

determination have been corrected, and the SEA or LEA is, in all other respects, in compliance with the requirements of the applicable program;

(2) SEA has submitted to the Secretary a plan for the use of the funds to be awarded under the grantback arrangement that meets the requirements of the program, and to the extent possible, benefits the population that was affected by the failure to comply or by the misexpenditures that resulted in the audit exception; and

(3) Use of funds to be awarded under the grantback arrangement in accordance with the SEA's plan would serve to achieve the purposes of the program under which the funds were originally granted.

### C. Plan for Use of Funds Awarded Under a Grantback Arrangement

Pursuant to section 459(a)(2) of GEPA, the SEA has applied for a grantback of \$31,696—75 percent of the principal amount recovered by the Department—and has submitted a plan on behalf of the LEA for use of the grantback funds to meet the special educational needs of both educationally deprived children in programs administered under Chapter 1, ESEA (20 U.S.C. 2701 *et seq.*), as well as those of migratory children under the Chapter 1 MEP (20 U.S.C. 2781 *et seq.*).

According to the plan, the LEA will use the grantback funds under Chapter 1 to upgrade its existing Higher Order Thinking Skills program (H.O.T.S.). This computer-assisted instruction has been used successfully in the county for the past two years to improve the skills of educationally deprived children, and the use of the program promotes the purpose of the Chapter 1 program under which funds were allocated (see section 1001(b)).

The KCSD currently has five existing H.O.T.S. Mac Labs, which serve an average of 28 students, in grades 4 through 7. The requested grantback funds will be used to upgrade existing H.O.T.S. sites and allow for another Mac Lab site to be established at Keno Elementary School. Also, software would be purchased for the five existing Mac Labs, as well as for the new Mac Lab.

The grantback funds under the Chapter 1 MEP will be used to purchase computer hardware and software for language instruction to migratory children in four schools in the LEA.

### D. The Secretary's Determinations

The Secretary has carefully reviewed the plan submitted by the SEA. Based upon that review, the Secretary has determined that the conditions under section 459 of GEPA have been met.

These determinations are based upon the best information available to the Secretary at the present time. If this information is not accurate or complete, the Secretary may take appropriate administrative action. In finding that the conditions of section 459 of GEPA have been met, the Secretary makes no determination concerning any pending audit recommendations or final audit determinations.

### E. Notice of the Secretary's Intent to Enter Into a Grantback Arrangement

Section 459(d) of GEPA requires that, at least 30 days before entering into an arrangement to award funds under a grantback, the Secretary must publish in the **Federal Register** a notice of intent to do so, and the terms and conditions under which payment will be made.

In accordance with section 459(d) of GEPA, notice is hereby given that the Secretary intends to make funds available to the SEA under a grantback arrangement. The grantback award would be in the amount of \$31,696.

### F. Terms and Conditions Under Which Payments Under a Grantback Arrangement Would Be Made

The SEA and LEA agree to comply with the following terms and conditions under which payment under a grantback arrangement would be made:

(1) The funds awarded under the grantback must be spent in accordance with—

(a) All applicable statutory and regulatory requirements;

(b) The plan that the SEA submitted and any amendments to that plan that are approved in advance by the Secretary; and

(c) The budget that was submitted with the plan and any amendments to the budget that are approved in advance by the Secretary.

(2) All funds received under the grantback arrangement must be obligated by September 30, 1995, in accordance with section 459(c) of GEPA and the SEA's plan.

(3) The SEA, on behalf of the LEA, will, not later than December 31, 1995, submit a report to the Secretary that—

(a) Indicates that the funds awarded under the grantback have been spent in accordance with the proposed plan and approved budget; and

(b) Describes the results and effectiveness of the project for which the funds were spent.

(4) Separate accounting records must be maintained documenting the expenditures of funds awarded under the grantback arrangement.

Dated: February 8, 1995.

**Thomas W. Payzant,**

*Assistant Secretary for Elementary and Secondary Education.*

(Catalog of Federal Domestic Assistance Number 84.010, Educationally Deprived Children—Local Educational Agencies; and Catalog of Federal Domestic Assistance Number 84.011, Chapter 1 Migrant Education Program)

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## DEPARTMENT OF ENERGY

### Savannah River Operations Office; Record of Decision: Stabilization of Plutonium Solutions Stored in the F- Canyon Facility at the Savannah River Site, Aiken, SC

**AGENCY:** U.S. Department of Energy.

**ACTION:** Record of Decision, Stabilization of Plutonium Solutions Stored in the F-Canyon Facility at the Savannah River Site, Aiken, South Carolina.

