IX. SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

This section compares the short-term and long-term environmental gains and losses of implementing any of the alternative plans. For purposes of this discussion, short-term effects are those that occur during the period of construction and operation of the facilities. Long-term effects are those that extend past facility operations and into the indefinite future. Short-term effects are generally considered in terms of trade-offs in impact on the environment, land use, and cost. Long-term effects have to do with conservation of energy reserves, environmental effects, and land use.

The fundamental purpose of implementation of any of the alternative plans is to remove the SRP defense high-level waste from interim storage and place it in environmentally acceptable long-term storage or disposal.

A. SHORT-TERM EFFECTS

1. Gains

If one of the high integrity waste form alternatives is selected, the high-level waste will be placed in a solid, leach-resistant form which will enhance its isolation from man's environment, particularly during transportation and storage.

If the alternative to place liquid waste in bedrock underneath SRP is selected, the liquid waste would be isolated in a geological formation with a low probability of any of the radionuclides migrating into man's environment.

2. Losses

Implementation of any of the alternative plans will consume some depletable resources, such as water, cement, gravel, steel, and lumber; however, these are all common industrial products, and SRP consumption would not significantly affect their supply. Also, implementation of any of the alternative plans will require short-term dedication of land for construction of the facilities. However, each of the alternative plans will require less than 0.5% of the land on the Savannah River Plant site.

B. LONG-TERM EFFECTS

1. Gains

Even though the defense high-level waste is stored safely in waste tanks, if one of the other alternative plans is selected, the waste will be placed in a form and/or storage mode that would give greater assurance that it will remain isolated from man's environment.

2. Losses

If the SRP surface vault storage mode is selected for the high integrity waste form, approximately 20 acres of the 192,000-acre SRP site will be committed to a storage vault for many thousands of years or until a decision is made to store the waste form in another location.

If one of the bedrock cavern storage modes or the offsite geological storage mode is selected, the subsurface facility would be committed indefinitely; however, the surface area above the repository could be released with a restriction which prohibited drilling or mining in the area.

Placing the waste forms in a geological formation or a surface storage vault would reduce the surveillance that would be required for continued storage in tanks. However, all storage modes will require long-term continuing surveillance.

A summary of long-term and short-term costs and nuclear risks is given in Table IX-1. Short-term risks are the sum of occupational and offsite risks until the waste is placed in storage or disposal (about 10 years after start of removal from tanks). Long-term risks are the sum of occupational and offsite risks for 300 years after the waste is placed in storage or disposal.