Staff Attorney, Entergy Power Marketing Corp., 10055 Grogan's Mill Road, Suite 500, The Woodlands, TX 77380.

Comments on Solutions' request to export should be clearly marked with Docket EA–155–A. Additional copies are to be filed directly with:

Richard Staines, Consolidated Edison Solutions, Inc., 701 Westchester Avenue, Suite 320E, White Plaines, NY 10604; and

Steven J. Ross, Steptoe & Johnson, LLP, 1330 Connecticut Avenue, NW, Washington, DC 20036.

Comments on DETM's request to export should be clearly marked with Docket EA–163–A. Additional copies are to be filed directly with:

Kris Errickson, Legal/Regulatory Coordinator, Duke Energy Trading and Marketing, One Westchase Center, 10777 Westheimer Street, Suite 650, Houston, TX 77042;

Christine M. Pallenik, Managing Counsel, Duke Energy Trading and Marketing, 4 Triad Center, Suite 1000, Salt Lake City, UT 84180; and

Gordon J. Smith, Esq., John & Hengerer, 1200 17th Street, NW, Suite 600, Washington, DC 20036.

Comments on ComEd's request to export should be clearly marked with Docket EA–169–A. Additional copies are to be filed directly with:

Peter Thornton, Esq., Senior Counsel, Commonwealth Edison Company, 125 South Clark Street, Room 1535, Chicago, IL 60603; and

James H. McGrew, Esq., Bruder, Gentile & Marcoux, 1100 New York Avenue, NW, Suite 510 East, Washington, DC 20005–3934.

A final decision will be made on these applications after the environmental impacts have been evaluated pursuant to the National Environmental Policy Act of 1969 and determinations are made by the DOE that the proposed actions will not adversely impact on the reliability of the U.S. electric power supply system.

Copies of these applications will be made available, upon request, for public inspection and copying at the address provided above or by accessing the Fossil Energy Home Page at http://www.fe.doe.gov. Upon reaching the Fossil Energy Home page, select ''Electricity'' from the ''Regulatory Info'' menu, and then ''Pending Proceedings'' from the options menus.

Issued in Washington, DC, on January 5, 2000.

Anthony J. Como,

Deputy Director, Electric Power Regulation, Office of Coal & Power Im/Ex, Office of Coal & Power Systems, Office of Fossil Energy.

[FR Doc. 00–592 Filed 1–10–00; 8:45 am]

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DEPARTMENT OF ENERGY

Record of Decision for the Surplus Plutonium Disposition Final Environmental Impact Statement

AGENCY: Department of Energy.

ACTION: Record of decision.

SUMMARY: In November 1999, the Department of Energy (DOE or the Department), in accordance with the National Environmental Policy Act (NEPA), issued the Surplus Plutonium Disposition Final Environmental Impact Statement (SPD EIS)(DOE/EIS–0283). The SPD EIS was the culmination of a process started on May 22, 1997, when DOE published a Notice of Intent (NOI) in the **Federal Register** (62 FR 28009) announcing its decision to prepare an EIS that would tier from the analysis and decisions reached in connection with the Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic EIS (Storage and Disposition PEIS)(DOE/EIS–0229). Accordingly, the Surplus Plutonium Disposition Draft Environmental Impact Statement (SPD Draft EIS) (DOE/EIS–0283–D) was prepared and issued in July 1998. It identified the potential environmental impacts of reasonable alternatives for the proposed siting, construction, and operation of three facilities for the disposition of up to 50 metric tons of surplus plutonium, as well as a No Action Alternative. These three facilities would accomplish pit [1] disassembly and conversion, plutonium conversion and immobilization, and mixed oxide (MOX) [2] fuel fabrication. The SPD Draft EIS also analyzed the potential impacts of fabricating a limited number of MOX fuel assemblies, referred to as lead assemblies, for testing in a reactor before starting full production of MOX fuel, and the potential impacts of examining the lead assemblies after irradiation.

For the alternatives that included MOX fuel fabrication, the SPD Draft EIS described the potential environmental impacts of using from three to eight commercial nuclear reactors to irradiate MOX fuel. The potential impacts were based on a generic reactor analysis included in the Storage and Disposition PEIS that used actual reactor data and a range of potential site conditions. In May 1998, DOE initiated a procurement process to obtain MOX fuel fabrication and reactor irradiation services. In March 1999, DOE awarded a contract to Duke Engineering & Services, COGEMA Inc., and Stone & Webster (known as DCS) to provide the requested services. Full implementation of the base contract was contingent upon the successful completion of the NEPA process. A Supplement to the SPD Draft EIS (DOE/EIS–0283–S) was issued in April 1999, which analyzed the potential environmental impacts of using MOX fuel in six specific reactors named in the DCS proposal. Those reactors are: Catawba Nuclear Station Units 1 and 2 in South Carolina, McGuire Nuclear Station Units 1 and 2 in North Carolina, and North Anna Power Station Units 1 and 2 in Virginia. The SPD Final EIS addresses the comments received during the public review process for the SPD Draft EIS and the Supplement to the draft.

The Department has decided to implement a program to provide for the safe and secure disposition of up to 50 metric tons of surplus plutonium as specified in the Preferred Alternative in the Surplus Plutonium Disposition Final Environmental Impact Statement. The fundamental purpose of the program is to ensure that plutonium produced for nuclear weapons and declared excess to national security needs (now and in the future) is never again used for nuclear weapons. Specifically, the Department has decided to use a hybrid approach for the disposition of surplus plutonium. This approach allows for the immobilization of approximately 17 metric tons of surplus plutonium and the use of up to 33 metric tons of surplus plutonium as MOX fuel. The Department has selected the Savannah River Site in South Carolina as the location for all three disposition facilities. Based upon this selection, the Department will authorize DCS to fully implement the base contract. In addition, the Department has selected the Los Alamos National Laboratory in New Mexico as the location for lead assembly fabrication and Oak Ridge National Laboratory in Tennessee as the site for post-irradiation examination of lead assemblies.

As previously stated in the Storage and Disposition PEIS Record of Decision (62 FR 3014, January 21, 1997), the use of MOX fuel in existing reactors will be undertaken in a manner that is consistent with the United States' policy objective on the irreversibility of the

[1] A nuclear weapon component.

[2] A physical blend of uranium oxide and plutonium oxide.

nuclear disarmament process and the United States' policy discouraging the civilian use of plutonium. To this end, implementing the MOX alternative will include government ownership and control of the MOX fuel fabrication facility at a DOE site, and use of the facility only for the surplus plutonium disposition program. There will be no reprocessing or subsequent reuse of spent MOX fuel. The MOX fuel will be used in a once-through fuel cycle in existing reactors, with appropriate arrangements, including contractual or licensing provisions, limiting use of MOX fuel to surplus plutonium disposition.

EFFECTIVE DATE: The decisions set forth in this Record of Decision are effective upon publication of this document, in accordance with DOE's National Environmental Policy Act Implementing Procedures and Guidelines (10 CFR Part 1021) and the Council on Environmental Quality regulations implementing NEPA (40 CFR Parts 1500–1508).

ADDRESSES: Copies of the SPD EIS and this Record of Decision may be obtained by placing a call to an answering machine or facsimile machine at a toll free number (1–800–820–5156), or by mailing a request to: Bert Stevenson, NEPA Compliance Officer, Office of Fissile Materials Disposition, U.S. Department of Energy, Post Office Box 23786, Washington, DC 20026–3786.

The full SPD EIS, including the 54-page Summary, and this Record of Decision are available on the Office of Fissile Materials Disposition's web site. The address is http://www.doe-md.com. The full SPD EIS is also available on DOE's NEPA web site at *http://tis.ch.doe.gov/nepa.*

FOR FURTHER INFORMATION CONTACT: Questions concerning the plutonium disposition program can be submitted by calling or faxing them to the same toll free number (1–800–820–5156), or by mailing them to Mr. Bert Stevenson at the above address. Comments may also be submitted electronically by using the Office of Fissile Materials Disposition's web site. The address is http://www.doe-md.com.

For general information on the DOE NEPA process, please contact: Carol Borgstrom, Director, Office of NEPA Policy and Assistance, U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, DC 20585, 202–586–4600 or 1–800–472–2756.

SUPPLEMENTARY INFORMATION:

Background

The United States and Russia are working together to reduce the threat of nuclear weapons proliferation worldwide by disposing of surplus plutonium in a safe, secure, environmentally acceptable and timely manner. Comprehensive disposition actions are needed to ensure that surplus plutonium is converted to proliferation-resistant forms. In September 1993, President Clinton issued the Non-proliferation and Export Control Policy in response to the growing threat of nuclear weapons proliferation. Further, in January 1994, President Clinton and Russia's President Yeltsin issued a Joint Statement Between the United States and Russia on Non-Proliferation of Weapons of Mass Destruction and the Means of Their Delivery. In accordance with these policies and statements, the focus of U.S. non-proliferation efforts is to ensure the safe, secure, long-term storage and disposition of surplus weapons-usable plutonium and highly enriched uranium (HEU). In July 1998, the United States and Russia signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed and a statement of principles with the intention of removing approximately 50 metric tons[3] of plutonium from each country's stockpile. The Department is pursuing both the immobilization and mixed oxide (MOX) fuel approaches to surplus plutonium disposition, which include the siting, construction, operation, and deactivation of three facilities at one or two of four DOE candidate sites:

1. A facility for disassembling pits (a weapons component) and converting the recovered plutonium, as well as plutonium metal from other sources, into plutonium dioxide suitable for disposition. Candidate sites for this facility are the Hanford Site (Hanford) near Richland, Washington; Idaho National Engineering and Environmental Laboratory (INEEL) near Idaho Falls, Idaho; the Pantex Plant (Pantex) near Amarillo, Texas; and the Savannah River Site (SRS) near Aiken, South Carolina.