**SUMMARY:** The U.S. Department of Energy (DOE) has prepared and issued a Final Environmental Impact Statement (EIS) (DOE/EIS-0219, December 30, 1994), to assess the potential environmental impacts of stabilizing approximately 80,000 gallons of plutonium solutions currently stored in tanks in the F-Canyon chemical separations facility at the Savannah River Site (SRS) near Aiken, South Carolina. As long as the plutonium remains in solution there is a risk of releases and subsequent radiation exposure to workers, the public, and the environment from accidental criticality incidents, leaks, and disruptions of engineered systems from earthquakes. The Department has evaluated the impacts of alternative methods that would achieve stabilization of the solutions. The analysis reveals that the potential environmental impacts of implementing alternatives that would eliminate the risk inherent in storing plutonium in liquid form are small. Further, the impacts differ little among the alternatives. DOE currently has available the capability to process the plutonium solutions to a metal form. Given this existing capability, the potential for environmental releases that exists as a result of storing the plutonium in liquid form, and the relative lack of environmental advantages to implementing other options, DOE has decided to process the plutonium solutions to metal form using the F-Canyon and FB-Line facilities at the SRS. DOE has committed that this

plutonium metal will not be used for nuclear explosive purposes and intends to offer it for inspection by the International Atomic Energy Agency.

During the time the SRS was actively involved in nuclear material production, DOE transferred irradiated fuels and targets from SRS reactors to disassembly basins, which are water-filled pools, to allow short-lived radioactive isotopes to decay. From the pools, DOE transferred the fuel and targets to canyon facilities in F- and H-Areas, where they were chemically dissolved into liquid solutions. The useful isotopes were recovered, converted to a solid form, and either shipped to other DOE facilities or stored at the SRS. This chemical reprocessing activity has been suspended since 1992, and plutonium solutions have been stored in tanks in the F-Canyon facility since that time. The Final F-Canyon Plutonium Solutions EIS examines alternative methods for stabilizing these solutions.

**FOR FURTHER INFORMATION CONTACT:** For further information on the stabilization of F-Canyon plutonium solutions or to receive a copy of the Final EIS contact: A. B. Gould, Jr., NEPA Compliance Officer, U.S. Department of Energy, Savannah River Operations Office, P.O. Box 5031, Aiken, South Carolina 29804-5031, (800) 242-8269.

For further information on the DOE National Environmental Policy Act (NEPA) process, contact: Carol M. Borgstrom, Director, Office of NEPA Policy and Assistance (EH-4.2), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, D.C. 20585, (202) 586-4600, or leave a message at (800) 472-2756.

#### **SUPPLEMENTARY INFORMATION:**

##### **I. Background**

DOE prepared this Record of Decision in accordance with the regulations of the Council on Environmental Quality for implementing NEPA (40 CFR Parts 1500-1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021). This Record of Decision is based on DOE's Final F-Canyon Plutonium Solutions Environmental Impact Statement, Savannah River Site, Aiken, South Carolina (DOE/EIS-0219).

The SRS occupies approximately 800 square kilometers (300 square miles) adjacent to the Savannah River, mostly in Aiken and Barnwell Counties of South Carolina, about 40 kilometers (25 miles) southeast of Augusta, Georgia, and about 32 kilometers (20 miles) south of Aiken, South Carolina. When established in the early 1950s, SRS's

primary mission was to produce nuclear materials to support the defense, research, and medical programs of the United States. The present mission emphasizes waste management, environmental restoration, transition activities, and decontamination and decommissioning of facilities that are no longer needed for nuclear materials production.

In March 1992, DOE suspended chemical processing operations in the F-Canyon to address a potential safety concern. That concern was addressed; however, prior to the resumption of processing, the Secretary of Energy directed that SRS phase out chemical separations activities (i.e., reprocessing). Non-safety-related facility operations have remained shut down since that time (March 1992). Approximately 303,000 liters (80,000 gallons) of solutions containing plutonium have remained in tanks in F-Canyon since the suspension of operation.

