

Table 3-34. Electric power use for the Exploratory Studies Facility and Field Operations Center.^{a,b}

Fiscal Year	Power use	
	Consumption (megawatt-hours)	Peak (megawatts)
1995	9,800	3.5
1996	19,000	4.9
1997	23,000	5.3
1998 ^c	21,000	4.2
1999 ^c	17,000	4.2
2000 ^c	8,700	4.2

- a. Source: DIRS 104988-CRWMS M&O (1999, Table 2, p. 6)
- b. Before 1995, Yucca Mountain Project power was not metered separately.
- c. Estimated.

Exploratory Studies Facility were very small in those years. Fossil-fuel supplies are delivered to the Nevada Test Site and the Exploratory Studies Facility by truck from readily available supplies in southern Nevada.

3.1.11.3 Site Services

DOE has established an existing support infrastructure to provide emergency services to the Exploratory Studies Facility. The Yucca Mountain Project *Emergency Management Plan* (DIRS 102618-YMP 1998, all) describes emergency planning, preparedness, and response. The project cooperates with the Nevada Test Site in such areas as training and emergency drills and exercises to provide full emergency preparedness capability to the site. In addition, the project trains and maintains an

underground rescue team. The Nevada Test Site security program is responsible for project security, with enforcement provided by a contractor following direction from DOE. The Nye County Sheriff's Department provides law enforcement and officers for Yucca Mountain site patrol. Nevada Test Site personnel and equipment support fire protection and medical services. Medical services are provided through the Nevada Test Site by two paramedics and an ambulance stationed in Area 25 with backup from other Test Site locations. The Yucca Mountain staff uses a medical clinic with outpatient capability at Mercury. Urgent medical transport is provided by the "Flight for Life" and "Air Life" programs from Las Vegas. Nellis Air Force Base and Nye County also provide emergency support.

3.1.12 WASTE AND HAZARDOUS MATERIALS

The region of influence for waste and hazardous materials consists of on- and offsite areas, including landfills and radioactive waste processing and disposal sites, in which DOE would dispose of waste generated under the Proposed Action. This region of influence can be described, to a large extent, through considering the manner in which waste has been managed during the current Yucca Mountain activities.

The Yucca Mountain Site Characterization Project developed its waste management systems to handle the waste and recyclable material generated by its activities. This material includes nonhazardous solid waste; construction debris; hazardous waste; recyclables such as lead-acid batteries, used oil, metals, paper, and cardboard (DIRS 152012-McCann 2000, pp. 1 to 6); sanitary sewage; and wastewater. It does not include low-level radioactive or mixed wastes. DOE uses landfills to dispose of solid waste and construction debris; accumulates and consolidates hazardous waste, then transports it off the site for treatment and disposal; treats and reuses wastewater; and treats and disposes of *sanitary waste*. In most categories of waste, especially solid waste, some types of material can be recycled or reused. DOE has processes in place to ensure that it collects the material and recycles it as appropriate.

3.1.12.1 Solid Waste

DOE disposes of Yucca Mountain Site Characterization Project solid waste and construction debris in landfills in Areas 23 and 9, respectively, on the Nevada Test Site. The Area 23 landfill has a capacity of 450,000 cubic meters (16 million cubic feet) (DIRS 101811-DOE 1996, p. 4-37) and a 100-year estimated life (DIRS 101803-DOE 1995, p. 9). The Area 9 landfill, which is in Crater U-10C, is an open circular pit with steep, almost vertical sides formed as a result of an underground nuclear test. The Area 9 landfill

has a disposal capacity of 990,000 cubic meters (35 million cubic feet) (DIRS 101811-DOE 1996, p. 4-37) and an estimated 70-year operational life (DIRS 101803-DOE 1995, p. 8). The environmental impact statement for the Nevada Test Site describes these landfills (DIRS 101811-DOE 1996, p. 4-37). DOE disposes of Yucca Mountain Site Characterization Project oil-contaminated debris from maintenance activities at the industrial landfill at Apex, Nevada, using an environmental company for transport and disposal. The Apex facility is a multilined landfill with on- and offsite monitoring in compliance with State of Nevada requirements (DIRS 152012-McCann 2000, p. 3).

DOE recycles as many materials as feasible from its site characterization activities. The *Waste Minimization and Pollution Prevention Awareness Plan, Approved* (DIRS 103203-YMP 1997, all) governs recycling and other waste minimization activities. At present, a Nevada Test Site contractor collects paper, cardboard, aluminum cans, and scrap metal and recycles it. For such recyclables as oils, solvents, coolants, lead-acid batteries, and oil-contaminated soils, the Yucca Mountain Site Characterization Project contracts directly with recycling services (DIRS 152012-McCann 2000, pp. 1 to 5).

