alternative.

1.A.4 Decision. DOE's decision is to proceed with the construction and operation of the CFF at Site 300, Building 801, at LLNL. This action is consistent with existing operations at Site 300 and LLNL land-use plans and policies.

Mitigation. The mitigation measures appropriate to the CFF construction and operation will be formalized in a CFF Mitigation Action Plan. The plan will be issued by the DOE and monitored for compliance by its representatives during construction and operation of the CFF. Construction and operation of the CFF are not expected to incur environmental impacts other than those associated with a temporary construction lay-down area. Dust suppression and storm water runoff mitigation technologies will be applied to reduce these impacts to insignificance. A preconstruction survey monitoring for endangered species will be conducted no more than 60 days prior to construction start-up.

1.B. Physics of Nuclear Weapons Secondaries

The energy released by the fission of the nuclear weapons primary activates the secondary assembly, creating a thermonuclear (fusion) explosion. However, the physics of nuclear weapons secondaries deals with the interaction of many dynamic physics processes, including hydrodynamics, thermodynamics, fission, and fusion. Experimental facilities provide improved understanding of thermonuclear ignition, secondary physics and computational model validation, and material behavior information. These facilities will also be useful for investigating other physics phenomena related to the nuclear weapon primary and weapons effects (see Appendices I and K of the PEIS).

1.B.1 Alternatives. 1.B.1.1 No Action. The No Action alternative would limit DOE to the use of existing facilities. The principal facilities currently available are the Nova Facility at Lawrence Livermore National Laboratory (LLNL), and the Pegasus II Facility at Los Alamos National Laboratory (LANL).

1.B.1.2 Action Alternative—Construct and Operate the National Ignition Facility (NIF). Under this alternative, the capabilities of the NIF would add to the existing facilities used to study the physics of secondaries. The NIF would house the world's most powerful laser, focusing 192 laser beams onto a target containing isotopes of hydrogen. NIF experiments are designed to address, to various degrees, certain weapons issues connected with fusion ignition and boosting; weapon effects; radiation transport; and secondary implosion, ignition, and output. Most of these processes occur at very high energy density (i.e., at high temperatures and pressures) and are relevant to a weapon's performance. The NIF would achieve higher temperatures and pressures, albeit in a very small volume, than any other existing or proposed stockpile stewardship facility. The energy available to conduct experiments with the NIF would be about 50 times that available with Nova. Five alternative locations at four DOE sites were studied for the NIF: LLNL, LANL, NTS—Area 22 main site location

and North Las Vegas Facility (NLVF), and Sandia National Laboratories (SNL), New Mexico.

1.B.1.3 Action Alternative—Construct and Operate the Atlas Facility. Under this alternative, the Atlas Facility would be added to the existing facilities used to study the physics of secondaries. The Atlas Facility, a pulsed-power experimental facility that builds upon special equipment existing at LANL TA–35 (the technical area which contains the existing pulsed-power infrastructure), would provide the capability to create pressures and volumes necessary to accurately benchmark weapon-related computational predictions. The need to perform experiments with macroscopic pulsed-power targets, as well as with lasers, exists not only because of the limits of measurement diagnostics and improved ease of measurement at larger scale, but also because some of the physical phenomena that must be investigated cannot readily be scaled down to smaller sizes without affecting some parameters of importance. Existing facilities are not adequate to analyze some secondary physics issues.

1.B.2 *Comparison of Alternatives.* The capabilities that would be provided by the two proposed facilities, the NIF and the Atlas Facility, are independent components needed to improve the understanding of the physics of nuclear weapon secondaries. As explained in Section 3.3 and Appendices I and K of the PEIS, because each facility responds to a different need and provides different capabilities related to nuclear weapons secondaries, they are complementary proposals.

1.B.2.1 Cost and Technical Factors. National Ignition Facility. Total capital costs for construction of the NIF at LLNL would be approximately $1.1 billion. The capital and life-cycle comparative cost evaluation indicates the LLNL site will have the lowest capital and the lowest overall costs (by about 5%) of the alternative sites considered. Construction is anticipated to take about five years.

In regard to technical risk, LLNL has the most extensive experience in developing, designing, constructing, and operating high power, large-aperture, solid-state lasers and optical components. The extensive solid-state laser infrastructure, equipment, and facilities at LLNL exceed those of the alternative sites. LLNL has improved this infrastructure continuously as it has built a succession of highly sophisticated solid-state lasers. LLNL also has the most extensive surrounding high-technology infrastructure.

The Inertial Confinement Fusion Program (ICF) and the NIF have been supported by a succession of independent technical reviews conducted by the National Academy of Sciences (NAS), the Fusion Policy Advisory Committee (FPAC), the Inertial Confinement Fusion Advisory Committee (ICFAC), and the JASON Committee (a group of independent experts who evaluated the Science Based Stockpile Stewardship (SBSS) program). These reviews enabled the Department to plan the next reasonable steps to further the pursuit of ICF goals and to evaluate their relationship to SBSS. In September 1990, the NAS concluded that a solid state glass laser, as proposed for NIF, was the only driver capable of achieving ignition within a decade. Also in September 1990, as part of the Inertial Fusion Energy plan, the FPAC urged support for the ICF ignition facility, driven by a solid state glass laser as recommended by the NAS, as the most important next step in the investigation of inertial fusion energy's potential. In May 1994, the ICFAC stated that they believed that the ICF research and development program has a key role to play in ''science-based stewardship.'' They continued by saying that an essential ingredient in this role will be the achievement of ignition of a fusion capsule in the laboratory. In February 1996, their final report concludes that good progress in target physics continues and that DOE should proceed with the next step in the NIF project. In November 1994, the JASON Committee strongly endorsed the NIF, calling it ''the most scientifically valuable of the programs proposed for SBSS.'' They did not identify any other technologies that could provide the technical capabilities of the NIF. In March 1996, the JASON Committee reiterated their previous comment about the NIF and further concluded, ''that the present ICF Program does make an important contribution to SBSS, and that the NIF will substantially increase this contribution * * *'' The committee recommended proceeding with the NIF.

Atlas Facility. Capital costs to build the Atlas Facility are estimated to be about $43 million. Construction will take about four years. Because LANL has more extensive expertise in microsecond pulsed-power than any other DOE site, and because the Atlas Facility would utilize the extensive existing infrastructure and special equipment available at LANL, no other DOE sites were considered for the Atlas Facility. Proceeding with the construction of the Atlas Facility is also consistent with the November 1994 JASON Committee review mentioned above.

1.B.2.2 Environmental Factors. National Ignition Facility. DOE prepared a Project Specific Analysis (Appendix I of the PEIS) to address the environmental impacts associated with construction and operation of the NIF. Potential environmental impacts were assessed for the No Action alternative and two design capabilities (i.e., Conceptual Design and Enhanced Design options) at all five candidate locations.

