

Environmental Consequences

As can be seen from the tables for existing facilities, the largest number of jobs would be required for Tank Farm Clean Closure (about **280** workers). The other scenarios would require relatively smaller numbers of workers and would in all cases be much fewer than the workers required for disposition *of* the proposed new facilities.

For both new and existing facilities, DOE would retrain and reassign workers to conduct disposition activities whenever possible (see Section 5.2.2). In some cases, skill mix and the number of personnel available may dictate a reduction in force. The number of workers affected would depend on the alternative selected and the timing. History has shown that such reductions are generally small. The current operational workforce for this mix of existing facilities is currently about 1,100 (Beck 1998). Following the completion of its operational and disposition missions, reductions in the number of jobs would probably occur unless new missions have been identified.

The potential impacts associated with population and housing, community services, and public finance would be the same as described for construction in Section 5.2.2.

5.3.3 GEOLOGY AND SOILS

Facility disposition activities would be carried out after HLW *management* facilities are no longer operational. Section 3.2 provides descriptions of the facility disposition alternatives being considered and explains how the various HLW *management* facilities would be closed. HLW *management* facilities would be decontaminated to the extent required by the selected alternative, then, depending on the facility disposition alternative selected and the facility in question, they would be entombed and left standing, partially removed, completely removed, or returned to (restricted) industrial use. Impacts to unique geologic features are not anticipated.

The Clean Closure Alternative could require the use of engineered caps for stabilized structures and the replacement of contaminated soil with topsoil for revegetation and backfill. The impacts of expanding existing INEEL

gravel/borrow pits were addressed in Section 5.6.2 of the SNF & INEL EIS (DOE 1995). New source development for soil for facility closures was evaluated in a separate National Environmental Policy Act document entitled the *Environmental Assessment and Plan for New Silt/Clay Source Development and Use at the Idaho National Engineering Laboratory* (DOE 1997).

Under Clean Closure, radioactive and hazardous constituents would be removed from the site or treated so that residual contamination is indistinguishable from background levels. This could require removal of all buildings, vaults, tanks, transfer piping, and contaminated soil. This alternative would require the largest quantity of soil for backfilling and would also require topsoil for revegetation.

Under Performance-Based Closure, most above-grade structures would be razed and most below-grade structures (tanks, vaults, and transfer piping) would be decontaminated, stabilized with grout, and left in place. This alternative would require some topsoil for revegetation but would require minimal amounts of soil for backfilling.

Under the Closure to Landfill Standards Alternative, waste residues within tanks, vaults, and piping would be stabilized with grout in order to minimize the release of contaminants into the environment. This alternative would require the use of an engineered cap to cover stabilized structures.

Under Performance-Based Closure with Class A Grout Disposal, facilities would be closed as described under the Performance-Based Closure Alternative, but following completion of these activities low-level waste Class A type Grout (produced under the Full Separations Option) would be disposed of in the Tank Farm and bin sets. This alternative would require some topsoil for revegetation but would require minimal amounts of soil for backfilling.

Under Performance-Based Closure with Class C Grout Disposal, facilities would be closed as described under the Performance-Based Closure Alternative, but following completion of these activities low-level waste Class C type Grout would be disposed of in the Tank Farm and bin



sets. This alternative would require some topsoil for revegetation, but would require minimal amounts of soil for backfilling.

5.3.4 AIR RESOURCES

Activities associated with the ultimate disposition of HLW *management* facilities would result in potential impacts on air resources in the INEEL region. Two categories of disposition are considered. The first involves the dispositioning of the various proposed new facilities that are required to support the waste processing alternatives. The second category embraces all the existing facilities as grouped in Table 3-3. For each category, DOE has characterized impacts that would result from the dispositioning of each facility according to candidate cleanup criteria. These impacts are described in terms of total airborne emissions, radiation dose to onsite and off-

site receptors, and maximum nonradiological pollutant concentrations at onsite and offsite locations. This section presents summaries of emissions estimates and impact assessments. Additional detail, including emissions of individual facilities (or groups of similar facilities), is provided in Appendix C.2. The methods used to estimate emissions are consistent with those used for operational and construction emissions, and are described Appendix C.2.

5.3.4.1 Proposed New Facilities Associated with Waste Processing Alternatives

DOE has estimated the radionuclide and nonradiological pollutant emissions that would result from the dispositioning of proposed new facilities required to support the waste processing alternatives. These emissions are temporary in nature and would persist for a few (1 to 4) years following the operating lifetime of individual facilities. Table 5.3-4 summarizes the annual and cumulative release estimates by waste processing alternative (see Appendix C.2 for emissions for individual projects). **Table 5.3-5** compares criteria pollutant and fugitive dust emissions by alternative. In general, radionuclide emission levels from dispositioning of facilities would be much lower than those that would result from operating the involved facilities. Exceptions would be those facilities that process or store waste in sealed form (such as packaging or interim storage facilities), which would have little or no operational emissions. Figure 5.3-1 summarizes the radiation doses that would be associated with these emissions. In all cases, doses would be exceedingly low and very small fractions of natural background levels and applicable standards. ***(The applicable offsite dose limit is 10 millirem per year, as specified in 40 CFR 61.92; the occupational standard that applies to onsite doses is 5,000 millirem per year, as specified in 10 CFR 835.202.)*** Nonradiological impacts are illustrated in Figures 5.3-2 (for criteria pollutants) and 5.3-3 (for toxic air pollutants). When baseline levels are added to projected nonradiological impacts, criteria pollutant levels would remain well below applicable standards (***IDAPA 58.01.01.577***) for all alternatives. Toxic air pollutant levels would also well below reference levels (***IDAPA 58.01.01.585-586***) for all alternatives.