In September 1992, the SRS completed a plan that described the actions that DOE would have to take to phase out reprocessing. The plan included actions for removing the material that remained in the canyons as a result of the suspension of chemical separation activities in March 1992. In February 1993, the Site requested approval from DOE to restart F-Canyon after the completion of operational readiness reviews conducted as part of the response to the above-mentioned March 1992 safety concern. The SRS made this startup request in light of the Secretary's direction to accelerate the transition of F-Area reprocessing facilities to a standby condition and because all contemplated actions were typical of previous facility operations.

During this same time period, DOE was drafting new requirements for operational readiness reviews necessary for the startup or restart of nuclear facilities. Under these requirements, facilities had to be able to demonstrate the capability to perform satisfactorily in relation to a broad range of topics associated with the safe operation of a nuclear facility. DOE promulgated these requirements in DOE Order 5480.31, "Startup and Restart of Nuclear Facilities," which it issued in September 1993. DOE decided that the SRS should apply these requirements to the restart of the F- and H-Canyons and, in November 1993, determined that the Site should hold the proposed F-Canyon (and FB-Line) restart in abeyance until it had completed a restart review in accordance with the new Order. In January 1994, DOE determined that unless there was an emergency condition, there should be no

processing in F-Canyon before the completion of an environmental impact statement.

On March 17, 1994, DOE published a Notice of Intent (59 FR 12588) to prepare an environmental impact statement on the interim management of nuclear materials at the SRS. The proposed DOE interim management actions are to stabilize those nuclear materials at the SRS that represent a health or safety concern for the public, workers, and the environment and to convert certain materials to a usable form to support DOE program needs. These proposed interim actions would be carried out while DOE makes and implements long-term decisions on the disposition of nuclear materials. DOE is addressing its long-term decisions in a Programmatic Environmental Impact Statement for Storage and Disposition of Weapons-Usable Fissile Materials, for which it issued an NOI on June 21, 1994 (59 FR 31985). DOE expects that it could require 10 years or more to make and implement these long-term decisions.

In May 1994, the Manager of the Savannah River Operations Office recommended that the DOE Assistant Secretary for Defense Programs seek alternative arrangements for compliance with the National Environmental Policy Act (NEPA) under the emergency provisions of the Council on Environmental Quality NEPA Regulations, 40 CFR Part 1506.11, to allow immediate stabilization of the plutonium solutions in F-Canyon and the Mark-31 targets stored in the L-Reactor Disassembly Basin. The recommendation was based on the Manager's determination that the materials present risks to workers, the public, and the environment in the form of radiation exposure from normal operations and potential accidents, which DOE could reduce by converting the material to a solid stable form.

The Assistant Secretary for Defense Programs endorsed the Savannah River Operations Office Manager's request and asked that the DOE Office of Environment, Safety and Health perform an independent evaluation to determine if stabilization actions should proceed in advance of the completion of the Interim Management of Nuclear Materials EIS. The DOE Office of Environment, Safety and Health performed this independent evaluation in June 1994. The report from the evaluation characterized the following potential facility accidents to be of serious significance: (1) the potential for inadvertent criticality of plutonium due to precipitation of plutonium from the F-Canyon plutonium solutions, and (2) potential radiological releases to the

environment due to leakage of plutonium solutions through tank cooling coils. The loss of experienced facility personnel through resignation and retirement was an issue of marginal concern, with the recognition that this could become a serious concern if the current trend continued. The report did not include the Mark-31 targets in the materials of serious concern. DOE evaluated the request to pursue alternative arrangements for compliance with NEPA under the emergency provisions of 40 CFR 1506.11 in light of the Office of Environment, Safety and Health's evaluation and determined that the appropriate action would be to accelerate the evaluation of stabilization alternatives for the F-Canyon plutonium solutions by preparing a separate environmental impact statement on an accelerated schedule.

The vulnerabilities associated with the continued storage of the plutonium in solution have also been documented by the Defense Nuclear Facilities Safety Board (DNFSB). In April 1994, the DNFSB "concluded from observations and discussions with others that imminent hazards could arise within two to three years unless certain problems are corrected. . . . The Board is especially concerned about . . . (s)everal large tanks in the F-Canyon at the Savannah River Site (that) contain tens of thousands of gallons of solutions of plutonium and trans-plutonium isotopes. . . . If an earthquake or other accident were to breach the tanks, F-Canyon would become so contaminated that cleanup would be practically impossible. Containment of the radioactive materials under such circumstances would be highly uncertain . . . therefore, the Board recommends . . . (t)hat preparations be expedited to process the dissolved plutonium and trans-plutonium isotopes in tanks in the F-Canyon at the Savannah River Site into forms safer for interim storage. The Board considers this problem to be especially urgent."