The analysis indicates that there would be few differences in the environmental impacts between the candidate sites and little environmental impact in any case. The maximum daily particulate matter concentration in the air during site clearing would exceed applicable air quality standards for suspended particles less than 10 microns in diameter (PM10) at LLNL and the North Las Vegas Facility (NLVF). However, the ambient air quality impacts would be localized and of short duration. Land requirements would be greatest at NTS (45.0 acres), although this acreage is less that 1 percent of the uncommitted land at NTS. Conversely, the least amount of uncommitted land that would be required for NIF would be 7.9 acres at the NLVF. However, this acreage represents the largest percentage of uncommitted land at a candidate site (56 percent). Of greater significance would be the quality of the habitat of the uncommitted land that would be affected by NIF construction. The highest quality habitats that would be affected are forest (9.9 acres) at LANL or desert (45 acres) at NTS. At the other candidate sites, habitat disturbance would occur to previously disturbed grassland (LLNL and SNL) or to an area of sparse vegetation (NLVF). The risk to the public from a facility accident involving the release of radioactive material would be greatest at NLVF and SNL, although the potential for the actual occurrence of such an accident would be extremely low.

Atlas Facility. DOE prepared a Project Specific Analysis (Appendix K of the PEIS) to address the environmental impacts associated with construction and operation of the Atlas Facility. Because the proposal for the Atlas Facility involves modification to the existing facilities within LANL's TA–35, construction impacts are expected to be small. Very little land (0.1 acre) would be disturbed and the construction activities would largely involve internal modifications to existing facilities.

Impacts associated with operations would also be negligible. The Atlas

Facility would not utilize any significant quantities of natural resources, would not cause any significant socioeconomic changes at LANL, and would not generate significant quantities of wastes. LANL has adequate existing waste management facilities to treat, store, and dispose of wastes that would be generated by the Atlas Facility. Impacts to human health from Atlas Facility operations are expected to be small and within regulatory limits.

1.B.3 Environmentally Preferable Alternative. National Ignition Facility. The environmentally preferable alternative is the No Action alternative. However, in the absence of underground nuclear testing, it is the Department's technical judgment that its ability to carry out its statutory mission responsibilities would be impaired without the capabilities that would be provided by the NIF. For this reason, the No Action alternative with regard to the NIF is not reasonable.

Based on the PEIS analysis of the action alternatives, siting the NIF at LLNL would have low or no adverse environmental impacts for most environmental resource categories (land use, air quality and noise, water biota, cultural, paleontologic, socioeconomic, human health, and waste management) and would have the highest beneficial socioeconomic impacts, compared to other site alternatives. After balancing the overall potential environmental impacts at the other candidate sites against LLNL, DOE concluded that none of the alternative candidate sites is environmentally preferable to LLNL for the NIF.

Atlas Facility. The environmentally preferable alternative is the No Action alternative. However, in the absence of underground nuclear testing, it is the Department's technical judgment that its ability to carry out its statutory mission responsibilities would be impaired without the capabilities that would be provided by the Atlas Facility. For this reason, the No Action alternative with regard to the Atlas Facility is not reasonable.

Because the Atlas Facility would rely upon existing facilities and special equipment already located at LANL, no additional site alternatives were analyzed. As discussed above, the single action alternative, to construct and operate the Atlas Facility at LANL TA–35, would result in negligible environmental impact.

1.B.4 Decision. National Ignition Facility. DOE's decision is to proceed with the construction and operation of the NIF (enhanced design option) at LLNL. Without the improved experimental capabilities offered by the NIF, DOE would lack the ability to evaluate significant weapon performance issues, which could adversely affect confidence in the nation's nuclear deterrent. Among the alternatives determined to be reasonable, construction and operation of the NIF at LLNL is environmentally preferable, the least cost and, due to LLNL's existing infrastructure for laser technology, the least technical risk.

Mitigation. The NIF mitigation measures appropriate to the LLNL site as identified in the PEIS (Appendix I, Paragraph I.4.7), will be formalized in a NIF Mitigation Action Plan. The plan will be issued by the DOE and monitored for compliance by its representatives during construction of the NIF. Mitigation measures appropriate to NIF operations will be incorporated in operating plans and procedures. A brief summary of the mitigation actions that will be taken follows.

Construction materials will be stored in temporary laydown areas. When construction is complete, a Reclamation Plan will be developed and actions taken to restore the construction material laydown areas to their original condition. To assure that the public is aware of the NIF construction activities the public will be informed, through the local news media, that elevated noise levels will occur for several months during construction of the NIF. Visual monitoring will be done to determine the effectiveness of conventional water-spraying dust control measures to assure that air quality standards are not exceeded. A Storm Water Pollution Prevention Plan will be developed and a Storm Water Permit will be obtained from the San Francisco Bay Region Water Quality Control Board for storm water discharges during construction. No more than 60 days before the start of construction, a special status species survey will be conducted for protected and sensitive biological resources within the NIF site and laydown areas, and mitigation actions taken as necessary. Exclusion or buffer zones will be established to avoid any sensitive locations. Appropriate mitigation measures will be implemented to avoid or minimize potential adverse impacts to protected and sensitive resources, such as state and federally-listed threatened and endangered species. Construction crews will be informed of any environmental concerns that exist and requested to avoid sensitive areas. An alternative construction entrance will be utilized to prevent traffic congestion during major construction activities such as major concrete pours.

For external combustion boilers, a permit will be obtained from the San Francisco Bay Area Air Quality Management District to comply with local area air quality standards. Hazardous materials will be inventoried and moved out of the area during flood conditions during NIF construction and operation. A Facility Safety Plan and Construction Safety Plan will be developed that will identify safety requirements for construction and operation of the NIF. A Waste Minimization Plan will be developed for the operational phase to evaluate the potential net reduction of hazardous, radioactive, and mixed waste streams. Other mitigation measures, identified in Sections I.4.7.2.4 and I.4.7.2.5 of Volume III of the PEIS, will be implemented to the extent practicable.

Atlas Facility. DOE's decision is to proceed with the construction and operation of the Atlas Facility at LANL's TA–35. Without improved experimental capabilities offered by the Atlas Facility, DOE would lack the ability to evaluate significant weapon performance issues, which could adversely affect confidence in the nation's nuclear deterrent. Among the alternatives determined to be reasonable, construction and operation of the Atlas Facility is environmentally preferable, the least cost, and the least technical risk.

Mitigation. The mitigation measures appropriate to the Atlas Facility construction and operation will be formalized in an Atlas Facility Mitigation Action Plan. The plan will be issued by the DOE and monitored for compliance by its representatives during construction and operation of the Atlas facility. There is a potential for public exposure to nonstatic magnetic fields from the Atlas Facility for short periods when operated. Monitoring at various locations around the Atlas Facility will be conducted to insure fields greater than 1 Gauss (a measure of electromagnetism) do not cause adverse impacts. Warning signs and other administrative controls, such as road closures, will be put in place prior to the operation of the Atlas Facility, as necessary.

