Finding of No Significant Impact
and
Floodplain Statement of Findings
for the
Upgrade of the Site Road Infrastructure on
the Savannah River Site

Agency: U. S. Department of Energy

Action: Finding of No Significant Impact and Floodplain Statement of Findings

Summary: The Department of Energy (DOE) has prepared an environmental assessment (EA) (DOE/EA-1032) for the proposed upgrade of the site road infrastructure on the Savannah River Site (SRS), near Aiken, South Carolina. Based on the analyses in the EA, DOE has determined that the proposed action is not a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA) of 1969. Therefore, the preparation of an environmental impact statement is not required, and DOE is issuing this Finding of No Significant Impact (FONSI) and Floodplain Statement of Findings.

Public Availability:

Copies of the EA and FONSI or further information on the DOE NEPA process are available from:

Mr. A. Ben Gould
Director, Environmental Compliance Division
U. S. Department of Energy
Savannah River Operations Office
P. O. Box 5031
Aiken, South Carolina 29804-5031
Phone: (800) 242-8269

Background: The SRS contains approximately 3,218 km (2,000 mi) of roadways and 60 bridge structures within its boundaries. One hundred and forty miles of these roadways are considered primary roads and carry an average of 20,000 vehicles per work day (i.e., privately owned vehicles in route to and from work), plus daily government vehicle traffic, as well as operational transportation traffic loads. This daily vehicle traffic, coupled with the transport of heavy loads across the site, must be supported by 17 bridges located on the primary roads. Of these 17 bridges, four are now nearing the end of their design life and require some form of action to ensure continued operational usage. The existing bridges were designed and constructed to standards that were in use at the time the site was originally developed in the 1950s.

The SRS has experienced considerable growth (from less than 12,000 to more than 18,000 employees) during the past five years which has resulted in a large increase in vehicle traffic loads on site. It is probable that the site will experience reductions in total employment numbers in the near future, however this would not alter the condition of the subject bridges. Heavy loads would continue to traverse the site regardless of the number of employees. The four bridges subject to this EA are now operating beyond current design capacity and are unable to support current or projected traffic loads.

Proposed Action: The proposed action would undertake the replacement of bridges 603-1G (located on SRS Road C at Upper Three Runs), 603-2G (located on SRS Road C at Fourmile Branch), 603-3G (located on SRS Road F at Upper Three Runs), and 603-67G (located on SRS Road 2 over SRS Road C). The bridges are all located on SRS primary travel routes and are required to support vehicular traffic load in excess of 20,000 vehicles per day (i.e., privately owned vehicles to and from work). In addition to this traffic load, the bridges also support governmental vehicle passages, operational vehicle traffic, and heavy shipments across the site.

The bridges would be designed in accordance with American Association of State Highway and Transportation Officials requirements for lanes, shoulders and medians. The replacement bridges would be supported by reinforced concrete abutments bearing on concrete piles. The bridge deck slabs would consist of reinforced concrete supported on pre-cast, pre-stressed concrete girders. The bridges would include approach slabs resting on fill material at each end of the structures. Other components would include concrete barriers, guard rails, elastomeric bearing pads, and wing walls at each end of the abutments. To prevent erosion of the underlying soils, foundation rip rap would be provided at the four corners of each bridge around the wing walls. The horizontal and vertical alignment of the roads would be modified to provide an acceptable transition to meet the proposed bridge elevations and shoulder widths.

Alternatives: In addition to the proposed action, DOE considered the following alternatives: (1) No-Action (i.e., continued use of the existing bridges); (2) repair the existing bridges; and, (3) restricted use of the existing bridges. The no-action alternative would fail to correct the safety concerns associated with the deteriorated SRS bridges, and would possibly interfere with the ability of SRS to perform its assigned mission. The no-action alternative is therefore not a reasonable alternative, but was analyzed for baseline purposes. The impacts of the reasonable alternatives that will meet the need for DOE action were analyzed and were not selected for the following stated reasons. The alternative involving repair of the existing bridges would have a greater potential environmental impact than replacement of the subject structures. This alternative would also fail to meet the requirements of increasing the load bearing capacity of the bridges. The alternative to administratively restrict bridge usage and redirect the main flow of traffic around these points via secondary roadways would only compound the existing problem as these secondary roads would experience early failure due to overuse. This failure of the secondary roadway system would necessitate an upgrade and repair project of substantially larger scale than that of the proposed action.

Environmental: The potential consequences of the proposed upgrade of the site road infrastructure were assessed to determine whether there will be significant impact to water, air, and land resources; floodplains and wetlands; ecology and cultural resources; health and safety; and socioeconomic conditions; and transportation. The proposed action involving the construction of three of the four bridges (i.e., 603-1G, 603-2G, and 603-3G) is expected to result in the loss of approximately 0.3 hectares (0.75 acres) of wetland habitat and the potential for temporary erosion/sediment transport into SRS streams and waterways. Construction related air impacts, primarily related to equipment use and soil disturbance, would not be either individually or cumulatively significant. Aside from small amounts of construction debris and rubble to be disposed of on site, no new waste streams would be generated from this project. No threatened or endangered species will be affected by the proposed bridge replacement project. There will be no impact to cultural resources. The proposed construction work force would comprise less than one percent of the site employment.

The specific project action to replace SRS Bridge 603-1G would require the relocation of a currently permitted National Pollutant Discharge Elimination Systems effluent discharge pipe. The move would be required to realign this pipe with the new location of the bridge. This permitted effluent line discharges minute amounts of regulated chemicals and radiological wastes into Upper Three Runs. The project team would coordinate their actions with the site Radiological Control & Health Protections Department and Operational Departments so that no effluents were present in the pipe at the time it was moved.

No operational impacts would result from the proposed action. The project is designed to improve safety conditions, replace dilapidated bridges, and ensure that SRS is capable of completing its assigned mission with a sustainable and safe road infrastructure. The overall primary cumulative impact associated with the proposed action would be the loss of approximately 0.3 hectares of wetland area.

Floodplain Statement of Findings: This is a Floodplain Statement of Findings prepared in accordance with 10 CFR Part 1022. A Floodplain/Wetlands Assessment was prepared for those areas impacted by the replacement of Bridges 603-1G, 603-2G, and 603-3G. Bridge 603-67G does not reside within a floodplain or wetland. The Floodplain/Wetlands Assessment determined that wetlands did exist near three of the bridges and delineated the best possible routes and work methods to minimize impact on the floodplain/wetlands at SRS. The Floodplain/Wetlands Assessment stated that the project could be expected to cause the destruction of approximately 0.3 hectares of wetlands due to the replacement of the three bridges, as well as cause a temporary increase in the sediment load levels of impacted SRS streams. An erosion control plan would be developed to comply with applicable State and local floodplain protection standards. Best management practices would be employed during construction and maintenance activities associated with this proposed action.

Determination: Based on the information and analyses in the EA, DOE has determined that the proposed upgrade of the site road infrastructure at SRS does not constitute a major Federal action significantly affecting the quality of the human environment with the meaning of NEPA. Therefore, an environmental impact statement is not required and DOE is issuing this FONSI and Floodplain Statement of Findings.

Signed in Aiken, South Carolina, this 6 day of Feb, 1995.

Mario P. Fiori
Manager
Savannah River Operations Office