While the Defense Nuclear Facilities Safety Board noted that no emergency presently exists, the Board also noted that the plutonium solutions in F-Canyon could present an imminent hazard within two or three years. Given that even the shortest time to complete stabilization is almost two years, the Department concluded that expediting the decision to stabilize plutonium solutions was prudent.

As noted above, DOE determined that there are safety concerns associated with plutonium solutions stored in F-Canyon that warrant consideration of actions prior to the issuance of a Record of Decision for the Interim Management

of Nuclear Materials EIS. Therefore, DOE decided to prepare the F-Canyon Plutonium Solutions EIS on an expedited basis. On August 23, 1994, DOE published in the **Federal Register** a notice amending the NOI for the Interim Management of Nuclear Materials at the SRS. The notice explained DOE's decision to prepare the F-Canyon Plutonium Solutions EIS.

The NOI for the Interim Management of Nuclear Materials EIS requested public comments and suggestions for DOE to consider in its determination of the scope of that EIS, and announced a public scoping period that ended on May 31, 1994. DOE held scoping meetings in Savannah, Georgia, North Augusta and Columbia, South Carolina, on May 12, 17, and 19, 1994, respectively. As a result of this public scoping process, DOE received comments applicable to the stabilization of F-Canyon plutonium solutions from individuals, organizations, and government agencies, and has considered these comments in the preparation of the F-Canyon Plutonium Solutions EIS.

On September 9, 1994, the U.S. Environmental Protection Agency published a Notice of Availability (NOA) in the **Federal Register** (59 FR 174, pages 46643-46644), which started the public comment period on the Draft F-Canyon Plutonium Solutions EIS; DOE published a corresponding NOA for the Draft EIS on September 9, 1994 (59 FR 174, pages 46627-46628). The public comment period ended on October 24, 1994.

DOE revised the Draft EIS in response to written and oral comments received during the public comment period from individuals, organizations, and Federal and state agencies. Public hearings were held in Columbia and North Augusta, South Carolina, and Savannah, Georgia (October 4, 6, and 11, 1994, respectively). On December 30, 1994, EPA published a Notice of Availability of the Final F-Canyon Plutonium Solutions EIS in the **Federal Register** (59 FR 250, page 67706), following distribution of approximately 400 copies to government officials and interested groups and individuals.

The Department of Energy received letters from the following organizations following the distribution of the Final EIS: (1) the South Carolina Department of Transportation; (2) the Centers for Disease Control, U.S. Department of Health and Human Services; (3) the National Oceanic and Atmospheric Administration, U.S. Department of Commerce; and, (4) the U.S. Environmental Protection Agency (EPA), Region IV. The EPA Region IV

letter indicates that a comment on the Draft EIS concerning impacts to ecological systems is only partially addressed in the Final EIS. The Final EIS briefly considered the potential for impacts to ecological systems and concluded that none of the alternatives discussed in the EIS would affect threatened or endangered species or any of the flora or fauna routinely found in the vicinity of F-Canyon areas. Therefore, DOE did not include a detailed analysis of the impacts on ecological systems in the Final EIS. DOE will be discussing with EPA how to better represent/analyze potential impacts of emissions on ecosystems. The EPA Region IV letter states that the preferred alternative will have the least overall impact and that EPA supports DOE's action. The National Oceanic and Atmospheric Administration concluded that no federally-listed threatened or endangered species under its jurisdiction would be affected by the proposed action. The other organizations had no comments on the Final EIS, and indicated they supported DOE's action plans or provided neither an indication of support nor opposition of DOE's action plans.

## II. Alternatives

The proposed action addressed in the Final F-Canyon Plutonium Solutions EIS is to stabilize the plutonium solutions in order to eliminate the risks inherent in storing this plutonium in liquid form. DOE examined four alternatives for stabilizing the solutions, and a no-action alternative, in the Final EIS.

### A. No Action

DOE would continue to manage the existing 303,000 liter (80,000 gallon) inventory of solutions in stainless steel tanks in the F-Canyon. The solutions would be monitored and corrective actions taken, as necessary, to minimize the potential for precipitation of the plutonium and the possibility of an inadvertent criticality. This action would continue for the 10-year time period evaluated in the Final EIS.