1.C. Next Generation Experimental Facilities for Stockpile Stewardship

Related to the proposed actions for enhanced experimental facilities is the issue of next generation experimental facilities. In commenting on the Draft PEIS, some commentors suggested that potential next generation experimental facilities be analyzed as part of the proposed action. The Final PEIS

includes a discussion of potential next generation experimental facilities and the reasons why they are not proposed actions or alternatives (Section 3.3.4). These facilities, while contemplated on the basis of anticipated technical need, have not reached the stage of design maturity through research and development for DOE to include a decisionmaking analysis at this time.

However, the PEIS does describe, in general terms or by reference, what is known today about their potential environmental impacts. The environmental impacts from these facilities as contemplated today would not be significantly different from existing ''similar'' facilities. By characterizing the potential impacts in this way, the decisionmaker was aware of the potential program-level cumulative impacts of the next generation facilities when deciding whether to pursue a program of enhanced experimental capability. If DOE were to propose to construct and operate such next generation facilities in the future, appropriate NEPA review would be performed.

1.D. Transport and Storage of Plutonium-242

As a result of the Record of Decision for the Interim Management of Nuclear Materials at the Savannah River Site EIS (DOE/EIS–0220), existing plutonium-242 in nitrate solutions at H-Canyon at SRS will be stabilized by conversion to plutonium oxide in the HB-line. The plutonium-242 oxide would then be stored. The PEIS evaluates the need for plutonium-242 for stockpile stewardship activities and transport and storage of this material.

1.D.1 Alternatives. 1.D.1.1 No Action. Under the No Action alternative, the plutonium-242 material would remain at SRS and be stored in existing facilities at either the FB-Line or Building 235F.

1.D.1.2 Action Alternative 1—Store Plutonium-242 at the Los Alamos National Laboratory (LANL). Under this alternative, the plutonium-242 would be transported to LANL and stored in an existing plutonium facility.

1.D.1.3 Action Alternative 2—Store Plutonium-242 at the Lawrence Livermore National Laboratory (LLNL). Under this alternative, the plutonium-242 would be transported to LLNL and stored in Building 332.

1.D.2 Comparison of Alternatives. 1.D.2.1 Cost and Technical Factors. Transporting the plutonium-242 material would only require a fraction of one Safe, Secure Trailer shipment, and the costs are not significant. Because there is existing storage capacity at all three sites, the storage costs are comparable and not significant.

The programmatic need for shipment of this material is contained in a classified appendix to the Final PEIS. If the plutonium-242 material were not transported to LANL or LLNL, it could not be used for stockpile stewardship purposes.

1.D.2.2 Environmental Factors. The small quantity of plutonium-242 material is within the quantities of materials historically stored at all three sites. Regardless of the storage location for this material, there would be negligible environmental impacts. A high-bounding case analysis of the risk from the transport of this material (see Section 4.19 of the PEIS) indicates low risk for either LANL or LLNL.

1.D.3 Environmentally Preferable Alternative. For plutonium storage, the No Action alternative is the environmentally preferable alternative because there would be no potential impacts associated with transportation. However, the No Action alternative would not enable the plutonium-242 material to be used as needed for stockpile stewardship purposes, and is, therefore, not considered reasonable. For the action alternatives, storage at LANL is the environmentally preferable alternative because there is slightly less risk associated with transportation from SRS (due to the shorter distance from SRS).

1.D.4 Decision. DOE's decision is to transport the plutonium-242 material to LANL and store this material in an existing plutonium facility. LANL currently performs most of the plutonium activities for the Stockpile Stewardship and Management Program and has the necessary facilities for storing this material. LLNL, although a reasonable alternative, is currently reducing its inventory of plutonium.

2. Proposed Action (2)—Rightsizing the Industrial Base

With a reduced nuclear weapons stockpile, the capacity to manufacture nuclear weapons components and assemble or disassemble nuclear weapons can be reduced. For each required mission capability, the Department evaluated a No Action alternative, a downsize-in-place alternative, and an alternative that would transfer the mission to a weapons laboratory or to the Nevada Test Site (NTS). For pit component fabrication (a capability which no longer exists due to the closure of the Rocky Flats Plant in 1992), the Department evaluated reestablishing this capability, with an attendant small capacity, at Los Alamos National Laboratory (LANL) or the Savannah River Site (SRS), in addition to the No Action alternative (see Proposed Action 3).

2.A. Weapons Assembly/Disassembly

Weapons assembly/disassembly provides the capability to disassemble (dismantle) retired weapons, assemble nuclear and nonnuclear components into nuclear weapons, and perform weapons surveillance. In addition, this mission includes the capability to conduct nonintrusive modification pit reuse (external modifications to the pit) at the weapons assembly/disassembly facility. This mission also includes an option to store strategic reserves of nuclear components (pits and secondaries).

2.A.1 Alternatives. 2.A.1.1 No Action. Under the No Action alternative, this mission would continue at Pantex in current facilities, but Pantex would not develop the capability to perform nonintrusive modification pit reuse. Currently, nonintrusive modification pit reuse can only be performed at the plutonium research and development (R&D) facilities at LANL and LLNL.

2.A.1.2 Action Alternative 1—Downsize the Pantex Plant. This alternative would downsize and consolidate assembly/disassembly facilities and operations. Downsizing of the assembly/disassembly operation at Pantex would consist of an in-place decrease in facility footprint and relocation into modern existing facilities, mostly within Zone 12. No new construction would be required at Pantex; however, relocation and reinstallation of equipment would be required. The capabilities for nonintrusive modification pit reuse would be established in existing facilities within Zone 12. These facilities would also have the capability to support pit recertification and requalification operations.

2.A.1.3 Action Alternative 2—Relocate to the Nevada Test Site (NTS). This alternative is based on the use of the existing Device Assembly Facility and other plant infrastructure available at the NTS site that is required to maintain the capability for underground nuclear testing and experimentation. Because the Device Assembly Facility is not large enough to meet assembly/disassembly mission requirements, new construction would be required.

2.A.2 Comparison of Alternatives. 2.A.2.1 Cost and Technical Factors. Downsizing the Pantex Plant is the lower cost action alternative. Significant capital construction (about $250 million in 1995 dollars) would be required if the mission were relocated to NTS.

Downsizing Pantex presents less technical risk than relocation to NTS because of the need to relocate and requalify processes at NTS, the uncertainty in availability of key personnel, and the one year gap in operations that would be necessary while the transition occurred.