2. A facility for immobilizing surplus plutonium for eventual disposal in a geologic repository pursuant to the Nuclear Waste Policy Act. This facility would include a collocated capability for converting non-pit plutonium materials into plutonium dioxide suitable for immobilization. The immobilization facility would be located at either Hanford or SRS.

3. A MOX fuel fabrication facility for fabricating plutonium dioxide into MOX fuel. Candidate sites for this facility are Hanford, INEEL, Pantex, and SRS. Also part of the proposed action are MOX lead assembly[4] activities at five candidate DOE sites: Argonne National Laboratory—West (ANL–W) at INEEL; Hanford; Lawrence Livermore National Laboratory (LLNL) in Livermore, California; Los Alamos National Laboratory (LANL) near Los Alamos, New Mexico; and SRS. The Department would fabricate a limited number of MOX fuel lead assemblies for testing in reactors before starting full production of MOX fuel under the proposed MOX fuel program. Post-irradiation examination activities would be performed at one of two sites, ANL–W or Oak Ridge National Laboratory (ORNL) in Oak Ridge, Tennessee.

In March 1999, DOE awarded a multi-phase contract to Duke Engineering & Services, COGEMA Inc., and Stone & Webster (collectively known as DCS) for the design, licensing, construction, operation, and eventual deactivation of the MOX fuel fabrication facility and for irradiating the MOX fuel. Full implementation of the base contract was contingent upon the successful completion of the National Environmental Policy Act (NEPA) process. The contract includes future provisions to use MOX fuel in six specific reactors: Catawba Nuclear Station Units 1 and 2 in South Carolina, McGuire Nuclear Station Units 1 and 2 in North Carolina, and North Anna Power Station Units 1 and 2 in Virginia.

DOE is aware that a decision to use surplus plutonium in MOX fuel could be perceived as a change in U.S. civilian fuel cycle policy. In fact, however, such a decision would not represent a change in policy. The United States does not encourage the civilian use of plutonium, and does not itself engage in reprocessing for the purposes of either nuclear explosives or nuclear power generation. Disposition of excess plutonium, regardless of the specific option chosen, will not change this basic fuel cycle policy.

NEPA Process

Surplus Plutonium Disposition Draft EIS

In December 1996, the Department published the Storage and Disposition PEIS. That PEIS analyzes the potential environmental consequences of alternative strategies for the long-term storage of weapons-usable plutonium and highly enriched uranium and the disposition of weapons-usable

[3] Some materials are already in a final disposition form (*i.e.,* irradiated fuel) and will not require further action before disposal.

[4] A MOX lead assembly is a prototype reactor fuel assembly that contains MOX fuel.

plutonium that has been or may be declared surplus to national security needs.[5] The Record of Decision (ROD) for the Storage and Disposition PEIS, issued on January 14, 1997, outlines DOE's decision to pursue an approach to plutonium disposition that would make surplus weapons-usable plutonium inaccessible and unattractive for weapons use. DOE's disposition strategy, consistent with the Preferred Alternative analyzed in the Storage and Disposition PEIS, allows for both the immobilization of some (and potentially all) of the surplus plutonium, and use of some of the surplus plutonium as MOX fuel in existing domestic, commercial reactors. The disposition of surplus plutonium would also involve disposal of both the immobilized plutonium and the MOX fuel (as spent nuclear fuel) in a potential geologic repository.[6]

On May 22, 1997, DOE published a Notice of Intent (NOI) in the **Federal Register** (FR) announcing its decision to prepare an EIS that would tier from the analysis and decisions reached in connection with the PEIS discussed above. The follow-on EIS, the Surplus Plutonium Disposition Environmental Impact Statement, addresses the extent to which each of the two plutonium disposition approaches (immobilization and MOX) would be implemented, and analyzes candidate sites for plutonium disposition facilities, as well as alternative technologies for immobilization.[7] In July 1998, DOE issued the SPD Draft EIS. That draft included a description of the potential environmental impacts of using from three to eight commercial nuclear reactors to irradiate MOX fuel. The potential impacts were based on a generic reactor analysis presented in the Storage and Disposition PEIS. In March 1999, DOE awarded a contract, contingent on completion of the NEPA process, for MOX fuel fabrication and irradiation services, that identified the specific reactors that would be used to irradiate the MOX fuel. After this contract award, DOE issued a Supplement to the SPD Draft EIS (Supplement) (April 1999) that describes the potential environmental impacts of using MOX fuel at the three proposed reactor sites. These site-specific analyses have been incorporated into the SPD Final EIS.

Alternatives Considered

The SPD EIS analyzes the potential environmental impacts associated with implementing pit disassembly and conversion of the recovered plutonium and clean plutonium metal at four candidate sites; conversion and immobilization of plutonium from non-pit sources at two candidate sites, and MOX fuel fabrication activities at four candidate sites. The SPD EIS also evaluates immobilizing plutonium in ceramic or glass forms, and compares the can-in-canister approach with the homogenous ceramic immobilization and vitrification approaches that were evaluated in the Storage and Disposition PEIS. As part of the MOX option, the SPD EIS also evaluates the potential impacts of fabricating MOX fuel lead assemblies (for test irradiation in domestic, commercial nuclear power reactors) at five candidate DOE sites, the impacts of subsequent post-irradiation examination of the lead assemblies at two candidate DOE sites, and the impacts of irradiating MOX fuel in domestic, commercial reactors.

Fifteen surplus plutonium disposition alternatives and the No Action Alternative are evaluated in the SPD EIS. These action alternatives are organized into 11 sets of alternatives, reflecting various combinations of facilities and candidate sites, as well as the use of new or existing buildings.

Each of the 15 alternatives includes a pit conversion facility, but the need for additional facilities in each alternative varies depending on the amount of plutonium to be immobilized. Eleven alternatives involve the hybrid approach of immobilizing 17 metric tons of surplus plutonium and using 33 metric tons for MOX fuel, and therefore require all three facilities. Four alternatives involve immobilizing all 50 metric tons, and therefore include only a pit conversion facility and an immobilization facility. The No Action Alternative does not involve disposition of surplus weapons-usable plutonium, but instead addresses continued storage of the plutonium in accordance with the Storage and Disposition PEIS Record of Decision (ROD), with the exception that DOE is now considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage in lieu of Zone 12 as originally planned.

Immobilization Technology Alternatives

The Storage and Disposition PEIS discusses several immobilization technologies, including the homogenous ceramic and vitrification alternatives that were evaluated in detail, as well as variants of those alternatives, which include the ceramic and glass can-in-canister approaches and a homogenous approach using an adjunct melter. The ROD for the Storage and Disposition PEIS states that DOE would make a determination on the specific technology on the basis of ''the follow-on EIS.'' The SPD EIS is that follow-on EIS, and it identifies the ceramic can-in-canister approach as the preferred immobilization technology.

In order to bound the estimate of potential environmental impacts associated with ceramic and glass immobilization technologies, the Storage and Disposition PEIS analyzes the construction and operation of vitrification and ceramic immobilization facilities that employ a homogenous approach. These facilities are based on generic designs that do not involve the use of existing facilities or specific site locations. These generic designs allow for surplus plutonium to be immobilized in a homogenous form, either within a ceramic matrix and formed into disks, or vitrified as borosilicate glass logs.

In order to support a decision on the immobilization technology and form, the SPD EIS evaluates the potential environmental impacts of the ceramic and glass can-in-canister technologies, and compares those impacts with the impacts of the homogenous facilities evaluated in the Storage and Disposition PEIS. Hanford and SRS are the candidate sites for immobilization based on their existing plans for a high-level waste vitrification facility.

MOX Fuel Fabrication Alternatives

Alternatives that involve the fabrication of MOX fuel include the use of the fuel in existing domestic, commercial nuclear power reactors. The environmental impacts of using MOX fuel in these reactors are evaluated generically in the Storage and Disposition PEIS. When the SPD Draft EIS was published, the specific reactors were not known; therefore, the generic analysis from the Storage and Disposition PEIS was incorporated by reference in the SPD Draft EIS.

In May 1998, DOE initiated a procurement process to obtain MOX fuel fabrication and irradiation services. In compliance with its NEPA regulations in 10 CFR 1021.216, DOE requested that each offeror provide, as

[5] DOE addressed the disposition of surplus highly enriched uranium in a separate environmental impact statement, the Disposition of Surplus Highly Enriched Uranium Final Environmental Impact Statement, issued in June 1996, with the Record of Decision issued in July 1996.

[6] The Nuclear Regulatory Commission has reviewed DOE's plans to phase immobilized material into the potential geologic repository, and has agreed that with adequate canister and package design features, the immobilized plutonium waste forms can be made acceptable for disposal in the repository.

