would generate the least amount of high level and mixed waste, with comparable amounts of transuranic and low level waste.

Mark-31 Targets—Improving Storage (Accelerated Schedule)

Improving Storage on an accelerated schedule is the environmentally preferable alternative for stabilizing the Mark-31 targets. Improving storage is estimated to result in lower radiological doses to the offsite public with doses to the SRS workers comparable to other alternatives: have the lowest estimates of air and water emissions; and result in the generation of the least amount of high level and transuranic waste with comparable levels of mixed and low level waste. However, improving storage will not reverse or arrest the corrosion of these targets and the release of fission products and radionuclides to the basin water for the several years prior to the construction and operation of the improved storage capability.

Failed TRR Fuel and EBR-II Slugs-

Improving Storage (Accelerated Schedule) Improving Storage on an accelerated schedule is the environmentally preferable alternative for stabilizing failed TRR fuel and EBR-II slugs stored in canisters in the Receiving Basin for Offsite Fuels. Improving Storage is estimated to result in the lowest radiological doses to the offsite public with doses to the SRS workers comparable to other alternatives; have the lowest estimates of air and water emissions; and, result in the generation of the least amount of high level, transuranic, mixed, and low level waste. However, as with the Mark-31 targets, improving storage will not reverse or arrest the corrosion of the fuel or slugs and the release of fission products and radionuclides to the basin water for the several years prior to the construction and operation of the improved storage capability.

VIII. Decision

After completion of the Final EIS, DOE received several letters from stakeholders on issues related to the interim management of nuclear materials at the SRS. Letters were received from the following individuals and organizations: DNFSB, U.S. Senator Strom Thurmond, U.S. Representative Charlie Norwood, U.S. Representative Lindsey Graham, U.S. Representative Edward J. Markey, U.S. Representative Frank Pallone, Jr., the Energy Research Foundation (ERF), the Natural Resources Defense Council (NRDC), and Governor David M. Beasley of South Carolina. Two principal issues were

raised in the letters: (1) the method to be used for the interim- to long-term management of spent nuclear fuel, and (2) the operational status of the F- and H-Canyon processing facilities. The DNFSB, Congressional, and Governor Beasley letters recommended that DOE stabilize the Mark-16 and Mark-22 fuels through chemical treatment (processing), and that both the F- and H-Canyon facilities be maintained in support of DOE missions and tasks. The ERF/NRDC joint letter urged the Department to thoroughly consider alternatives, to include the development of new methods, for the management of spent nuclear fuel, and to consider carefully all factors, particularly safety, environmental, nonproliferation, and budgetary issues, in making its materials management and facility utilization decisions. Congressmen Markey and Pallone's joint letter urged the Department to pursue the closing of the H-Canyon at the earliest possible date on the understanding that substantial savings to taxpayers could be achieved. After careful consideration of the issues identified in these letters (addressed below), along with the analyses of environmental impacts and other factors identified in the Final EIS, DOE has made the following decisions for the interim management of the nuclear materials at the Savannah River Site:

Stable Material—Continuing Storage

DOE will continue storage of the stable materials in their existing physical and chemical forms. Programs and projects to consolidate material storage in order to reduce surveillance and maintenance costs to DOE will continue.

Plutonium-242—Processing to Oxide

DOE has decided to process the existing plutonium-242 solutions stored in H-Canyon to a purified oxide in HB-Line. The plutonium-242 oxide will be packaged and stored at the SRS. Processing to Oxide was selected for many reasons. First, the facilities and equipment to implement the alternative already exist, with HB-Line specifically designed for converting purified plutonium nitrate solutions to an oxide. The portions of the HB-Line facility required to convert the solutions to an oxide are already fully staffed and operational, nearing completion of plutonium-238 work in support of NASA. Although DOE could transfer the solutions to the adjacent high level waste tanks in H-Area along with other liquid high level waste for processing, storage and eventual vitrification in DWPF (the environmentally preferable alternative), the concentration of

plutonium-242 would be significantly diluted due to the existing volume of liquids contained in the high level waste tanks (approximately 1 million gallons in each tank). The dilution and mixing of the plutonium-242 with cesium, strontium and other long-lived fission products contained in the high level waste tanks would effectively render any future recovery or use of the material impractical due to cost and technical complexity. In order not to preclude its recovery while the future use of plutonium-242 is being decided, DOE considers it prudent to stabilize the material to a concentrated oxide form, thereby preserving its availability for potential use. In evaluating the alternatives, DOE determined Processing to Oxide could be implemented sooner than the other alternatives, thus eliminating the need to further extend storage of the solutions. Although Processing to Oxide is not the environmentally preferable alternative, it is estimated to result in a similar level of impacts. Processing to Oxide is estimated to have slightly higher radiological doses to the public and worker populations, but result in the least amount of high level waste for the stabilization alternatives.

Americium and Curium—Vitrification (F-Canyon)—Solutions; Continued Storage (No Action)—Metal Targets and Slugs

DOE has decided to process the existing solutions containing americium and curium isotopes in F-Canyon to a glass contained within small stainless steel canisters. DOE will modify an existing portion of F-Canyon (previously called the Multi-Purpose Processing Facility) to install the necessary vitrification equipment. The glass canisters will be stored at the SRS until DOE makes programmatic decisions on the use of the americium and curium. DOE has also decided to continue wet storage of the reactor targets and slugs until such programmatic decisions are made

DOE selected vitrification in F-Canyon for several reasons. First, no capability currently exists in either F-Canyon or its associated facilities (FA-Line or FB-Line) to convert the americium and curium solutions to a solid physical form suitable for continued safe storage. DOE could transfer the solutions via underground pipelines to the adjacent high level waste tanks in F-Area. The solutions, however, would have to remain stored in the high level waste tanks until they could be vitrified into glass by the DWPF (the environmentally preferable alternative). Vitrification of the