2.A.2.2 Environmental Factors. Downsizing the Pantex Plant would have a net positive effect on environmental impacts compared to the No Action alternative. No land would be disturbed, groundwater withdrawals would be reduced, and accident risks would also be less than the No Action alternative because of the consolidation of the facility footprint (smaller area) into Zone 12. Socioeconomic impacts at Pantex would result because of reductions in workload that will occur when the current weapons dismantlement backlog is eliminated in about three years. The additional socioeconomic impacts due to facility downsizing after this dismantlement is complete are relatively small.

Transferring the assembly/disassembly mission to NTS would entail upgrading and expanding the Device Assembly Facility. It is estimated that 18.5 additional acres would be disturbed. Although cultural and biotic resources are not expected to be impacted, the presence of a federally listed endangered species (the desert tortoise) at NTS would require a site survey to determine the potential for impacts. Water requirements to support the assembly/disassembly mission at NTS would amount to about 4 percent more than normal projected usage. Transferring the assembly/disassembly mission to NTS would create positive socioeconomic impacts at NTS, and significant negative socioeconomic impacts at Pantex.

Risks to worker health would be essentially the same at either location. Worker exposure to radiation is expected to be about equal for the NTS and the downsizing of Pantex alternatives. Radiation exposure to members of the public from normal operation would be well within regulatory limits at both sites. Although the remoteness of the NTS site yields a lower potential accident risk, the risk to the public from an accident at Pantex is very low. Relocation to NTS would also eliminate the risk associated with the transport of low level waste from Pantex to the NTS for disposal. These transportation risks, however, are very low.

2.A.3 Environmentally Preferable Alternative. The environmentally preferable alternative is to downsize existing capabilities at Pantex. No land would be disturbed, groundwater withdrawals would be reduced compared to usage under the No Action alternative, and accident risks would also be less than under the No Action alternative because of the consolidation of the facility footprint into Zone 12.

2.A.4 Decision. DOE's decision is to downsize the existing assembly/disassembly facilities presently located at the Pantex Plant. This is the environmentally preferable alternative, it exhibits the least technical risk, and is also the least-cost alternative.

2.B. High Explosives Fabrication

The high explosives fabrication mission includes capabilities required for manufacturing process development, formulation, synthesis, main charge manufacturing and energetic component manufacture. The high explosives fabrication mission also supports some high explosives surveillance and some stockpile stewardship activities.

2.B.1 Alternatives. 2.B.1.1 No Action. Under No Action, Pantex would continue fabrication and surveillance of high explosives components for nuclear weapons. Los Alamos National Laboratory (LANL) and Lawrence Livermore National Laboratory (LLNL) would continue to perform weapon high explosives research and development, some surveillance, and high explosives safety studies.

2.B.1.2 Action Alternative 1—Downsize at the Pantex Plant. This alternative would downsize and consolidate current high explosives operations and facilities at the Pantex Plant. Only minor modifications to existing facilities within Zones 11 and 12 would be required. This alternative would be considered only in conjunction with maintaining the weapons assembly/disassembly mission at Pantex.

2.B.1.3 Action Alternative 2—Relocate to the Los Alamos National Laboratory (LANL). This alternative would transfer high explosives operations from Pantex to LANL. This alternative would use existing LANL research and development facilities, which have sufficient capacity for high explosives requirements. There would be no new building construction and no significant modifications required.

2.B.1.4 Action Alternative 3—Relocate to the Lawrence Livermore National Laboratory (LLNL). This alternative would transfer high explosives operations from Pantex to LLNL, and would use existing LLNL research and development facilities. It would also require construction of one new facility for storage of high explosives at Site 300.

2.B.1.5 Action Alternative 4—Relocate to both the Los Alamos National Laboratory and the Lawrence Livermore National Laboratory. This option would involve splitting the high explosives mission between the two laboratories to protect core competencies at both. Since its impact is bounded by the previous two options, this option was not analyzed further in the PEIS.

2.B.2 Comparison of Alternatives. 2.B.2.1 Cost and Technical Factors. The costs to perform the high explosives mission are not large, and are comparable for all site alternatives. The current high explosives fabrication mission at Pantex costs about $17 million per year. The future high explosives fabrication mission will be relatively small, costing $2–3 million per year (assuming the selected site has other missions to absorb site overhead).

Since the U.S. does not have plans to develop new-design weapons, there is a concern that the laboratories will lose their core competencies in the area of high explosives technology. However, these competencies can be retained through greater teaming and integration of plant and laboratory capabilities and activities. This approach would attempt to protect core competence at the weapons laboratories in high explosives technology while retaining the overall fabrication mission at Pantex, the site with historical production experience.

2.B.2.2 Environmental Factors. Environmental impacts from facility modification and operation are comparable for all alternatives, and are less than current operations. However, relocation of the high explosives fabrication mission to LANL or LLNL would result in minor additional environmental impacts due to the increased level of operations at those sites compared to the No Action alternative, and the small construction required at LLNL (less than 2.5 acres). Socioeconomic impacts are relatively small for all alternatives. There are no radiological risks to workers or the public associated with the high explosives fabrication mission. Risks to neighboring populations from credible facility accidents would be small for all alternatives.

2.B.3 Environmentally Preferable Alternative. For high explosives fabrication, the environmentally preferable alternative is to downsize existing capabilities at the Pantex Plant. Environmental impacts under this alternative would be lower than under the No Action alternative.

2.B.4 Decision. DOE's decision is to downsize the existing high explosives fabrication facilities at the Pantex Plant.

This is the environmentally preferable alternative, the least-cost alternative and, when coupled with greater teaming and integration of plant and laboratory capabilities, has low technical risk. This decision is also consistent with Section 3140 of the National Defense Authorization Act for Fiscal Year 1997 (Pub. L. 104–201), which requires that the high explosives fabrication mission be performed at Pantex.

2.C. Secondary and Case Fabrication

The secondary and case fabrication mission includes activities to support fabrication, surveillance and inspection of secondaries and components. Functional capabilities for these services include operations to physically and chemically process, machine, inspect, assemble, and disassemble secondary and case materials. Materials include depleted uranium, enriched uranium, uranium alloys, isotopically enriched lithium hydride and lithium deuteride, and other materials.

2.C.1 Alternatives. 2.C.1.1 No Action. Under the No Action alternative, DOE would continue secondary and case fabrication at the Y–12 Plant at Oak Ridge. The Y–12 Plant would maintain the capability to produce and assemble secondaries, cases, and related nonnuclear weapon components.

2.C.1.2 Action Alternative 1—Downsize the Y–12 Plant at Oak Ridge. This alternative would downsize the existing secondary and case fabrication facilities at the Y–12 Plant at Oak Ridge. The downsized facilities would only require approximately 14 percent of the existing Y–12 Plant floor space, and no new facility construction would be needed to support the secondary and case fabrication mission. Modifications to the existing buildings would be required, both to implement the downsized mission and to upgrade the buildings to meet natural phenomena requirements (e.g., seismic events).