### B. Process to Plutonium Metal (the Preferred Alternative)

Under this alternative, DOE would use the existing F-Canyon and FB-Line processes and equipment to convert the plutonium solutions to metal. The metal would be a chemically stable form of plutonium that DOE could produce without modifying the existing equipment. Because there is no need for additional plutonium for weapons, DOE would not attempt to meet previous isotopic or chemical purity

specifications that were applicable for weapons production. In addition, DOE has made a commitment that plutonium-239 from stabilization actions would not be used for nuclear explosive purposes. The plutonium metal would be packaged and stored, similar to other plutonium metal already in vault storage. DOE expects this stabilization alternative could be accomplished in 20 months from the date of a Record of Decision, which would be significantly faster than stabilization could be accomplished under the other alternatives. In conjunction with stabilizing the solutions to metal, DOE would undertake a project to modify a portion of the FB-Line facility to provide the capability to repackage the plutonium metal into a configuration that meets the recently issued DOE standard for long-term storage of plutonium (U.S. Department of Energy Criteria for Storage of Plutonium Metals and Oxides, DOE-STD-3013-94, Washington, D.C.). The new storage standard requires plutonium to be packaged in a form that is stable over an extended period (e.g., 20 years) without human intervention. Plutonium metal would be packaged in sealed metal cans without the presence of plastics. Current SRS plutonium metal packaging requires the use of plastic around an inner can for contamination control purposes. DOE estimates that it could accomplish the modifications to the FB-Line packaging capability by late 1997 at a cost of approximately \$3 million. Alternatively, while the solutions are stabilized to metal, DOE could modify a different vault facility to provide the necessary equipment to repackage the metal to meet long-term storage requirements. DOE estimates this could cost between \$70 million and \$150 million and that it could complete repackaging by the end of 2001.

The stabilization to metal alternative would produce a solid form of plutonium that would be safer and easier to store in the shortest period of time. As a result, this is DOE's preferred alternative.

#### C. Processing to Plutonium Oxide

DOE would modify the FB-Line to support conversion of the plutonium solutions to a plutonium oxide and to package the material for storage. The objective would be to produce a material form and packaging configuration that met the new DOE standard for long-term storage of plutonium. If the extent of the FB-Line modifications necessary to convert the plutonium solutions to a plutonium oxide and to package the material to

meet the long-term storage standard were economically or physically impractical, DOE would perform the stabilization in two phases. DOE would modify FB-Line to be able to convert the material initially to an oxide form and package it in FB-Line. At the same time, DOE would design and construct a new facility to process, package, and store the oxide in accordance with the new standard. DOE estimates that the minimally required modifications to FB-Line to provide the solution-to-oxide conversion capability would cost \$7 million and take three years to complete. Following completion and modification, DOE would operate the FB-line for approximately 9 months to convert and package the oxide for storage. Repackaging the oxide to meet the new plutonium storage standard would not occur for another three years when the new facility for packaging were available. This new facility is estimated to cost between \$70 million and \$150 million; repackaging of the oxide could also be completed by the end of 2001.

#### D. Vitrification in the Defense Waste Processing Facility

DOE would transfer the plutonium solutions to the SRS waste tank farm. Before transfer, the solutions would be adjusted to ensure the safety of the material in the tanks. DOE has identified several concepts for adjusting the solutions: diluting the solutions with water and chemicals to achieve very low plutonium concentration, diluting the solutions with depleted uranium, or adding iron and manganese or other neutron poisons such as gadolinium. In the waste tanks, high-activity waste would settle to the bottom of the tank in the form of sludge. DOE would transfer highly radioactive sludge to the Defense Waste Processing Facility, where it would be vitrified (converted to a glass-like substance) and stored on the Site until DOE made and implemented final disposition decisions.

DOE estimates it would take approximately six years to perform the technical studies, training, and qualification efforts necessary to ensure safe operations for transferring the solutions for subsequent vitrification under this alternative. The solutions would not be transferred to the high-level waste tanks until all studies for vitrification were final. After these studies were completed, DOE estimates that it would take an additional three years to complete the process of transferring all the plutonium solutions to the high-level waste tanks because of the limited availability of tank space

and criticality concerns. The plutonium solutions would remain in the high-level waste tanks until DOE transferred the contents to the Defense Waste Processing Facility for vitrification.