[7] The SPD EIS also analyzes a No Action Alternative, *i.e.,* the possibility of disposition not occurring but, instead, continuing to store surplus plutonium in accordance with the Storage and Disposition PEIS ROD.

part of its proposal, environmental information specific to its proposed MOX facility design and the domestic, commercial reactors proposed to be used for irradiation of the fuel. That information was analyzed by the Department to identify potential environmental impacts of the proposals, and DOE's analysis was documented in an Environmental Critique prepared pursuant to 10 CFR 1021.216(g). That analysis was considered by the selection official as part of the award decision. DOE awarded a contract (contingent on completion of the NEPA process) to the team of Duke Engineering & Services, COGEMA Inc., and Stone & Webster (DCS) in March 1999 to provide the requested services. These services include design, licensing, construction, operation, and eventual deactivation of the MOX fuel fabrication facility, as well as irradiation of the MOX fuel in six domestic, commercial reactors. The reactors proposed by DCS are Duke Power Company's Catawba Nuclear Station, Units 1 and 2; and McGuire Nuclear Station, Units 1 and 2; and Virginia Power Company's North Anna Power Station, Units 1 and 2. Under the contract, no construction, fabrication, or irradiation of MOX fuel is authorized until the SPD EIS ROD is issued. Such site-specific activities, and DOE's exercise of contract options to allow those activities, would be contingent on decisions in this ROD.

Because the Environmental Critique contains proprietary information, it was not made available to the public. However, as provided in 10 CFR 1021.216(h), an Environmental Synopsis of the Environmental Critique was provided to the U.S. Environmental Protection Agency, made available to the public, and incorporated into the SPD EIS. Sections of the SPD EIS were revised or added to include reactor-specific information and were issued as a Supplement to the SPD Draft EIS. A Notice of Availability was published in the **Federal Register** on May 14, 1999 (64 FR 264019), providing a 45-day public comment period on the Supplement.[8] This Supplement was distributed to the local reactor communities, to stakeholders who received the SPD Draft EIS, and others as requested.

Under the hybrid alternatives, DOE could produce up to 10 MOX fuel assemblies for testing in domestic, commercial reactors before commencement of full-scale MOX fuel fabrication, although it is likely that only two lead assemblies would be needed.[9] These lead assemblies would be available for irradiation to support NRC licensing and fuel qualification efforts. Potential impacts of MOX fuel lead assembly fabrication are analyzed for three of the candidate sites for MOX fuel fabrication (Hanford, ANL—W at INEEL, and SRS), and two additional sites, LANL and LLNL. Pantex was not considered for lead assembly fabrication because it does not currently have any facilities capable of MOX fuel fabrication. Post-irradiation examination of the lead assemblies would be conducted, if required, to support NRC licensing activities. Two potential sites for this activity are analyzed in the SPD EIS: ANL—W and Oak Ridge National Laboratory (ORNL). As discussed previously, DOE's preferred locations for lead assembly fabrication and post-irradiation examination are LANL and ORNL, respectively.

The Department also considered a No Action Alternative, as required by NEPA. In the No Action Alternative, surplus weapons-usable plutonium in storage at various DOE sites would remain at those locations. The vast majority of pits would continue to be stored at Pantex, and the remaining plutonium in various forms would continue to be stored at Hanford, INEEL, LLNL, LANL, Rocky Flats Environmental Technology Site (RFETS), and SRS.

Materials Analyzed

There are eight general categories used to describe the 50 metric tons of surplus plutonium analyzed in the SPD EIS, which represent the physical and chemical nature of the plutonium. Two of the categories—clean metal (including pits) and clean oxide—could either be fabricated into MOX fuel or immobilized. The remaining six categories of material—impure metals, plutonium alloys, impure oxides, uranium/plutonium oxides, alloy reactor fuel, and oxide reactor fuel—would be immobilized.

Preferred Alternative

As previously noted, DOE's Preferred Alternative for the disposition of surplus weapons-usable plutonium is analyzed as Alternative 3 in the SPD Final EIS. The Preferred Alternative encompasses the following:

Pit Disassembly and Conversion at SRS (new construction)

Construct and operate a new pit conversion facility at SRS to disassemble nuclear weapons pits and convert the plutonium metal to a declassified oxide form suitable for international inspection and disposition using either the immobilization or the MOX/reactor approach. SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility would complement existing missions and take advantage of existing infrastructure.

Immobilization at SRS (new construction and the Defense Waste Processing Facility)[10]

Construct and operate a new immobilization facility at SRS using the ceramic can-in-canister technology. This technology would immobilize plutonium in a ceramic form, seal it in cans, and place the cans in canisters filled with borosilicate glass containing intensely radioactive high-level waste at the existing Defense Waste Processing Facility (DWPF). This preferred can-in-canister approach at SRS would complement existing missions, take advantage of existing infrastructure and staff expertise, and enable DOE to use an existing facility (*i.e.,* DWPF).

Implementation of the can-in-canister approach would require the availability of sufficient quantities of high-activity radionuclides from SRS high-level waste to DWPF. Due to problems experienced with the In-Tank Precipitation process for separating high-activity radionuclides from liquid high-level waste, DWPF is currently operating with sludge feed, not liquid high-level waste. A thorough search for alternatives to the In-Tank Precipitation process has identified two viable processes (ion exchange and small tank precipitation) for separating the high-activity fraction from the liquid high-level waste and sending this fraction to DWPF. Extensive laboratory and bench scale testing has been conducted on both of these processes. Test results indicate that either process is capable of separating the high-activity radionuclides from the high-level waste and feeding those radionuclides to DWPF, although further research and development is necessary.[11] DOE is

[8] On June 15, 1999, DOE held a public meeting in Washington, D.C., to receive comments on the Supplement to the SPD Draft EIS.

[9] The potential impacts of fabricating 10 lead assemblies and irradiating 8 of them were analyzed in the SPD EIS. Should fewer lead assemblies than analyzed be fabricated or irradiated, the potential impacts would be less than those described in the SPD EIS.

[10] The Savannah River Site was previously designated to be part of DOE's preferred alternative for immobilization in the Notice of Intent issued in May 1997.

[11] The National Research Council (the Council) is also evaluating a replacement technology for the In-Tank Precipitation process. The Council's study

Continued

preparing a supplemental EIS on the proposed replacement of the In-Tank Precipitation process at SRS (NOI at 64 FR 8558, February 22, 1999). Designation of a preferred process and construction of a pilot scale plant for scale-up of the preferred process are the next steps planned to resolve this issue.

In addition to these alternatives, the Department is analyzing the potential environmental impacts of another action alternative, direct grout, in light of technical and cost considerations. Under the direct grout alternative, the cesium component of the high-activity radionuclides would be entombed in grout rather than remain in the high-activity fraction provided to DWPF for vitrification and eventual disposal in a geologic repository. Therefore, the direct grout alternative would not provide the radiation barrier needed for surplus plutonium disposition using the can-in-canister technology at SRS. However, a DOE waste management requirement (DOE Manual 435.1, Radioactive Waste Management, Section II.B.2) provides that, for direct grout material to be disposed of as now being analyzed, ''key radionuclides would have to be removed to the maximum extent that is technically and economically practical.'' This criterion would not be met in the event that any other action alternative is determined to be viable after further evaluation. Therefore, DOE regards the direct grout alternative as reasonable only if all of the other action alternatives analyzed in the supplemental EIS prove not to be viable.

In summary, although a specific method for providing the high-level waste needed for the can-in-canister immobilization alternatives for surplus plutonium disposition has not been determined, DOE is confident that an acceptable technical solution will be available at SRS. The ceramic can-in-canister approach would involve slightly lower environmental impacts than the homogenous approach. The ceramic can-in-canister approach would involve better performance in a potential geologic repository and provide greater proliferation resistance than the glass can-in-canister approach.

MOX Fuel Fabrication at SRS (new construction)

Construct and operate a new MOX facility at SRS and produce MOX fuel containing surplus weapons-usable plutonium for irradiation in existing domestic, commercial reactors. SRS is preferred for the MOX facility because this activity would complement existing missions and take advantage of existing infrastructure and staff expertise.

Lead Assembly Fabrication at LANL

Based on consideration of the capabilities of the candidate sites and input from the contractor team chosen for the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and has existing site infrastructure and staff experience. Additionally, the surplus plutonium dioxide needed to fabricate the lead assemblies would already be on site (no transportation required).

Post-Irradiation Examination at ORNL

If post-irradiation examination is necessary for the purpose of qualifying the MOX fuel for commercial reactor use, DOE prefers to perform that task at ORNL. ORNL has the existing facilities and staff expertise needed to perform post-irradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 kilometers (km) from the reactor site that would irradiate the fuel (one of the reactors located at the McGuire Nuclear Station in North Carolina).

Environmental Impacts of Preferred Alternative

Chapter 4 and certain appendices of the SPD Final EIS analyze the potential environmental impacts of the surplus plutonium disposition alternatives in detail. The SPD Final EIS also evaluates the maximum impacts that would result at each of the potential disposition sites. Based on the analyses in the SPD Final EIS, including public comments on the SPD Draft EIS, the areas with impacts of most interest are as follows:

Disposition Facilities During Construction

Socioeconomics At its peak in 2003, construction of the three new surplus plutonium disposition facilities at SRS under this alternative would require 1,968 construction workers and should generate another 1,580 indirect jobs in the region. As the total employment increase of 3,548 direct and indirect jobs represents only 1.3 percent of the projected regional economic area (REA) workforce, it should have no major impact on the REA. Moreover, construction under the Preferred Alternative should have little impact on the community services currently offered in the region of influence. In fact, it should help offset the 20 percent reduction in SRS's total workforce otherwise projected for the years 1997–2005.