2.C.1.3 Action Alternative 2—Relocate to the Los Alamos National Laboratory (LANL). This alternative would transfer the secondary and case fabrication operations to 11 existing buildings at LANL using manufacturing processes proven at the Y–12 Plant. Modifications to the LANL facilities would be required to perform the secondary and case fabrication mission.

2.C.1.4 Action Alternative 3—Relocate to the Lawrence Livermore National Laboratory (LLNL). This alternative would transfer the secondary and case fabrication operations to existing buildings at LLNL using manufacturing processes proven at the Y–12 Plant. The secondary and case fabrication facilities at LLNL would principally involve modifications to six buildings.

2.C.2 Comparison of Alternatives. 2.C.2.1 Cost and Technical Factors. Downsizing the Y–12 Plant at Oak Ridge is the least-cost alternative because of significant facility modification costs (about $130 million at LANL and about $185 million at LLNL, both in 1995 dollars) that would be required if the mission were relocated. Downsizing the Y–12 Plant also presents less technical risk than relocation to the other sites because a production infrastructure for secondaries and cases currently exists at the Y–12 Plant and processes would not need to be relocated and requalified. In addition, downsizing the Y–12 Plant provides greater program flexibility by allowing some additional capacity to be maintained in a standby mode at minimal cost.

2.C.2.2 Environmental Factors. Downsizing the Y–12 Plant would not impact land, cultural or biotic resources. Downsizing would improve the efficiency of operations and significantly reduce natural resource requirements. Negative socioeconomic impacts associated with downsizing would be somewhat mitigated by positive socioeconomic impacts associated with the decontamination and decommissioning of facilities no longer required.

Transferring the secondary and case fabrication mission to either LANL or LLNL would have small positive socioeconomic impacts at those sites and a large negative socioeconomic impact at Oak Ridge due to the phaseout of this mission. For the relocation to LLNL alternative, a small area of land (less than one acre) would be disturbed, but impacts to cultural and biotic resources are not expected. Transfer of the secondary and case fabrication mission from Oak Ridge would entail small, one time impacts associated with moving the strategic reserve of highly enriched uranium to a new location.

Radiation exposure to workers is expected to be about equal for all three action alternatives and well within regulatory limits. Potential radiological impacts from accidents were determined to be about equal for Oak Ridge and LANL, and slightly higher for LLNL due to its closer proximity to populated areas.

2.C.3 Environmentally Preferable Alternative. For secondary and case manufacturing, the environmentally preferable alternative is to downsize the Y–12 Plant at Oak Ridge. Downsizing the Y–12 Plant would not impact land, cultural, or biotic resources. Downsizing would improve the efficiency of operations and significantly reduce natural resource requirements compared to the No Action alternative.

2.C.4 Decision. DOE's decision is to downsize the existing secondary and case fabrication facilities located at the Y–12 Plant at Oak Ridge. This is the environmentally preferable alternative, has the least technical risk, and is the least-cost alternative.

2.D. Nonnuclear Fabrication

Nonnuclear fabrication consists of the fabrication of electrical, electronic, electro-mechanical, and mechanical components (plastics, metals, composites), the assembly of arming, fuzing, and firing systems, and surveillance inspection and testing of nonnuclear components.

2.D.1 Alternatives. 2.D.1.1 No Action. The No Action alternative would maintain these activities at their present location at the Kansas City Plant (KCP), Sandia National Laboratories (SNL), and Los Alamos National Laboratory (LANL). KCP manufactures nonnuclear weapon components and conducts surveillance testing on them. SNL conducts system engineering of nuclear weapons, designs and develops nonnuclear components, conducts field and laboratory nonnuclear testing, manufactures some nonnuclear weapons components, and provides safety and reliability assessments of the stockpile. LANL also manufactures a few nonnuclear weapons components and conducts surveillance on certain nonnuclear weapons components.

2.D.1.2 Action Alternative 1—Downsize the Kansas City Plant (KCP). The downsized nonnuclear fabrication alternative consists of three major factory segments designed around electronics, mechanical, and engineered materials product lines, procuring some components from outside sources, and reducing the KCP facility area. This alternative consists of downsizing and consolidating existing facilities and would require facility modification but no new construction.

2.D.1.3 Action Alternative 2—Relocate to the Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL), and Sandia National Laboratories (SNL). This alternative would use the existing expertise, capability, and infrastructure at LANL, LLNL, and SNL to satisfy fabrication requirements for nonnuclear components. This alternative would transfer the majority of current KCP missions to SNL, except for nuclear system plastic components, which would go either to LANL or LLNL, and high energy detonator inert components,

which would go to LANL. In addition, there is an option of moving the reservoir mission to either SNL or LANL. This alternative would require construction of a new stand-alone production site at SNL, consisting of six new buildings and renovations or minor modifications to some existing buildings.

2.D.2 Comparison of Alternatives. 2.D.2.1 Cost and Technical Factors. Because of significant facility construction or modification costs to relocate the mission (about $235 million in 1995 dollars), downsizing the KCP is the least-cost alternative. Downsizing KCP also presents significantly less technical risk than relocation to the other sites, because a production infrastructure for nonnuclear components currently exists and processes would not need to be relocated and requalified.

2.D.2.2 Environmental Comparison. For the alternative that would downsize KCP, the construction activities would involve internal modifications to the existing facility. No land would be disturbed. For the alternative that would transfer the KCP mission to the laboratories, construction impacts would involve internal facility modifications at LANL and LLNL. At SNL, approximately 22 acres of land would be disturbed to construct new facilities. This represents 6 percent of the undisturbed land at SNL. Potential impacts to cultural and biotic resources could occur.

There are minimal air impacts for both alternatives. Water requirements for a downsized facility at KCP would be reduced 31 percent compared to No Action. For the alternative that would transfer the mission to the laboratories, groundwater use would increase by less than 1 percent over No Action usage at LANL and LLNL, but would increase by 64 percent over No Action usage at SNL. This would still represent only 29 percent of the groundwater rights and thus, no adverse impacts are expected. Transferring the nonnuclear mission to the laboratories would have small positive socioeconomic impacts at those sites, and a large negative socioeconomic impact at KCP due to the phaseout of this mission.

There are no radiological risks to workers or the public associated with the nonnuclear fabrication mission, and there are no significant adverse impacts associated with normal operations. Accident profiles at the sites would not change as a result of downsizing at KCP or transferring the nonnuclear fabrication mission to the laboratories. Risks to neighboring populations from credible facility accidents would be small for all alternatives. All three sites have adequate existing waste management facilities to treat, store, and dispose of wastes that would be generated by this mission.

2.D.3 Environmentally Preferable Alternative. The environmentally preferable alternative is to downsize existing facilities at the KCP. The relocation of this mission to SNL, LANL or LLNL would entail additional environmental impacts associated with the construction and operation of new facilities.