#### E. Vitrification in F-Canyon

Under this alternative, DOE would vitrify the plutonium into a borosilicate glass matrix using an F-Canyon vitrification facility. Modifications to the F-Canyon would be necessary, and include the installation of a geometrically favorable evaporator to concentrate plutonium solution, and equipment to convert the concentrated plutonium solution to a glass matrix using technology similar to that to be used on a larger scale in the Defense Waste Processing Facility. The capital costs of these modifications would be about \$27 million; the facility could be available by January 1999.

When the modifications to the F-Canyon to install the vitrification facility were completed, the plutonium solutions would be transferred to the facility and evaporated. This concentrated plutonium solution would be fed, along with finely ground glass (frit), to a melter to produce a borosilicate glass containing the plutonium. The molten glass would be poured into stainless steel packages and stored in an existing vault at the SRS until final disposition decisions were made and implemented.

Although the vitrification of this plutonium could begin as early as January 1999, DOE analyzed the Vitrification in F-Canyon Alternative as though it began during the first six months of 2000. The Final EIS describes its environmental consequences, which are largely independent of the schedule for vitrification.

#### F. Other Activities for Reduction of Risk

In addition to the alternatives analyzed in detail in the Final F-Canyon Plutonium Solutions EIS to stabilize the plutonium solutions, DOE identified other activities that have the potential to reduce the risk associated with storing the plutonium solutions in liquid form. These activities are: (1) transporting the solutions to H-Canyon for stabilization, (2) purification of the solutions by processing those that have the greatest criticality risk through the second plutonium cycle in F-Canyon, (3) risk reduction activities identified in the DOE Office of Environment, Safety and Health Assessment of Interim Storage of Plutonium Solutions in F-Canyon and Mark-31 Targets in L-Basin at the Savannah River Site (DOE-EH-0397P/SRS-FCAN-94-01), and (4) shipment of the solutions off the Site for

stabilization. Activities that involve transportation of the plutonium solutions would involve all the risks associated with the alternatives for stabilization plus the risks and costs associated with transportation of radioactive liquids. Activities such as purification of the plutonium solutions by operating the second plutonium cycle in F-Canyon would reduce but not eliminate the risks associated with storing liquid plutonium solutions. In addition, operation of only the second plutonium cycle to purify plutonium solutions would require process development work and establishment of operating parameters, because the F-Canyon process has never been operated in this manner. One important issue associated with this approach would be unprecedented high levels of radiation in the second cycle portion of the facility due to the greatly increased presence of fission products.

### III. Environmental Impacts of Alternatives

The Final F-Canyon Plutonium Solutions EIS evaluated the environmental impacts of the alternatives, including the no action alternative. DOE analyzed the potential impacts that would result from implementation of the alternatives and believes there would be minimal impacts in the areas of geologic resources, ecological and cultural resources, socioeconomics, aesthetics and scenic resources, and noise. This is because implementation of each of the alternatives would occur within the F-Area and mostly within the F-Canyon building. In light of planned SRS workforce reductions, any jobs associated with implementation of any of the alternatives could be filled through reassignment of current workers, resulting in no discernible impact on the regional economy.

Radiological health effects on workers from normal operations would be small for any alternative, much less than one additional cancer death (0.2 latent cancer fatalities for the no action alternative and less for the other alternatives) during the lifetimes of the affected individuals. The effect on the general public could be at most 0.0006 additional cancer deaths (for the processing to oxide and vitrification in F-Canyon alternatives, and less for the other alternatives) in the general population within 80 kilometers (50 miles) of the SRS. This is to say that no latent cancer fatalities in either workers or the general population are expected to occur as a result of routine operations. DOE expects similarly small adverse nonradiological health effects to

workers and the public from emissions of toxic pollutants. Because discharges and emissions would vary little among the alternatives, public health effects would vary little among the alternatives. The analysis in the EIS shows that these potential small impacts would not disproportionately affect minority or low income populations.

