

## **CHAPTER 9: IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

Operations at the Livermore Site and Site 300 under the No Action Alternative, Proposed Action, and Reduced Operation Alternative would require an irreversible and irretrievable commitment of resources. A commitment of resources is irreversible when its primary or secondary impacts limit the future options for a resource. For example, as a landfill receives waste, the primary impact is a limit on waste capacity. The secondary impact is a limit on future land use options. An irretrievable commitment refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations. This section discusses four major resources—land, energy, material, and water—that have the potential to be committed irreversibly or irretrievably under the No Action Alternative, Proposed Action, and Reduced Operation Alternative.

### **9.1 LAND**

Past activities at Site 300 have led to soil contamination. Soil contaminants include volatile organic compounds, metals, polychlorinated biphenyls, dioxins, furans, high explosives compounds, and depleted uranium. Although some areas of legacy contamination are in the process of investigation or remediation, testing activities planned under the No Action Alternative, Proposed Action, or Reduced Operation Alternative could lead to further contamination in some areas. These areas of contamination are essentially unavailable for use for other purposes due to a variety of factors. These include construction-related criteria involving soil compacting, regulatory restrictions, and compatibility issues related to DOE missions. The total acreage removed from future or unrestricted use is yet-to-be-determined because some sites could require continued monitoring, limited access, limited use, and potentially require other future corrective actions for an extended period of time.

Nonhazardous waste from the Lawrence Livermore National Laboratory (LLNL) would occupy landfill space, thus limiting future land use options. However, landfill capacity for the Altamont Landfill is estimated to be sufficient for disposal needs until the year 2038; disposal land is already committed to this purpose.

### **9.2 ENERGY**

The irretrievable commitment of resources during construction and operation of the facilities would include nonrenewable fuels to generate heat and power, and fuels used to operate motor vehicles and heavy equipment. Energy resources consumed at LLNL would include electricity, natural gas, diesel fuel, fuel oil, and unleaded gasoline.

Electricity consumption would be 462.3 million kilowatt-hours per year under the No Action Alternative, the highest for any of the alternatives analyzed. About 76 percent of the electricity used would be generated using nonrenewable resources. Other nonrenewable resources consumed, with corresponding quantities under the No Action Alternative, the highest of any of the alternatives analyzed, are natural gas (841.8 million cubic feet per year), diesel fuel (72,000 gallons per year), fuel oil (16,600 gallons per year), and unleaded gasoline (451,800 gallons per year).

**9.3 MATERIAL**

Resources irreversibly and irretrievably committed for the operation of LLNL include construction, maintenance, and operational support materials. Consumption of these widely available materials would not be expected to result in critical shortages. The amount of materials required for construction maintenance, and operational support under all alternatives is small compared to the materials used in the local economy.

**9.4 WATER**

All Livermore Site water needs are met by the Hetch Hetchy system. Site 300 is scheduled to convert to the Hetch Hetchy system in 2004. Regional demand on the water supply is increasing, but improvements to the system should keep up with demand at least through the next 10 years. Because water from the Hetch Hetchy Reservoir is naturally replenished at a rate equal to usage, LLNL's water use is not considered to be an irreversible and irretrievable commitment of resources.