2.D.4 Decision. DOE's decision is to downsize the existing facilities at the KCP. This is the environmentally preferable alternative, it exhibits the least technical risk, and is also the least-cost alternative.

3. Proposed Action (3)—Reestablishing Manufacturing Capability and Capacity for Pit Components

This capability, hereafter referred to as pit fabrication, includes all activities necessary to fabricate new pits, to modify the internal features of existing pits (intrusive modification), and to recertify or requalify pits.

3.A.1 Alternatives. 3.A.1.1 No Action. Under the No Action alternative, DOE would continue to use existing capabilities at the Los Alamos National Laboratory (LANL) and the Lawrence Livermore National Laboratory (LLNL). LANL maintains a limited capability to fabricate plutonium components using its plutonium research and development facility, and performs surveillance to provide safety and reliability assessments of the stockpile. In addition, less extensive capabilities would continue at LLNL to support material and process technology development.

3.A.1.2 Action Alternative 1—Reestablish Capability at the Los Alamos National Laboratory (LANL). This alternative would reconfigure the plutonium facility at LANL to fulfill the pit fabrication mission. This alternative would locate pit manufacturing in existing facilities. Existing equipment would be retained as much as possible, but some equipment would need to be upgraded.

3.A.1.3 Action Alternative 2—Reestablish Capability at the Savannah River Site (SRS). This alternative would establish a pit fabrication facility at SRS within existing facilities, but with new equipment and systems. Facilities are available at the SRS, in F-Area and H-Area, which could house all the process functions required for the manufacture of plutonium pits. New equipment and systems would be required for the pit fabrication facility.

3.A.2 Comparison of Alternatives. 3.A.2.1 Cost and Technical Factors Technical risk associated with each alternative was assessed by comparing the relative experience of each site in the pertinent production capability areas. No pits are currently being produced for the nuclear weapon stockpile, and neither site has done so in the recent past. However, LANL has recently provided pits for nuclear explosive testing, and is currently producing plutonium-238 heat sources for National Aeronautics and Space Administration (NASA) programs. Also, LANL continues to perform pit surveillance and technology development activities directly related to the required capabilities for pit fabrication.

SRS is currently processing and shipping plutonium-238 to LANL to support fabrication of NASA heat sources. Although SRS has a health, safety, and security infrastructure for plutonium operations, the historical mission for the site was separation and production of plutonium metal for shipment to other sites for weapons program use. Consequently, SRS has no experience with the kinds of capabilities required for precision nuclear component manufacturing and the ancillary supporting functions.

The required workload for the fabrication of new replacement pits is small. DOE foresees only the replacement of pits destroyed in routine surveillance testing unless a near-term, life-limiting phenomenon is discovered in stockpile pits. Historical pit surveillance data and pit life studies do not predict a near-term problem. However, data are limited for weapons older than 25 years, and for the youngest weapons in the stockpile.

The technological capability to manufacture all of the pit designs in the enduring stockpile provides an inherent capacity to manufacture about 50 pits per year in single shift operations. During weapon refurbishment to replace other components, DOE expects most pits to be requalified and reused. About 20 pits per year are expected to be required to replace pits destroyed in routine surveillance testing. A capacity of about 50 pits per year is, therefore, judged to be sufficient for the next 10 or more years.

The construction costs for providing such a limited pit fabrication capacity are less at LANL (about $310 million in 1995 dollars) than at SRS (about $490 million in 1995 dollars). This is largely because the capability would be additive to existing capabilities at LANL

while a completely new stand-alone capability would be required at SRS. Both estimates include the costs of planned refurbishment of the LANL plutonium facility for its ongoing pit surveillance and stockpile stewardship missions. In addition, annual operating costs would be considerably less at LANL (about $30 million versus $60 million at SRS) because the mission would be additive to other existing missions and would not have to carry all facility overhead costs.

The technical risk at LANL would be less, due to the existing experience base for stockpile stewardship and pit surveillance missions. The LANL capability would also be in place at least two years earlier than the SRS alternative.

In reestablishing plutonium pit fabrication capability, DOE considered establishing a larger fabrication capacity more in line with the capacity planned for other manufacturing functions. Larger capacity was rejected, however, because of the small current demand for the fabrication of replacement pits, and the significant, but currently undefined, time period before additional capacity may be needed.

3.A.2.2 Environmental Factors—Upgrades to existing facilities would be required for each alternative, and no new land would be disturbed. During operations, both alternatives would utilize similar facilities, procedures, and natural resources. Therefore, both alternatives would result in similar operational environmental impacts for most natural resource areas. Impacts to air quality would be minimal and well within established standards. At SRS, water requirements would be provided from surface water, which is plentiful, and no adverse impacts would be expected. At LANL, groundwater would be used. Water requirements for this mission, which would be less than 1 percent of projected No Action usage, could be adequately met without exceeding the groundwater allotment at LANL.

Socioeconomic impacts are comparable for either alternative, although SRS would require more additional new workers. Worker exposure to radiation would be larger at SRS due to the larger added workforce, but within regulatory limits for both alternatives. Both sites have adequate existing waste management facilities to treat, store, and dispose of wastes that would be generated by the pit fabrication mission. Risks to neighboring populations from normal operations or credible facility accidents would be small for both alternatives.

3.A.3 Environmentally Preferable Alternative. For pit manufacturing, the No Action alternative is the environmentally preferable alternative. Under the No Action alternative, no new construction would be required, and the Department would continue with the existing pit research and development capability at LANL and LLNL. However, DOE would not have the capability to replace the pit component in stockpile weapons if necessary, nor protect against stockpile attrition through surveillance testing. Thus, No Action is not a reasonable alternative.

Of the two action alternatives, which would reestablish pit manufacturing capabilities at either LANL or SRS, LANL is the environmentally preferable alternative. Although overall environmental impacts are projected to be similar between the two sites, LANL was judged to be preferable due to the fact that the radiological risks to workers during normal operations are projected to be less than at SRS.

3.A.4 Decision. DOE's decision is to reestablish the pit fabrication capability, at a small capacity, at LANL. This is the environmentally preferable alternative, it exhibits the least technical risk, and is also the least-cost alternative. This decision limits the plutonium fabrication facility plans to a facility sized to meet expected programmatic requirements over the next ten or more years. It is not sized to have sufficient capacity to remanufacture new plutonium pits at the same production rate as that of their original manufacture. DOE will perform development and demonstration work at its operating plutonium facilities over the next several years to study alternative facility concepts for larger capacity. Environmental analysis of this larger capacity has not been performed at this time because of the uncertainty in the need for such capacity and the uncertainty in the facility technology that would be utilized. Should a larger pit fabrication capacity be required in the future, appropriate environmental and siting analysis would be performed at that time.