Implementation of any of the alternatives, including the No Action alternative, would result in a risk of accidents. The Final EIS evaluates a spectrum of potential accidents for each alternative. To enable a relative comparison of potential impacts among the alternatives, the accident with the highest reasonably foreseeable consequence for each alternative was assumed to occur and the maximum potential effects (latent cancer fatalities) were calculated. The projected frequency for these high-consequence accidents ranged from once in 17,000 years for a plutonium solutions fire involving solvents to once in 5,000 years for a severe earthquake. The maximum potential effect accident, although with a low probability, during the storage of plutonium solutions (for the periods prior to stabilization and for the No Action alternative) and during F-Canyon operation for stabilization is about 6 latent cancer fatalities to the exposed offsite population. For the stabilization actions involving FB-Line operations (processing to metal or processing to oxide), the maximum potential effect from an accident is less than 2 latent cancer fatalities in the exposed offsite population. Following stabilization and during stabilized plutonium storage, the maximum potential effect from an accident is less than 1 latent cancer fatality in the exposed offsite population.

The SRS generates several different types of waste, including low-level waste, high-level waste, transuranic waste and mixed waste. The Final EIS lists estimates of waste generation for each alternative. DOE estimates that the smallest increase for all waste types would occur if the processing to plutonium metal alternative were implemented. Implementation of this alternative would eventually result in high-level waste equivalent to 40 Defense Waste Processing Facility (DWPF) high-level waste canisters. The largest increase in high-level waste would occur if the vitrification in DWPF alternative were implemented. The largest increase in saltstone and low-level waste generation would result from implementing the processing to oxide alternative. None of the alternatives is expected to generate substantial quantities of mixed waste.

With the exception of vitrification in DWPF, the impact on SRS waste management capacities from implementing any of the alternatives would be minimal because the Site can accommodate all the waste generated with existing and planned radioactive waste storage and disposal facilities.

It would not be appropriate under any of the alternatives that would result in stabilized plutonium to characterize the stabilized plutonium as waste. The alternatives for the disposition of surplus weapons-usable plutonium are currently being examined in a programmatic environmental impact statement that is scheduled for completion early next year. The nitric acid that is associated with the plutonium solutions likewise should not be characterized as waste. The nitric acid historically was introduced into the separations process to dissolve irradiated materials and provide for criticality/radiological safety by maintaining the plutonium in solution pending stabilization. The nitric acid continues to serve this vital safety function. The South Carolina Department of Health and Environmental Control (SCDHEC) agrees with DOE that the F-Canyon plutonium solutions should not be regulated as a mixed waste (Letter, R. Lewis Shaw, SCDHEC to Frank R. McCoy, III, DOE, January 26, 1995).

### IV. Other Factors

In addition to examining the environmental impacts of the alternatives, DOE also considered other factors related to the stabilization of the F-Canyon plutonium solutions. These factors are: (1) new facilities that would be required, (2) security and nuclear nonproliferation, (3) implementation schedule, (4) technology availability and technical feasibility, (5) labor availability and core competency, (6) degree of reliance on aging facilities, and (7) post-stabilization custodial care required. The processing to plutonium metal alternative would be the most advantageous for all factors except: (2) security and nuclear nonproliferation and (6) reliance on aging facilities.

The processing to oxide and vitrification alternatives would involve minimal reliance on aging facilities because they would use new facilities for the final step involved in stabilizing the plutonium and for storing the plutonium after completion of stabilization. The processing to metal alternative would use existing facilities to stabilize the plutonium solutions.

The vitrification alternatives would be preferable from the security and nuclear nonproliferation standpoint because

vitrification would produce a form of material least likely to be used in manufacturing a nuclear weapon. However, a proliferator could recover the plutonium from the vitrified (glass) matrix if the necessary resources and proper technology were available. The processing to metal alternative would result in a form of plutonium that closely resembles materials used in weapons production. DOE does not believe that processing these solutions to metal and storing the metal in vaults in protected areas of the SRS, adding appreciably less than one percent to the U.S. inventory of many metric tons, would constitute a proliferation risk. DOE has committed to not using plutonium-239 and weapons-usable highly enriched uranium separated or stabilized during the phaseout, shutdown, and cleanout of weapons complex facilities for nuclear explosive purposes. This prohibition would apply to the plutonium metal produced as a result of the decision to process the F-Canyon plutonium solutions to metal. DOE believes that the processing to metal alternative is fully consistent with the Presidential Nonproliferation and Export Control Policy, under which the United States “\* \* \* will seek to eliminate where possible the accumulation of stockpiles of highly-enriched uranium or plutonium, and to ensure that where these materials already exist they are subject to the highest standards of safety, security, and international accountability.” Furthermore, in accordance with the provision in this Policy to submit U.S. fissile material surplus to national security requirements to inspection by the International Atomic Energy Agency (IAEA), the Department intends to offer this material along with other material at the SRS for IAEA inspection when the material is in a form and consolidated in a storage facility suitable for safe and effective monitoring by the IAEA.