Facility Accidents. The construction of new surplus plutonium disposition facilities at SRS could result in worker injuries or fatalities. DOE-required industrial safety programs would be in place to control the risks. Given the estimated 6,166 person-years of construction labor and standard industrial accident rates, approximately 610 cases of nonfatal occupational injury or illness and less than one fatality could be expected. As all construction would be in non-radiological areas, no radiological accidents should occur.

Cultural Resources. During conduct of the cultural resources impacts analysis for the Preferred Alternative, it was determined that construction of surplus plutonium disposition facilities at SRS could produce impacts on archaeological resources requiring mitigation. Archaeological investigations performed for the surplus plutonium disposition program discovered five archaeological sites in the proposed construction area. At least two of these sites have been recommended by DOE to the South Carolina State Historic Preservation Officer (SHPO) as eligible for nomination to the National Register of Historic Places. It appears that these sites were occupied during several different prehistoric periods, including the Late Woodland (A.D. 800–1000) and Mississippian (A.D. 1000–1600) Periods. These periods are poorly understood in the Central Savannah River Area. Therefore, these sites could contribute significantly to a better understanding of the Late Woodland and Mississippian Periods in this part of North America. Potential adverse impacts on these sites could be mitigated through either avoidance or data recovery. DOE currently plans to mitigate impacts by avoiding these sites.

Disposition Facilities During Operations

Socioeconomics. After construction, startup, and testing of the new SRS facilities in 2007, an estimated 1,120 new workers would be required to operate them. This level of employment should generate an additional 2,003 indirect jobs in the region. As the total employment requirement of 3,123 direct and indirect jobs represents 1 percent of the projected REA, it should have no major impact on the REA. Moreover, these jobs would have little impact on community services currently offered in

committee issued an interim report in October 1999. This committee recommends further research and development for the ion exchange and small tank precipitation alternatives, and for caustic side solvent extraction, a third process that would separate high-activity radionuclides that could be sent to DWPF.

the region of influence. In fact, they should help offset the reduction in SRS's total workforce otherwise projected for the years 1997–2010 of 33 percent.

Facility Accidents (Impact to the public and workers). The most severe consequences of a design basis accident for the pit conversion facility would be associated with a tritium release; the most severe consequences for the immobilization and MOX facilities would be from a nuclear criticality. Bounding radiological consequences for the Maximally Exposed Individual (MEI)[12] are from the tritium release, which would result in a dose of 0.028 rem, corresponding to a latent cancer fatality (LCF) probability of 1.4×10^{-5}. A nuclear criticality of 10^{19} fissions would result in an MEI dose of 0.0016 rem from an accident at the immobilization facility and 0.016 rem from an accident at the MOX facility. Consequences of the tritium release accident for the general population in the environs of SRS would include an estimated 0.050 LCF. The frequency of either a tritium release or a criticality accident is estimated to be between 1 in 10,000 and 1 in 1,000,000 per year.

The combined radiological effects from total collapse of all three facilities in the beyond-design-basis earthquake would be approximately 18 LCFs. It should be emphasized that a seismic event of sufficient magnitude to collapse these facilities would likely cause the collapse of other DOE facilities, and would almost certainly cause widespread failure of homes, office buildings, and other structures in the surrounding area. The overall impact of such an event must therefore be seen in the context not only of the potential radiological impacts of these other facilities, but of hundreds, possibly thousands, of immediate fatalities from falling debris. The frequency of such an earthquake is estimated to be between 1 in 100,000 and 1 in 10,000,000 per year.

Surplus plutonium disposition operations at SRS could result in worker injuries and fatalities. DOE-required industrial safety programs would be in place to control the risks. Given the estimated employment of 11,535 person-years of labor and the standard DOE occupational accident rates, approximately 420 cases of nonfatal occupational injury or illness and 0.31 fatality could be expected for the duration of operations. If a criticality occurred, workers within tens of meters could receive very high to fatal radiation exposures from the initial burst. The dose would strongly depend on the magnitude of the criticality, the distance from the criticality, and the amount of shielding provided by the structures and equipment between the workers and the accident.

Transportation. In all, approximately 2,500 shipments of radioactive materials would be carried out by DOE under the Preferred Alternative. The total distance traveled on public roads by trucks carrying radioactive materials would be 4.3 million kilometers.

The maximum foreseeable offsite transportation accident under this alternative (probability of occurrence: greater than 1 in 10 million per year) is a shipment of plutonium pits from one of DOE's storage locations to the pit conversion facility with a most severe (severity category VIII) accident in a rural population zone under neutral (average) weather conditions. If this accident were to occur, it could result in a dose of 87 person-rem to the public for an LCF risk of 0.044 and 96 rem to the hypothetical MEI for an LCF risk of 0.096. (The MEI, a hypothetical member of the general public, receives a larger dose than the public as a whole because it is unlikely that a person would be in position, and remain in position, to receive this hypothetical maximum dose.) No fatalities would be expected to occur. The probability of more severe accidents—*e.g.,* less favorable weather conditions at the time of accident, or occurrence in a more densely populated area'was also evaluated, and estimated as lower than 1 chance in 10 million per year.

The total transportation accident risk was estimated by summing the risks (which takes account of both the probability and consequence of each type of accident) to the affected population from all hypothetical accidents. For the Preferred Alternative, that risk is as follows: a radiological dose to the population of 7 person-rem, resulting in a total population risk of 0.004 LCF; and traffic accidents resulting in 0.053 traffic fatality.

Irradiating MOX Fuel at Reactor Sites[13]

The environmental impacts described below are based on using a partial MOX core (*i.e.,* up to 40 percent MOX fuel) instead of a low enriched uranium (LEU) core at the Catawba Nuclear Station near York, South Carolina; the McGuire Nuclear Station near Huntersville, North Carolina; and the North Anna Power Station near Mineral, Virginia.

Reactor Accidents. There are differences in the expected risk of reactor accidents from the use of MOX fuel compared to the use of low enriched uranium fuel. The change in consequences to the surrounding population due to the use of MOX fuel is estimated to range from 9.0×10^{-4} fewer to 6.0×10^{-2} additional LCFs for design basis accidents, and from 7.0 fewer to 1,300 additional LCFs for beyond-design-basis accidents (16,900 versus 15,600 LCFs in the worst accident analyzed). Also, some of the beyond-design-basis accidents could result in prompt fatalities should they occur. The estimated increase in prompt fatalities due to MOX fuel being used during one of these accidents would range from no change to 28 additional fatalities (843 versus 815 prompt fatalities). As a result of these changes in projected consequences, there would be a change in the risk to the public associated with these accidents. The change in risk (in terms of an LCF or prompt fatality) to the surrounding population within 80 km (50 mi) of the proposed reactors is projected to range from a decrease of 6 percent to an increase of 3 percent in the risk of additional LCFs from design basis accidents, and from a decrease of 4 percent to an increase of 14 percent in the risk of additional prompt fatalities and LCFs from beyond-design-basis accidents.

The risk to the MEI would also change with the use of MOX fuel. Using MOX fuel during one of the design basis accidents evaluated is expected to change the MEI's chance of incurring an LCF from a decrease of 10 percent to an increase of 3 percent. The change in risk to the MEI of a prompt fatality or LCF as a result of using MOX fuel during one of the beyond-design-basis accidents evaluated is expected to range from a 1 percent increase to a 22 percent increase. In the most severe accident evaluated, an interfacing systems loss-of-coolant accident (ISLOCA), it is projected that the MEI would receive a fatal dose of radiation regardless of whether the reactor was using MOX fuel or LEU fuel at all of the proposed sites.

Beyond-design-basis accidents, if they were to occur, would be expected to result in major impacts to the reactors and the surrounding communities and environment, regardless of whether the

[12] The MEI is the hypothetical off-site person who has the highest exposure. This individual is assumed to be located at the point of maximum concentration of contaminants 24 hours a day, 7 days a week, for the period of operations under analysis.

[13] The operators of the proposed reactors have indicated that little or no new construction would be needed to support the irradiation of MOX fuel at the sites. As a result, land use; visual, cultural, and paleontological resources; geology and soils; and site infrastructure would not be affected by any new construction or other activities related to MOX fuel use. Nor would there be any effect on air quality and noise, ecological and water resources, or socioeconomics.

reactor were using an LEU or partial MOX core. However, there is less than one chance in a million per year that a beyond-design-basis accident would actually happen, so the risk from these accidents is estimated to be low.

Lead Assembly and Post-Irradiation Examination Activities

The analysis of the potential impacts of conducting the lead assembly activities and post-irradiation examination indicates that little or no new construction or operational changes would be needed to support these activities. As a result, land use; visual, cultural, and paleontological resources; geology and soils; and site infrastructure would not be affected by any new construction or other activities related to lead assembly fabrication or post-irradiation examination. Nor would there be any effect on air quality and noise, ecological and water resources, or socioeconomics.

Avoidance and Minimization of Environmental Harm

For the Preferred Alternative, at SRS, storm water management and erosion control measures will be employed during construction of the disposition facilities. Cultural resources impacts will be mitigated either by avoidance or data recovery. Initial indications are the disposition facilities can be located in an area that will avoid disturbing known cultural resource areas.

During operation of the disposition facilities, radiation doses to individual workers will be kept at a minimum by maintaining comprehensive badged monitoring and ''as low as reasonably achievable'' (ALARA) programs during worker rotations. The storage facilities in the disposition buildings will be designed and operated in accordance with contemporary DOE orders and/or NRC regulations to reduce risks to workers and the public.