Mitigation. Specific mitigation measures are not addressed for the stockpile management decisions of this ROD, although many potential mitigation measures are identified in the PEIS. In accordance with the Stockpile Stewardship and Management Program's two-tiered NEPA Strategy, these specific mitigation measures will be addressed, as necessary, on a site-by-site basis, in any site-specific NEPA analyses needed to implement the stockpile management decisions of this ROD.

Strategic Reserve Storage

The PEIS also evaluates storage alternatives for strategic reserve material (plutonium and highly enriched uranium that has not been declared surplus to national security needs). However, a decision on storage of strategic reserve materials will be made later in the Record of Decision on the Final PEIS for the Storage and Disposition of Weapons-Usable Fissile Materials in conjunction with decisions on the storage of surplus materials. The preferred alternatives for strategic reserve storage described in both the Final PEIS for Stockpile Stewardship and Management and the Final PEIS for the Storage and Disposition of Weapons-Usable Fissile Materials are consistent. The preferred alternatives are: (1) Highly enriched uranium strategic reserve storage at Y–12; and (2) plutonium pit strategic reserve storage in Zone 12 at Pantex.

Other Considerations

DOE has considered a wide range of views on alternatives for the Stockpile Stewardship and Management Program. However, it is national security policy, as established by the President and Congress, that must define the complex balance between U.S. national security policy objectives for nuclear deterrence, arms control and nonproliferation.

Chapter 2 of the PEIS describes the national security policy framework that defines the purpose and need for DOE's nuclear weapons mission for the foreseeable future. That chapter also describes the development of proposed actions and reasonable alternatives in response to recent changes in national security policy, and puts those changes in a broad technical perspective. Successive levels of technical detail are provided in Volume I, Chapter 3 and Volumes II and III of the PEIS. The discussions that follow refer to the appropriate sections of the PEIS to avoid unnecessary repetition.

While the terms ''stockpile stewardship'' and ''stockpile management'' are relatively new, the Program is not new when considered in terms of its substructure capabilities. What the terms are meant to convey is a post-Cold War change in Program focus away from large-scale development and production of new-design nuclear weapons with nuclear testing, to one that focuses on the safety and reliability of a smaller, aging stockpile without nuclear testing. Even with this change in focus, however, national security policies require DOE

to maintain the historical capabilities of the ongoing Program. The actions selected in this Record of Decision flow logically from the mission purpose and need, given the policy constraints placed on the Program by the President and Congress. Enhanced experimental capability (represented by the National Ignition Facility, Contained Firing Facility, and Atlas Facility) is needed because, in the absence of nuclear testing, it will provide the surrogate source of experimental data that are needed to continually assess and certify a safe and reliable stockpile. Rightsized manufacturing capacities at the Y–12 Plant (Oak Ridge), the Kansas City Plant, and Pantex will most efficiently conform to the reduced requirements of a smaller, aging stockpile in the absence of new-design weapon production. A reestablished pit manufacturing capability at LANL will restore a required capability of the Program that was temporarily lost as a consequence of the closure of the Rocky Flats Plant.

The question of alternatives for the Stockpile Stewardship and Management Program is complex because maintaining a nuclear weapons stockpile, whatever its size, requires a complete integrated set of technical capabilities as well as an appropriately sized manufacturing capacity. The technical capabilities are generally characterized as research, design, development, and testing; reliability assessment and certification; and manufacturing and surveillance operations (Section 2.2 and Figure 2.7–2 of the PEIS). From a technical point of view, none of these capabilities can be deleted if DOE is to maintain a safe and reliable stockpile (Section 2.4 of the PEIS). Indeed, DOE has been directed by the President and Congress to maintain these capabilities (Section 2.4 of the PEIS).

Commentors on the PEIS questioned the different treatment of stewardship and management alternatives, mainly the lack of programmatic alternatives to science based stockpile stewardship. Stewardship and management alternatives were treated differently in the PEIS because they address fundamentally different problems. Stockpile stewardship capabilities form the basis of DOE's judgments about the safety, reliability, and performance of U.S. nuclear weapons and, in a larger context, U.S. judgments about the nuclear weapons capabilities of others (Section 2.4.1 of the PEIS). DOE did not consider it reasonable to propose stewardship alternatives that would diminish, rather than enhance, stewardship capabilities, particularly given the fact that historic confidence in the safety and performance of the stockpile was derived from the nuclear testing that is no longer part of the ongoing stewardship program. National security policy requires DOE to maintain, and in some areas enhance, the stewardship capabilities of the three weapons laboratories and NTS (Section 2.2 of the PEIS). The PEIS explains the basis for this conclusion in a technical context, including the need for two independent nuclear design laboratories (Section 2.4.1 of the PEIS). Therefore, the PEIS did not propose any actions that would otherwise diminish ongoing stewardship missions.

In the PEIS, the Department determined that there is only one reasonable programmatic alternative for stockpile stewardship: enhanced experimental capability (see Section 3.1.2). This determination is consistent with a previous review made in November 1994 by the JASON Committee, a group of independent experts who evaluated the Science-Based Stockpile Stewardship (SBSS) program. The JASON Committee concluded that ''[a] strong SBSS program, such as we recommend in this report, is an essential component for the U.S. to maintain confidence in the performance of a safe and reliable nuclear deterrent under a comprehensive test ban.'' The JASON Committee further concluded that ''[in] the absence of nuclear weapons testing, improved understanding of the warheads and their behavior over time will be derived from computer simulations and analyses benchmarked against past data and new, more comprehensive diagnostic information obtained from carefully designed laboratory experiments. Toward this goal, the SBSS calls for the construction of a number of experimental facilities which have applications both in basic scientific research and in research directed towards strengthening the underlying scientific understanding in the weapons program.''

Section 3.1.2.4 of the PEIS discussed four possible programmatic stewardship alternatives to enhanced experimental capability and concluded that none of them were reasonable stand-alone alternatives. These included: denuclearization (eliminate nuclear weapons in the relative near term); restoration (continue to rely on underground nuclear testing); remanufacturing (reproduce exact replicas of proven designs); and maintenance (rely on enhanced surveillance and revalidation to detect and correct problems). Both denuclearization and restoration are inconsistent with United States national security policy. Furthermore, while remanufacturing and maintenance already are, and will continue to be key components of the Program, neither would provide sufficient technical assurance that problems that may arise in the stockpile will be effectively diagnosed and corrected.

Prior to the issuance of the Final PEIS, some commentors expressed concern that the Department had not considered other programmatic alternatives for stockpile stewardship (i.e., remanufacturing). In response to their concerns, the Department asked Dr. Sidney D. Drell, of the JASON Committee, to review the issue of remanufacturing as a reasonable alternative to enhanced experimental capabilities.