#### V. Environmentally Preferable Alternative

As shown in the Final F-Canyon Plutonium Solutions EIS, the potential environmental impacts of implementing any of the alternatives are generally small and within the same range. DOE believes that any of the action alternatives would be preferable to the no action alternative because the inherent risk of storing plutonium in liquid form would be eliminated. DOE considers the processing to metal alternative the environmentally preferable alternative because it would eliminate the inherent risk of maintaining plutonium in solution in

the shortest period of time. While the plutonium remains in solution, there is a risk of releases and subsequent radiation exposure to workers, the public, and the environment from accidental criticality incidents, leaks, and disruptions to engineered systems from earthquakes.

#### VI. Decision

DOE has decided to implement the preferred alternative, processing the F-Canyon plutonium solutions to metal, as discussed in the Final F-Canyon Plutonium Solutions EIS. Concurrent with the processing, packaging and storage of the metal, which is expected to take about 20 months, DOE will undertake activities to modify part of the FB-Line facility to provide the capability to repackage the plutonium metal into a configuration that meets the DOE standard for long-term storage of plutonium. The plutonium metal resulting from this action will not be used for nuclear explosive purposes.

#### VII. Mitigation

The F-Canyon and FB-Line facilities that will be used to process the plutonium solutions to metal incorporate engineered features to limit the potential impacts of facility operations to workers, the public and the environment. All of the engineered systems and administrative controls are subject to the startup requirements of DOE Order 5480.31, which will assure, prior to startup, the safe operation of the facilities. No other mitigation measures have been identified; therefore, DOE need not prepare a Mitigation Action Plan.

#### VIII. Conclusion

DOE has determined that the F-Canyon and FB-Line facilities should be operated to process to metal approximately 303,000 liters (80,000 gallons) of plutonium solutions currently stored in F-Canyon. In reaching this decision, DOE considered the analysis of the potential environmental impacts of alternatives for stabilizing this material in the Final F-Canyon Plutonium Solutions EIS. This action will produce a solid form of plutonium that will be safer and easier to store than a liquid solution. It will take less time than other alternatives and will therefore eliminate more quickly the risk inherent in storing plutonium in liquid form. The plutonium metal resulting from this action will be stored at the Savannah River Site pending decisions on its disposition and will not be used for nuclear explosive purposes.

Issued at Washington, DC, February 1, 1995.

**Thomas P. Grumbly,**

*Assistant Secretary for Environmental Management.*

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#### DEPARTMENT OF ENERGY

#### Golden Field Office; Notice of Federal Assistance Award to WalMart Stores, Incorporated

**AGENCY:** Department of Energy.

**ACTION:** Notice of Financial Assistance Award in Response to an Unsolicited Financial Assistance Application; DE-FG36-95G010057.

**SUMMARY:** The U.S. Department of Energy (DOE), pursuant to the DOE Financial Assistance Rules, 10 CFR 600.14, is announcing its intention to grant funding to WalMart Stores, Incorporated to implement photovoltaics in the City of Industry Environmental Demonstration Store's vestibule to power battery-operated shopping carts, store equipment and an electric demonstration vehicle.

**ADDRESSES:** Questions regarding this announcement may be addressed to the U.S. Department of Energy, Golden Field Office, 1617 Cole Blvd., Golden, Colorado 80401, Attention: John P. Motz, Contract Specialist. The telephone number is 303-275-4737. The Contracting Officer for this action is John W. Meeker.

**SUPPLEMENTARY INFORMATION:** DOE has evaluated, in accordance with the DOE Federal Assistance Regulations, 10 CFR section 600.14, the unsolicited proposal entitled “Building Integrated Photovoltaic System” and recommends that the unsolicited proposal be accepted for support without further competition in accordance with section 600.14 of the Federal Assistance Regulations.

The proposed WalMart Store for City of Industry, California, has been selected by WalMart as one of the “Environmental Demonstration Stores”. WalMart's Environmental Demonstration Store program was established to investigate the feasibility of various environmentally sensitive options for building design and development. The City of Industry store has been designated to test energy efficiency concepts such as the proposed implementation of photovoltaics.

The proposed photovoltaic system will be used as roofing of the entrance vestibule canopy. The energy produced