Solid waste generated by the construction and operation of transportation facilities could be disposed of in offsite landfills. At present, there are 24 operating municipal solid waste landfills in Nevada (DIRS 155563-NDEP 2001, all) with a combined capacity to accept 11,000 metric tons (12,000 tons) of waste per day. In 2000, about 3.5 million metric tons (3.9 million tons) of sanitary solid waste was disposed of in Nevada (DIRS 155565-NDEP 2001, Section 2.1). Eleven Nevada landfills accept industrial and special waste (DIRS 155563-NDEP 2001, all), which includes construction debris and other solid waste such as tires that have specific management requirements for permitted landfill disposal. The State's largest regional landfill accepts municipal and industrial waste and has a capacity of 6,300 metric tons (6,900 tons) per day (DIRS 155563-NDEP 2001, all). In 2000, about 750,000 metric tons (823,000 tons) of construction debris and about 83,000 metric tons (91,000 tons) of other wastes were disposed of in the State (DIRS 155565-NDEP 2001, Section 2.1).

3.1.12.2 Hazardous Waste

The Yucca Mountain Site Characterization Project is a small-quantity [less than 1,000 kilograms (2,200 pounds) a month] generator of hazardous waste. DOE accumulates hazardous wastes near their generation sources, consolidates them at a central location at the Yucca Mountain site, and ships them off the site for treatment and disposal. The hazardous waste accumulation areas are managed in accordance with Federal and State regulations. The waste is treated and disposed of off the site at a permitted treatment, storage, and disposal facility (DIRS 152012-McCann 2000, p. 6).

3.1.12.3 Wastewater

DOE uses a septic system to treat and dispose of sanitary sewage at the Yucca Mountain site (DIRS 102303-CRWMS M&O 1998, p. 15). The system design can handle a daily flow of about 76,000 liters (20,000 gallons) (DIRS 102599-CRWMS M&O 1998, p. 64).

At present, wastewater from tunneling operations and water from secondary containment (following rains) is processed through an oil-water separator, and the treated water is used for dust suppression in accordance with a State of Nevada permit (DIRS 152012-McCann 2000, p. 4). The oil is recycled with the other used oil generated by the project.

3.1.12.4 Existing Low-Level Radioactive Waste Disposal Capacity

The Nevada Test Site accepts low-level radioactive waste for disposal from approved generator sites. It has an estimated disposal capacity of 3.7 million cubic meters (130 million cubic feet). DOE estimates

that a total of approximately 1.1 million cubic meters (39 million cubic feet) of low-level radioactive waste will be disposed of at the Test Site through 2070 (DIRS 155856-DOE 2000, Table 4-1, p. 4-2), not including repository-generated waste.

Commercial spent nuclear fuel generators and contractor-operated transportation facilities such as an intermodal transfer station would dispose of low-level radioactive waste in commercial facilities.

Commercial disposal capacity for low-level radioactive wastes is available at three licensed facilities (DIRS 152583-NRC 2000, U.S. Low-Level Radioactive Waste Disposal Section).

3.1.12.5 Materials Management

DOE has programs and procedures in place to procure and manage hazardous and nonhazardous chemicals and materials (DIRS 104842-YMP 1996, all). By using these programs, the Department is able to minimize the number and quantities of hazardous chemicals and materials stored at the Yucca Mountain site and maintain appropriate storage facilities.

The chemical and material inventory report (DIRS 148107-Dixon 1999, pp. 4, 4a, and 5) for the Nevada State Fire Marshal's office lists 33 hazardous chemicals and materials. The Yucca Mountain Project holds many of these in small quantities, and it stores sulfuric acid in larger quantities [above the threshold planning quantity of about 450 kilograms (1,000 pounds) that requires emergency planning]. Most of the sulfuric acid is in lead-acid batteries (DIRS 148107-Dixon 1999, all). In addition, the Yucca Mountain Site Characterization Project stores the following hazardous chemicals in large amounts [exceeding 4,500 kilograms (10,000 pounds)]: propane, gasoline, cement, and lubricating and hydraulic oils. The project does not store highly toxic substances in quantities higher than the State of Nevada reporting thresholds (DIRS 148107-Dixon 1999, p. 1).

3.1.13 ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs each Federal agency "to make achieving environmental justice a part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

DOE has identified the minority and low-income communities in the Yucca Mountain region of influence, which consists of Clark, Lincoln, and Nye Counties in southern Nevada. Unless otherwise noted, the *Environmental Baseline File for Environmental Justice* (DIRS 105004-CRWMS M&O 1999, all) is the basis for information in this section.

ENVIRONMENTAL JUSTICE TERMS

Minority: Hispanic, Black, Asian/Pacific Islander, American Indian/Eskimo, Aleut, and other non-white person.

Low income: Below the poverty level as defined by the Bureau of the Census.

To identify minority and low-income communities in the region of influence, DOE analyzed Bureau of the Census population designations called *block groups*. DOE pinpointed block groups where the percentage of minority or low-income residents is meaningfully greater than average. For environmental justice purposes, the pinpointed block groups are minority or low-income communities. This EIS considers whether activities at Yucca Mountain could cause disproportionately high and adverse human health or environmental effects to those communities.