In an October 28, 1996, letter to the Secretary of Energy, Dr. Drell and another member of the JASON Committee, Dr. Richard L. Garwin, stated that ''we must not only maintain a cadre of first-class weapon scientists and engineers. We must also expand the existing science based understanding of the stockpile. The existing S&T [Science and Technology] base, including existing above-ground experimental facilities, is not adequate to the task of stewardship over the long term for an aging deterrent in the absence of nuclear tests. These requirements cannot be met if the SSMP [Stockpile Stewardship and Management Program] as planned by the Department of Energy is replaced simply by a program of remanufacturing or refurbishing existing weapons without paying careful attention to the need of maintaining weapons design capability, expanding our science based understanding of the stockpile, and providing the sources of experimental data needed to validate enhanced computer simulations.'' They concluded that ''[w]hile remanufacturing is a necessary component of SSMP, it is not a reasonable alternative to the pursuit of a science-based stockpile stewardship or the need for enhanced experimental capability.''

National security policy also requires DOE to maintain a full complement of stockpile management capabilities and appropriate manufacturing capacity, albeit for a smaller post-Cold War stockpile. Unlike stockpile stewardship capabilities, a smaller stockpile does permit some reasonable siting alternatives for stockpile management capabilities and capacities to accomplish the mission purpose and need within the current national security policy framework (Section 2.4.2 of the PEIS).

One important consideration in developing the PEIS was the possibility

that future international treaties may lead to a smaller U.S. stockpile, i.e., less than the currently defined START II protocol-sized stockpile. The PEIS analyzed each of the two stockpile sizes currently defined and directed by national security policy, a START I Treaty stockpile (6000 accountable strategic weapons) and a START II protocol-sized stockpile (3500 accountable strategic weapons). In addition, the PEIS analyzed a hypothetical 1,000-weapon stockpile for the purpose of providing a sensitivity analysis for decisions on manufacturing capacity. The Nuclear Weapons Stockpile Memorandum (NWSM) process that specifies the types of weapons and quantities of each weapon type in the stockpile is described in Section 1.1 of the PEIS. The classified NWSM is developed based on Department of Defense force structure requirements necessary to maintain nuclear deterrence and comply with existing arms control treaties while pursuing further arms control reductions. The PEIS describes this complex process, and explains why DOE does not believe it reasonable to speculate on additional stockpile sizes, which would necessarily entail the use of a large number of arbitrary assumptions (Section 2.2 of the PEIS). Nevertheless, DOE has considered the possibility that future national security policy could define a path to a smaller stockpile. Therefore, the analysis in the PEIS is very flexible in its approach to potential changes in stockpile size.

It is important to note in this regard that, just as stockpile stewardship capabilities are currently viewed by the United States as furthering U.S. nonproliferation objectives by making the ''zero-yield'' Comprehensive Test Ban Treaty feasible, it is reasonable to assume that confidence in U.S. stewardship capabilities would remain as important, if not more important, in future negotiations to reduce the stockpile further. The path to even a very small (tens or hundreds of weapons) or a zero stockpile would require the negotiation of complex international treaties, most likely with provisions that require intrusive international verification inspections of nuclear weapons-related facilities. Therefore, DOE believes it reasonable to assume that complex treaty negotiations, when coupled with complex implementation provisions, could possibly stretch over several decades. On such a gradual path to a very small or zero stockpile, stockpile size alone would not change the purpose and need, proposed actions, or alternatives in the PEIS as they relate to stewardship capabilities. The issues of maintaining the core competencies of the United States in nuclear weapons, and the technical problems of a smaller, aging stockpile in the absence of nuclear testing, would remain the same.

With regard to stockpile management capability and capacity, the PEIS evaluates reasonable approaches for a gradual path to a very small or zero stockpile. At some point on this path, further downsizing of existing industrial plants or the alternative of consolidating manufacturing functions at stewardship sites would become more attractive as manufacturing capacity becomes a less important consideration. In the near term, however, the decisions to downsize the existing industrial plants would still be reasonable because the projected downsizing investment would be recouped within a few years through reduced operating expense, and downsizing in the near term is consistent with potential longer-term decisions regarding plant closures. With regard to reestablishing pit manufacturing capability, DOE does not intend to establish a greater manufacturing capacity than is inherent in reestablishing the basic manufacturing capability. Thus, on a gradual path to a very small or zero stockpile, stockpile size alone would not change the purpose and need, proposed actions, or alternatives in the PEIS with regard to stockpile management capabilities and capacities.

Conclusions

With the issuance of this Record of Decision, the Department is making the decisions necessary to: (1) construct and operate three enhanced experimental facilities (the National Ignition Facility at LLNL, the Contained Firing Facility at LLNL, and the Atlas Facility at LANL); (2) downsize the existing weapons industrial plants (Y–12 at Oak Ridge, the Kansas City Plant, and Pantex); and (3) reestablish the plutonium pit component manufacturing capability at LANL. Additionally, the Department has decided to transfer a small amount of plutonium-242 material from SRS to LANL for stockpile stewardship activities.

During the 30 day period following the Environmental Protection Agency's notice that the Final PEIS had been filed, the Department received four letters from government organizations in response to the Final PEIS. Two of the letters, from the Tennessee Historical Commission and the State of Missouri Office of Administration, expressed no objection or comment. A third letter, from the Environmental Protection Agency, indicated that the Agency's prior comments on the Draft PEIS had been adequately addressed in the Final PEIS, and that the Agency had no objections to the project as proposed. The fourth letter, from the New Mexico Environmental Department, provided comments on the nomenclature used to describe water resources in and around the Los Alamos National Laboratory. These comments do not change the analysis in the PEIS, but they have been considered in preparing this Record of Decision. In making these decisions, all practicable means to avoid or minimize environmental harm from the alternatives selected have been adopted.

These decisions will help enable the Department to assess and certify the safety and reliability of the nation's nuclear weapons stockpile, while also supporting a zero-yield Comprehensive Test Ban Treaty. These decisions will allow for the closing and ultimate remediation of unnecessary industrial facilities, and reduce the cost of existing manufacturing operations. These decisions reestablish the required national security capability of plutonium pit fabrication. These decisions are consistent with, and supportive of, national security policy requirements established by the President and Congress for nuclear deterrence, arms control, and nonproliferation, including the safeguards established for U.S. entry into the Comprehensive Test Ban Treaty. Finally, these decisions will help enable the Department to maintain the core intellectual and technical competencies of the United States in nuclear weapons, and maintain a safe and reliable nuclear weapons stockpile.

Issued in Washington DC, December 19, 1996.

Hazel R. O'Leary,

Secretary.

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Office of Energy Research

Joint Program on Terrestrial Ecology and Global Change Notice 97–02

AGENCY: Department of Energy (DOE), National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), U.S. Department of Agriculture (USDA), Environmental Protection Agency (EPA).

ACTION: Notice inviting grant applications.

SUMMARY: In concert with the U.S. Global Change Research Program