CHAPTER 6

UNAVOIDABLE IMPACTS, SHORT-TERM USES AND LONG-TERM PRODUCTIVITY, AND IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

In addition to a discussion of the environmental impacts of the proposed action and a discussion of alternatives, NEPA requires that an EIS contain information on any adverse environmental effects that could not be avoided if the proposed action were implemented, the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources that would be involved in the proposed action should it be implemented (NEPA, Section 102(2)(C); 42 U.S.C. 4332(C)). This chapter provides this information for Alternatives A and B.

6.1 UNAVOIDABLE ADVERSE IMPACTS

Under Alternative A or B, there would be a very slight increase in radiation doses to the public and workers as a result of waste management activities, which could result in a very slight increase in excess cancer risk. The highest *total* risk of a latent cancer fatality for the maximally exposed member of the public would be very low at 3.1×10^{-7} (about 3 chances in 10 million) under all alternatives, including the No Action Alternative. Offsite transportation of waste under Alternatives A or B could result in slight worker and public radiation exposure and the potential for traffic accident fatalities. The total estimate of fatalities from waste shipments is less than one for all alternatives.

6.2 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

Implementation of Alternative A or B would not create a conflict between the local, short-term uses of the environment and long-term productivity. All activities would occur in existing or planned facilities or would use existing or planned infrastructure resources such as roads and railways. Environmental resources such as land use, plants and animals, and wetlands would not be affected by implementation of either of the action alternatives.

6.3 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

Utilization of utilities such as electricity, natural gas, and water would continue at the same rates as current operations under all alternatives. The only additional irreversible or irretrievable commitment of resources that would occur if Alternative A or B were implemented is the use of fossil fuels in the shipment of waste off the site and the use of land for the disposal of radioactive wastes. Approximately 2,550 truck or 847 rail shipments would be required to ship all LLW, mixed LLW, TRU waste and HLW off the site under Alternative A or B. Both rail and truck shipments would require the consumption of diesel fuel and other fossil fuels such as gasoline and lubricants.

Implementation of Alternatives A or B would also involve the use of offsite land previously committed for radioactive waste disposal facilities. As described in Section 1.7, the land use requirements for the offsite disposal of LLW, mixed LLW, and TRU waste have been addressed in the WM PEIS (DOE 1997a) and the WIPP Supplemental EIS II (DOE 1997b). Land use requirements for the offsite disposal

of HLW are addressed in the *Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE 2002).

6.4 REFERENCES

DOE (U.S. Department of Energy), 1997a. *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste (Volumes 1 through 5)*, DOE/EIS-0200-F, Washington, DC, May.

DOE (U.S. Department of Energy), 1997b. *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement*, DOE/EIS-0026-S-2, Washington, DC, September.

DOE (U.S. Department of Energy), 2002. *Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-level Radioactive Waste at Yucca Mountain, Nye County, Nevada,* DOE/EIS–0250, Office of Civilian Radioactive Waste Management, Washington, DC, February.