From a non-proliferation standpoint, the highest standards for safeguards and security will be employed during transportation, storage (*i.e.*, the stored weapons standard [14]) and disposition. DOE will coordinate the transport of surplus plutonium and fresh MOX fuel with State officials, consistent with contemporary policy. Although the actual routes will be classified, they will be selected to circumvent populated areas where ever possible, maximize the use of interstate highways, and avoid bad weather. DOE will coordinate emergency preparedness plans and responses with involved states through liaison programs. The packaging, vehicles, and transport procedures being used are specifically designed and tested to prevent radiological release under all credible accident scenarios. The NRC regulates safeguards and security at facilities it licenses commensurate with the type of facility and type and amount of fissile or radioactive material present. Commercial nuclear power reactors have stringent regulations to prevent sabotage or diversion of special nuclear materials. Physical protection and safeguards and security will be ensured at the reactor sites by continued implementation of NRC requirements.

Environmentally Preferable Alternatives

The environmentally preferable alternative is the No Action Alternative. Under this alternative, surplus weapons-usable plutonium materials in storage at various DOE sites would remain at those locations. The vast majority of pits would continue to be stored at Pantex, and the remaining plutonium in various forms would continue to be stored at Hanford, INEEL, LLNL, LANL, RFETS, and SRS. The No Action Alternative would not satisfy the purpose and need for the proposed action because DOE's disposition decisions in the Storage and Disposition PEIS ROD would not be implemented. That ROD announced that, consistent with the Preferred Alternative in the Storage and Disposition PEIS, DOE had decided to reduce, over time, the number of locations where the various forms of plutonium are stored, through a combination of storage and disposition alternatives. Implementation of much of this decision requires the movement of surplus materials to disposition facility locations. Without disposition facilities, only pits that have been moved from RFETS to Pantex would be relocated in accordance with the Storage and Disposition PEIS ROD. All other surplus materials would continue to be stored indefinitely at their current locations, with the exception that DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage instead of zone 12 as originally planned. An appropriate environmental review will be conducted when the specific proposal for this change has been determined (*e.g.,* whether additional magazines need to be air-conditioned). The analysis in the SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the Storage and Disposition PEIS.

Among the ''action'' alternatives analyzed in the SPD EIS, the environmentally preferable action alternative is the 50–Metric-Ton Immobilization Alternative with the Immobilization and Pit Conversion facilities located at SRS. This alternative would involve immobilizing all 50 metric tons of surplus plutonium at SRS. Under this alternative, only two facilities, the pit conversion facility and the immobilization facility, would be needed to accomplish the surplus plutonium disposition mission. Both the pit conversion and immobilization facilities would be new construction near the area currently designated for the Actinide Packaging and Storage Facility in F-Area. In addition, the canister receipt area at DWPF in S-Area would be modified to accommodate receipt and processing of the canisters transferred from the immobilization facility for filling with vitrified high-level waste. The pit conversion and immobilization facilities would be the same as those described for the Preferred Alternative, except that all the plutonium dioxide produced in the pit conversion facility would be transferred to the immobilization facility. To accommodate the additional 33 metric tons of plutonium that would be received from the pit conversion facility, the immobilization facility would be operated at a higher throughput (5 metric tons per year rather than 1.7 metric tons per year), and the operating workforce at the immobilization facility would be increased.

Comparison of Preferred Alternative to Other Alternatives

The Preferred Alternative requires the construction and operation of three new facilities; some minor modifications to, and work at, two existing DOE facilities; and use of existing domestic, commercial nuclear reactors for MOX fuel irradiation. The other hybrid alternatives would require the same facilities and activities; the immobilization-only alternatives would require the construction and operation of only two facilities. The environmentally preferable alternative, which is the No Action Alternative, does not involve construction or operation of any facilities, or use of new or existing facilities, other than those currently in use for the continued storage of the surplus plutonium. Furthermore, no transportation would be involved for the No Action

[14] The ''Stored Weapons Standard'' for weapons-usable fissile materials storage was initially defined in Management and Disposition of Excess Weapons Plutonium, National Academy of Sciences, 1994. DOE defines the Stored Weapons Standard as follows: The high standards of security and accounting for the storage of intact nuclear weapons should be maintained, to the extent practical, for weapons-usable fissile materials throughout dismantlement, storage, and disposition.

Alternative, and continued storage under this alternative would not affect any key environmental resource area at any of the seven storage locations. However, there would be doses to workers and the general population (and associated health effects) throughout the storage period at all of these locations. At SRS, the health effects from 50 years of storage under the No Action Alternative would be lower than those associated with implementation of the Preferred Alternative. Nonetheless, the Preferred Alternative would still contribute to the dose and associated health effects at locations where supporting activities like lead assembly fabrication and post-irradiation examination would occur.

The environmentally preferable action alternative, which is an immobilization-only alternative, would require the construction and operation of two, rather than three, facilities. For all of the key environmental resource areas except transportation and worker dose, the potential impacts of the Preferred Alternative are greater than for the environmentally preferable action alternative, although for most of the resource areas, the difference is less than 20 percent. The estimated LCFs and traffic fatalities are higher for the environmentally preferable action alternative, although both are well below one LCF. Worker dose is the same for both the preferred and the environmentally preferable action alternatives.

Relative ranking of the Preferred Alternative to other action alternatives varies by resource area. For all alternatives evaluated in the SPD EIS, the incremental concentrations of criteria air pollutant concentrations would be less than 2 percent of the applicable regulatory standard. The relative ranking of Preferred Alternative to the other action alternatives varies with the specific pollutant; for some, the Preferred Alternative ranks higher, for others, lower. The Preferred Alternative produces more, by approximately 5 to 25 percent, regulated waste than any of the other action alternatives.

All of the action alternatives would generate employment opportunities at each of the proposed facilities. In general, the Preferred Alternative requires the greatest number of construction and operation workers of all the action alternatives. However, for one alternative, approximately 5 percent more construction workers would be needed. The amount of land that would be disturbed for implementing any of the alternatives is relatively small. The Preferred Alternative requires the most land disturbance, and could potentially affect cultural resource areas at SRS. However, as previously discussed in this ROD, DOE currently plans to mitigate impacts by avoiding sites that are eligible or potentially eligible for the National Register of Historic Places. SRS is the only candidate site at which cultural resource issues involving the proposed action have been identified. The action alternative with the least amount of land disturbance uses existing facilities at Hanford.

Because of the location of the proposed facilities relative to other activities at the sites, radiation doses would be received by construction workers at both INEEL and SRS. Doses to workers from construction and operation activities for each of the action alternatives could result in approximately 2.0 LCFs, with essentially no difference among any of the alternatives. There will be no dose (and therefore, no LCFs) to the general population for any of the action alternatives during construction of the proposed facilities. Although there is a small population dose associated with each of the action alternatives, no LCFs are expected to occur in the general population from routine operations for any of the alternatives. The most severe nonreactor design basis accident postulated for the Preferred Alternative, and all but one other action alternative, is a design basis fire in the pit conversion facility resulting in a tritium release. The resulting dose is highest for the Preferred Alternative, however, the associated dose would not be expected to result in any LCFs in the general population. None of the action alternatives is expected to result in traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions. Impacts estimated for routine operations and postulated accidents at the reactor sites would be identical for all the hybrid alternatives.

Comments on Surplus Plutonium Disposition Final EIS

After issuing the SPD Final EIS, the Department received two letters. All of the issues raised in these letters have been covered in the body of the SPD Final EIS and in the Comment Response Document. The first letter contained a single comment requesting that the decision on a location for the lead assembly work retain the flexibility to allow doing the work at SRS. Based on consideration of the capabilities of the candidate sites and input from the team chosen for the MOX approach, the Department has decided to use LANL for fabrication of MOX fuel rods for use in fabrication of lead assemblies. LANL was selected because it already has facilities that will not require major modifications for fuel rod fabrication, and takes advantage of existing infrastructure and staff experience. Additionally, the surplus plutonium dioxide needed to fabricate the MOX fuel rods for lead assemblies will already be on site.

The second letter contained numerous comments that opposed the use of MOX fuel in commercial power reactors. The commentor believes that the selection process of DCS and the commercial reactors was not opened to sufficient public scrutiny. The commentor repeated an earlier request that the Department hold additional public meetings in the vicinity of the three reactor sites before closing the public comment period, and that all information on the MOX project, including data submitted by DCS, DOE's Environmental Critique, and ORNL's data on expected radionuclide activities in MOX fuel, be made available to the public. During the public comment period on the Supplement to the SPD Draft EIS, which included specific reactor analyses, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. While no additional hearings were held on the Supplement, other means were provided for the public to express their concerns and provide comments: mail; a toll-free telephone and fax line; and the Office of Fissile Materials Disposition Web-site. Also, at the invitation of South Carolina State Senator Phil Leventis, DOE attended and participated in a public hearing held on June 24, 1999, in Columbia, South Carolina.

Most of the information in DOE's Environmental Critique was included in the Environmental Synopsis released for public review; only proprietary and business-sensitive information was removed. The Duke, COGEMA, and Stone & Webster (DCS) team provided DOE with analyses of the environmental and computer modeling data, and population projections, but not the input data. The ratio of low-enriched uranium fuel to MOX fuel, provided by the Oak Ridge National Laboratory, is contained in the SPD Final EIS. Because the accident calculations are voluminous, they are not included in the SPD EIS. The calculations contain all of the input parameters including the MACCS2 computer files. Principal input parameters, such as accident source terms and population distributions, are included in the EIS.

The same commentor expressed concern that experience with the use of MOX fuel in the United States, as well as internationally, is limited. The fabrication of MOX fuel and its use in commercial reactors has been accomplished in Western Europe. DOE would draw upon this experience in its disposition of the U.S. surplus plutonium. Electricite de France reactors in France have seen little or no impact from the use of MOX fuel on radionuclide releases in effluents. No change would be expected from normal operations, given that MOX fuel performs as well as LEU fuel and the fission products are retained within the fuel cladding. FRAGEMA's (a subsidiary of COGEMA and FRAMATOME) experience with fabricating MOX fuel indicates a fuel rod fission product leak rate of less than one-tenth of 1 percent. FRAGEMA has provided 1,253 MOX fuel assemblies, containing more than 300,000 fuel rods, for commercial reactor use. There have been no failures and leaks have occurred in only 3 assemblies (a total of 4 rods). All leaks occurred as a result of debris in the reactor coolant system and occurred in 1997 or earlier. French requirements for debris removal were changed in 1997 to alleviate these concerns. Since that time, there have been no leaks in MOX fuel rods. Further, as discussed in response DCR009–1 of the Comment Response Document, NRC would evaluate license applications and monitor the operations of the commercial reactors to ensure adequate margins of safety.

The commentor was also concerned that human and technical errors may lead to safety hazards at the reactors if MOX fuel is used. Particular safety issues were identified at McGuire, North Anna and Catawba (*e.g.,* ice condenser problems and corrosion of service water pipes and auxiliary feedwater pipes). While the Department acknowledges that there are differences in the use of MOX fuel compared to LEU fuel, these differences are not expected to decrease the safety of the reactors. NRC has not considered it necessary to restrict operation of any of the other reactors in the United States that use ice condenser containments. All of the factors discussed by the commentor were evaluated by the proposed reactor licensees to ensure that the reactors, including those with ice condensers, can continue to operate safely using MOX fuel, and these factors will continue to be evaluated. Before any MOX fuel is used in the United States, NRC would have to perform a comprehensive safety review that would include information prepared by the reactor plant operators as part of their license amendment applications.

Another issue raised by the same comentor concerned the stability of plutonium compared to uranium and the alleged reduction in the ability to control the chain reaction when plutonium is added to the reactor in the form of MOX fuel. Differences between MOX fuel and uranium fuel are well characterized and can be accommodated through fuel and core design. All of the factors discussed by the commentor were evaluated by the proposed reactor licensees to ensure that the reactors can continue to operate safely using MOX fuel and will continue to be evaluated. Initial evaluations indicate that partial MOX fuel cores have a more negative fuel Doppler coefficient at hot zero power and hot full power, relative to LEU fuel cores for all times during the full cycle. These evaluations also indicate that partial MOX cores have a more negative moderator coefficient at hot zero power and hot full power, relative to LEU fuel cores for all times during the full cycle. These more negative temperature coefficients would act to shut the reactor down more rapidly during a heatup transient.

The commentor expressed concern that higher energy neutrons from plutonium are more likely to strike reactor parts such as the stainless steel containment vessel and degrade the metal parts of the reactor, resulting in embrittlement problems. Reactor vessel embrittlement is a condition in which the fast neutron fluence from the reactor core reduces the toughness (fracture resistance) of the reactor vessel metal. Analyses performed for the Department indicate that the core average fast flux in a partial MOX fuel core is comparable, within 3 percent, to the core average fast flux for a uranium fuel core. All of the reactors identified for the MOX mission have a comprehensive program of reactor vessel analysis and surveillance in place to ensure that NRC reactor vessel safety limits are not exceeded.

The commentor was also concerned that the use of MOX fuel would result in additional harmful radiation exposure to the public during a failure of the reactor containment structure. The commentor noted a study by the Nuclear Control Institute estimating that the risk to the public near McGuire or Catawba of contracting a deadly cancer following a severe accident will increase by nearly 40 percent when the plants start using plutonium fuel. DOE believes NCI's analysis overestimates the risk of using MOX fuel for two reasons. NCI's analysis did not account for the plutonium polishing step which has been added to the MOX fuel fabrication process. This step eliminates nearly all of the americium from fresh MOX fuel, which significantly reduces the actinide inventory. In addition, NCI performed a generic reactor analysis while DOE performed plant specific analyses.

Analyses of a 40 percent weapons-grade MOX core indicate there would be approximately two times more americium-241 and plutonium-239, and slightly less than one and a half times the curium-242 than a reactor using LEU fuel. There are differences in the expected risk of reactor accidents from the use of MOX fuel. Some accidents would be expected to result in lower consequences to the surrounding population, and lower risks, while others would be expected to result in higher consequences and higher risks. There is an increase in risk, about 3 percent, for the large-break loss-of-coolant accident (the bounding design basis accident). The largest increase in risk for beyond-design-basis accidents is approximately 14 percent for an interfacing systems loss-of-coolant accident at North Anna. In the unlikely event that this beyond-design-basis accident were to occur, the expected number of LCFs would increase from 2,980 to 3,390 with a partial MOX core and prompt fatalities would increase from 54 to 60. Both of these accidents have an extremely low probability of occurrence. At North Anna, the likelihood of a large-break loss-of-coolant accident occurring is estimated at 1 chance in 48,000 per year and the likelihood of an interfacing systems loss-of-coolant accident occurring is estimated at 1 chance in 4.2 million per year.

Another issue raised by the commentor concerned timely and adequate emergency response to a MOX fuel accident due to limited resources of volunteer first responders. The subject of emergency response and subsequent cleanup of an accident that involves the release of nuclear materials is a topic of continuing discussion and planning between DOE and State, local, and tribal officials. Prior to any shipment of hazardous material, a transportation plan will be developed which includes details of emergency preparedness, security, and coordination of DOE with local emergency response authorities. Any additional training or equipment needed would be provided as part of the planning process. In addition, DOE maintains eight regional coordinating offices across the country, staffed 24 hours per day, 365 days per year to offer advice and assistance. Radiological Assistance Program teams are available to provide field monitoring, sampling, decontamination, communication, and other services.

As described in Appendix L of the SPD EIS, DOE anticipates that transportation required for the disposition of surplus plutonium would be done through DOE's Safe Secure Transport system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the Safe Secure Transport system has transported DOE-owned cargo over more than 151 million kilometers (91 million miles) with no accidents causing a fatality or release of radioactive material.

Other Considerations

Cost Reports

To assist in the preparation of this ROD, DOE's Office of Fissile Materials Disposition prepared two cost reports. The first is Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition (DOE/MD–0009; July 1998). This report provides site-specific cost information and analyses to support the selection of a preferred siting alternative for the alternatives considered in the SPD EIS. The second report is Plutonium Disposition Life Cycle Costs and Cost-Related Comment Resolution Document (DOE/MD–0013; November 1999). This report provides full life cycle costs for the Preferred Alternative as stated in the SPD EIS. It also contains the Department's responses to cost related comments submitted during the public review of the SPD Draft EIS.

Cost Analysis in Support of Site Selection

The summary costs listed below do not include the costs that would be the same, independent of where the facility is sited. Therefore, the costs are not full life cycle costs. The costs are presented in constant year 1997 dollars. Cost estimates for each of the required disposition facilities (Pit Disassembly and Conversion; MOX Fuel Fabrication; and Immobilization), including the additional supporting infrastructure, were created for each candidate site and were aggregated into two cost categories (1) design and construction and (2) operational. The cost estimates are considered to have an accuracy of plus or minus 40 percent for design, construction, and decommissioning, and an accuracy of plus or minus 20 percent for operations.

Hybrid Alternatives (Alternatives 2 through 10 in the SPD EIS). The estimated costs to design and construct the required facilities range from $1.21 billion to $1.40 billion, and estimated operational costs range from $1.40 billion to $1.58 billion. The total costs for the hybrid alternatives range from $2.67 billion to $2.93 billion. The total cost of the hybrid alternatives would be reduced by the value of the MOX fuel provided to the participating reactors; at the time of this estimate the total cost after credit for the ''fuel offset'' was $1.71 billion to $2.01 billion.[15]

Immobilization-Only Alternatives (Alternatives 11 and 12 in the SPD EIS). The estimated costs to design and construct the required facilities range from $0.73 billion to $0.89 billion and the operational costs range from $0.97 billion to $1.0 billion. The Immobilization Only Alternatives range from $1.71 billion to $1.90 billion. The cost of the alternatives differ by approximately ten percent, well within the uncertainty of the cost estimates.

Life Cycle Cost for the Preferred Alternative

The summary cost listed below is the cost for the Preferred Alternative. The cost includes the cost of siting, construction, and operation of plutonium disposition facilities at DOE's Savannah River Site, as well as the cost associated with the irradiation of the MOX fuel in commercial reactors. In addition, the cost includes such costs as sunk (already spent) funds, and costs for developing and demonstrating the plutonium disposition technologies, transporting the plutonium and plutonium disposition products, start-up and deactivation and decommissioning of the three facilities. The costs are based upon the Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition, DOE/MD–0009, July 22, 1998.

The total cost of implementing the Preferred Alternative is estimated to be $4.07 billion in constant year 2000 dollars. The increase in cost over the 1998 estimate is primarily attributable to addition of life cycle costs specifically omitted from the 1998 cost report, technical program changes, specifically the increased size of the immobilization facility and the addition of the polishing step to the MOX fuel fabrication process, plus other cost changes (*e.g.,* inflation).

Nonproliferation Assessment

To assist in the development of this ROD, DOE's Office of Arms Control and Nonproliferation, with support from the Office of Fissile Materials Disposition, prepared a report, Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Plutonium Disposition Alternatives (DOE/NN–0007, January 1997). The report was issued in draft form in October 1996, and following a public comment period, was issued in final form in January 1997. It analyzes the nonproliferation and arms reduction implications of the alternatives for storage of plutonium and HEU, and disposition of excess plutonium. It is based in part on a Proliferation Vulnerability Red Team Report (SAND97–8203. UC–700, October 1996) prepared for the Office of Fissile Materials Disposition by Sandia National Laboratory. The assessment describes the benefits and risks associated with each option. Some of the ''options'' and ''alternatives'' discussed in the Nonproliferation Assessment are listed as ''variants'' (such as can-in-canister) in the Storage and Disposition Final PEIS. The following paragraphs discuss key conclusions of the report, as modified to meet current conditions.

Disposition of U.S. Excess Plutonium

Each of the alternatives for disposition of excess weapons plutonium that meets the Spent Fuel Standard[16] would, if implemented appropriately, offer major nonproliferation and arms reduction benefits compared to leaving the material in storage in directly weapons-usable form. Taking into account the likely impact on Russian disposition activities, the no-action alternative appears to be by far the least desirable of the plutonium disposition options from a non-proliferation and arms reduction perspective.

Carrying out disposition of excess U.S. weapons plutonium, using alternatives that ensured effective non-proliferation controls and resulted in forms meeting the Spent Fuel Standard, would:

- Reduce the likelihood that current arms reductions would be reversed, by significantly increasing the difficulty, cost, and observability of returning this plutonium to weapons;
- Increase international confidence in the arms reduction process,

[15] The MOX Fuel Fabrication Facility would produce nuclear fuel that will displace LEU fuel that utilities would otherwise purchase. The value of this fuel, deemed the MOX fuel offset, is estimated to be $920 million.

[16] ''Spent Fuel Standard'' is a term coined by the National Academy of Sciences (NAS, 1994, Management and Disposition of Excess Weapons Plutonium, National Academy Press, Washington, D.C., pg 12) and modified by DOE (glossary from Office of Fissile Materials Disposition web site at *http://www.doe-md.com)* denoting the main objective of alternatives for the disposition of surplus plutonium: that such plutonium be made roughly as inaccessible and unattractive for weapons use as the much larger and growing stock of plutonium in civilian spent fuel.

strengthening political support for the non-proliferation regime and providing a base for additional arms reductions, if desired;

• Reduce long-term proliferation risks posed by this material by further helping to ensure that weapons-usable material does not fall into the hands of rogue states or terrorist groups; and

• Lay the essential foundation for parallel disposition of excess Russian plutonium, reducing the risks that Russia might threaten U.S. security by rebuilding its Cold War nuclear weapons arsenal, or that this material might be stolen for use by potential proliferators.

Choosing the ''no-action alternative'' of leaving U.S. excess plutonium in storage in weapons-usable form indefinitely, rather than carrying out disposition:

• Would represent a clear reversal of the U.S. position seeking to reduce excess stockpiles of weapons-usable materials worldwide;

• Would make it impossible to achieve disposition of Russian excess plutonium;

• Could undermine international political support for non-proliferation efforts by leaving open the question of whether the United States was maintaining an option for rapid reversal of current arms reductions; and

• Could undermine progress in nuclear arms reductions.

The benefits of placing U.S. excess plutonium under international monitoring and then transforming it into forms that met the Spent Fuel Standard would be greatly increased, and the risks of these steps significantly decreased, if Russia took comparable steps with its own excess plutonium on a parallel track. The two countries need not use the same plutonium disposition technologies. However, as the 1994 NAS committee report concluded, options for disposition of U.S. excess weapons plutonium will provide maximum nonproliferation and arms control benefits if they:

• Minimize the time during which the excess plutonium is stored in forms readily usable for nuclear weapons;

• Preserve material safeguards and security during the disposition process, seeking to maintain to the extent possible the same high standards of security and accounting applied to stored nuclear weapons (the Stored Weapons Standard);

• Result in a form in which the plutonium would be as inaccessible and unattractive for weapons use as the larger and growing quantity of plutonium in commercial spent fuel (the Spent Fuel Standard).

In order to achieve the benefits of plutonium disposition as rapidly as possible, and to minimize the risks and negative signals resulting from leaving the excess plutonium in storage, it is important for disposition options to begin, and to complete the mission as soon as practicable, taking into account non-proliferation, environment, safety, and health, and economic constraints. Timing should be a key criterion in judging disposition alternatives. Beginning the disposition quickly is particularly important to establishing the credibility of the process, domestically and internationally.

Each of the alternatives under consideration for plutonium disposition:

• Has its own advantages and disadvantages with respect to non-proliferation and arms control, but none is clearly superior to the others;

• Can potentially provide high levels of security and safeguards for nuclear materials during the disposition process, mitigating the risk of theft of nuclear materials; and

• Can potentially provide for effective international monitoring of the disposition process.

Plutonium disposition can only reduce, not eliminate, the security risks posed by the existence of excess plutonium, and will involve some risks of its own. Because all plutonium disposition alternatives would take decades to complete, disposition is not a near-term solution to the problem of nuclear theft and smuggling. While disposition will make a long-term contribution, the near-term problem must be addressed through programs to improve security and safeguarding for nuclear materials, and to ensure adequate police, customs, and intelligence capabilities to interdict nuclear smuggling. All plutonium disposition alternatives under consideration would involve processing and transport of plutonium, which will involve more risk of theft in the short term than if the material had remained in heavily guarded storage, in return for the long-term benefit of converting the material to more proliferation-resistant forms.

Both the United States and Russia will still retain substantial stockpiles of nuclear weapons and weapons-usable fissile materials after disposition of the fissile materials currently considered excess is complete. These weapons and materials will continue to pose a security challenge regardless of what is done with excess plutonium. None of the disposition alternatives under consideration would make it impossible to recover the plutonium for use in nuclear weapons, or make it impossible to use other plutonium to rebuild a nuclear arsenal. Therefore, disposition will only reduce, not eliminate, the risk of reversal of current nuclear arms reductions. A United States decision to choose reactor alternatives for plutonium disposition could offer additional arguments and justifications to those advocating plutonium reprocessing and recycle in other countries. This could increase the proliferation risk if it in fact led to significant additional separation and handling of weapons-usable plutonium. On the other hand, if appropriately implemented, plutonium disposition might also offer an opportunity to develop improved procedures and technologies for protecting and safeguarding plutonium, which could reduce proliferation risks and would strengthen United States efforts to reduce the stockpiles of separated plutonium in other countries.

Large-scale bulk processing of plutonium, including processes to convert plutonium pits to oxide and prepare other forms for disposition, as well as fuel fabrication or immobilization processes, represents the stage of the disposition process when material is most vulnerable to covert theft by insiders or covert diversion by the host state. However, such bulk processing is required for all disposition alternatives. In particular, initial processing of plutonium pits and other forms is among the most proliferation sensitive stages of the disposition process, but it is largely common to all the options.

Transport of plutonium is the point in the disposition process when the material is most vulnerable to overt armed attacks designed to steal plutonium. With sufficient resources devoted to security, however, high levels of protection against such overt attacks can be provided.

Conclusions Relating to Specific Disposition Technologies

Reactor technology will meet the Spent Fuel Standard. Reactor technology has some advantage over the immobilization technology with respect to perceived irreversibility, in that the plutonium would be converted from weapons-grade to reactor-grade, even though it is possible to produce nuclear weapons with both weapons and reactor-grade plutonium. However, the immobilization technology has some advantage over the reactor technology in avoiding the perception that the latter approach could potentially encourage additional separation and civilian use of plutonium, which itself poses proliferation risks. Because reactor technology results in accountable ''items'' (for purposes of international safeguards) whose plutonium content can be accurately measured, this approach offers some advantage in accounting to ensure that the output plutonium matches the input plutonium from the process. The principal uncertainty with respect to using excess weapons plutonium as MOX fuel in domestic reactors relates to the potential difficulty of gaining political and regulatory approvals for the various operations required.

Immobilization technology (can-in-canister) is being refined resulting in an increase in the resistance to separation of the plutonium cans from the surrounding glass, with the goal of meeting the Spent Fuel Standard. The immobilization options have the potential to be implemented more quickly than the reactor options. They face somewhat less political uncertainty but somewhat more technical uncertainty than the reactor options.

The ''can-in-canister'' immobilization options have a timing advantage over the homogeneous immobilization options, in that, by potentially relying on existing facilities, they could begin several years sooner. As noted above, however, modified systems intended to allow this option to meet the Spent Fuel Standard are still being designed.

Decisions [17]

Consistent with the January 1997 decision on the Storage and Disposition PEIS, the Department of Energy is affirming its decision to use a hybrid approach for the safe and secure disposition of up to 50 metric tons of surplus plutonium using both immobilization and mixed oxide fuel technologies and to construct and operate three new facilities at its Savannah River Site. The hybrid approach allows for the immobilization of approximately 17 metric tons of surplus plutonium and the use of up to 33 metric tons as mixed oxide fuel which would be irradiated in commercial reactors.

Construction and Operation of a Pit Disassembly and Conversion Facility

Consistent with the Preferred Alternative in the SPD Final EIS, the Department has decided to construct and operate a new pit conversion facility at SRS for the purpose of disassembling nuclear weapons pits and converting the plutonium metal to a declassified oxide form suitable for international inspection and disposition, using either immobilization or MOX/reactor approaches. SRS was selected for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Construction and Operation of an Immobilization Facility and Selection of an Immobilization Technology [18]

Consistent with the Preferred Alternative in the SPD Final EIS, the Department has decided to construct and operate a new immobilization facility at SRS using the ceramic can-in-canister technology. This technology will be used to immobilize approximately 17 metric tons of surplus plutonium in a ceramic form, seal it in cans, and place the cans in canisters filled with borosilicate glass containing intensely radioactive high-level waste at the existing Defense Waste Processing Facility. The decision is based, in part, on the fact that the can-in-canister approach at SRS complements existing missions, takes advantage of existing infrastructure and staff expertise, and enables DOE to use an existing facility (DWPF). The ceramic can-in-canister approach will also provide better performance in a geologic repository and provide greater proliferation resistance than the glass can-in-canister approach.

Construction and Operation of a Mixed Oxide Fuel Fabrication Facility and Irradiation in Commercial Reactors

Consistent with the Preferred Alternative in the SPD Final EIS, the Department has decided to construct and operate a new facility at SRS to produce MOX fuel containing up to 33 metric tons of surplus weapons-usable plutonium for irradiation in existing domestic, commercial reactors. The decision to use SRS is made, in part, because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. Based on this selection, the Department will authorize DCS to fully implement the base contract.

As previously stated in the Storage and Disposition PEIS ROD (62 FR 3014, January 21, 1997), the use of MOX fuel in existing reactors will be undertaken in a manner that is consistent with the United States' policy objective on the irreversibility of the nuclear disarmament process and the United States' policy discouraging the civilian use of plutonium. To this end, implementing the MOX alternative will include government ownership and control of the MOX fuel fabrication facility at a DOE site, and use of the facility only for the surplus plutonium disposition program. There will be no reprocessing or subsequent reuse of spent MOX fuel. The MOX fuel will be used in a once-through fuel cycle in existing reactors, with appropriate arrangements, including contractual or licensing provisions limiting use of MOX fuel to surplus plutonium disposition.

Selection of a Site for Lead Assembly Fabrication

Consistent with the Preferred Alternative in the SPD EIS, the Department has decided to use LANL for fabrication of MOX fuel rods for use in fabrication of lead assemblies. Based on consideration of the capabilities of the candidate sites and input from the team chosen for the MOX approach, LANL was selected because it already has facilities (*i.e.,* Technical Area 55) that will not require major modifications in order to fabricate fuel rods, and takes advantage of existing infrastructure and staff experience. Additionally, the surplus plutonium dioxide needed to fabricate the MOX fuel rods for lead assemblies will already be on site.

At this time, however, no decision is being made as to which facility at LANL will be used for final assembly of the MOX fuel rods into lead assemblies. DOE is currently evaluating whether there may be the need for additional environmental analysis to support the final stages of lead assembly fabrication at LANL. Pending completion of that review, DOE is deferring a decision as to where on the LANL site this final lead assembly work will be done.

Selection of a Site for Post-Irradiation Examination of Lead Assemblies

If post-irradiation examination is necessary for the purpose of qualifying the MOX fuel for commercial reactor use, the Department has decided to perform that task at ORNL, consistent with the Preferred Alternative in the SPD Final EIS. ORNL has the existing

[17] included in these decisions is the Department's decision to fulfill the Moscow Nuclear Safety and Security agreement to apply International Atomic Energy Agency safeguards to surplus plutonium as soon as it is practical. Further, consistent with a Presidential Directive, the Department is continuing to work towards maximizing the quantities of materials eligible for International Atomic Energy Agency safeguards.

[18] The Department intends to use essentially all of the plutonium oxide produced by the Pit Disassembly and Conversion Facility as feed material for mixed oxide fuel. However, some small amounts may be unsuitable for this purpose and will be shipped to the Immobilization Facility for disposition.

facilities and staff expertise needed to perform post-irradiation examination as a matter of its routine activities and no major modifications to facilities or processing capabilities would be required. In addition, ORNL is only about 500 km from the reactor site that would irradiate the fuel, considerably closer than ANL—W, which is about 3,700 km away.

Use of MOX Fuel in Canadian Uranium Deuterium Reactors

In the Storage and Disposition PEIS ROD, DOE retained the option to use some of the surplus plutonium as MOX fuel in Canadian Uranium Deuterium (CANDU) reactors, which would have been undertaken only in the event that a multilateral agreement were negotiated among Russia, Canada, and the United States. Since the SPD Draft EIS was issued, DOE determined that adequate reactor capacity is available in the United States for disposition of that portion of the U.S. surplus plutonium suitable for MOX fuel. Therefore, DOE is no longer actively pursuing the CANDU option. However, the CANDU option is still being considered for the disposition of Russian surplus plutonium. To assist U.S., Russia, and Canada in considering this option the three countries are jointly conducting an experiment which will involve irradiating MOX fuel pins that have been fabricated from U.S. and Russian surplus weapons plutonium in a Canadian research reactor. This effort involves a one-time shipment of a small quantity of weapons plutonium from the U.S. to Canada.

Conclusion

The Department of Energy has decided to disposition up to 50 metric tons of plutonium at SRS using a hybrid approach that involves both the ceramic can-in-canister immobilization approach and the MOX fuel approach. Approximately 17 metric tons of surplus plutonium will be immobilized in a ceramic form, placed in cans, and embedded in large canisters containing high-level vitrified waste for ultimate disposal in a geologic repository pursuant to the Nuclear Waste Policy Act. Approximately 33 metric tons of surplus plutonium will be used to fabricate MOX fuel, which will be irradiated in existing domestic, commercial reactors. The reactors are the Catawba Nuclear Station near York, South Carolina; the McGuire Nuclear Station near Huntersville, North Carolina; and the North Anna Power Station near Mineral, Virginia. The resulting spent fuel will be placed in a geologic repository pursuant to the Nuclear Waste Policy Act. Pursuing this hybrid approach provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus weapons-usable plutonium as quickly as possible and in an irreversible manner. Pursuing both immobilization and MOX fuel fabrication also provides important insurance against uncertainties of implementing either approach by itself. The construction of new facilities for the disposition of surplus U.S. plutonium would not take place unless there is significant progress on plans for plutonium disposition in Russia. In the plutonium disposition effort, the United States will work with Russia to develop acceptable methods and technologies for transparency measures, including appropriate international verification measures and stringent standards of physical protection, control, and accounting for the management of surplus plutonium.

Issued in Washington, DC, January 4, 2000.

Bill Richardson,

Secretary.

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DEPARTMENT OF ENERGY

Docket Nos. FE C&E 99–27, C&E 99–28, C&E 99–29, C&E 99–30 & C&E 99–31

Office of Fossil Energy; Notice of Filings of Coal Capability of Cleco Evangeline LLC, Liberty Electric Power, LLC, ANP Bellingham Energy Co., Midlothian Energy Limited Partnership and La Paloma Generating Company, LLC; Powerplant and Industrial Fuel Use Act

AGENCY: Office of Fossil Energy, Department of Energy.

ACTION: Notice of filings.

SUMMARY: Cleco Evangeline LLC, Liberty Electric Power, LLC, ANP Bellingham Energy Company, Midlothian Energy Limited Partnership and La Paloma Generating Company, LLC have submitted coal capability self-certifications pursuant to section 201 of the Powerplant and Industrial Fuel Use Act of 1978, as amended.

ADDRESSES: Copies of self-certification filings are available for public inspection, upon request, in the Office of Coal & Power Im/Ex, Fossil Energy, Room 4G–039, FE–27, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC 20585.

FOR FURTHER INFORMATION CONTACT: Ellen Russell at (202) 586–9624

SUPPLEMENTARY INFORMATION: Title II of the Powerplant and Industrial Fuel Use Act of 1978 (FUA), as amended (42 U.S.C. 8301 *et seq.*), provides that no new baseload electric powerplant may be constructed or operated without the capability to use coal or another alternate fuel as a primary energy source.

In order to meet the requirement of coal capability, the owner or operator of such facilities proposing to use natural gas or petroleum as its primary energy source shall certify, pursuant to FUA section 201(d), to the Secretary of Energy prior to construction, or prior to operation as a base load powerplant, that such powerplant has the capability to use coal or another alternate fuel. Such certification establishes compliance with section 201(a) as of the date filed with the Department of Energy. The Secretary is required to publish a notice in the **Federal Register** that a certification has been filed. The following owners/operators of proposed new baseload powerplants have filed a self-certification in acccordance with section 201(d).

Owner: Cleco Evangeline LLC (C&E 99–27).

Operator: Cleco Evangeline LLC.

Location: Evangeline Parish, Louisiana.

Plant Configuration: Combined-cycle.

Capacity: 710 MW.

Fuel: Natural gas.

Purchasing Entities: Williams Energy Marketing & Trading Co.

In-Service Date: June 1, 2000.

Owner: Liberty Electric Power, LLC (C&E 99–28).

Operator: Liberty Electric Power, LLC.

Location: Delaware County, PA.

Plant Configuration: Combined-cycle.

Capacity: 500 MW.

Fuel: Natural gas.

Purchasing Entities: To be determined.

In-Service Date: Fourth quarter, 2001.

Owner: ANP Bellingham Energy Company (C&E 99–29).

Operator: ANP Bellingham Energy Company.

Location: Bellingham, MA.

Plant Configuration: Combined-cycle.

Capacity: 570 MW.

Fuel: Natural gas.