with one unit 45 percent complete and the second unit 85 percent complete. The schedule data estimated completing the 45 percent complete unit in 5 years or both units simultaneously in 7 years. Since the Department is only interested in one unit, the 5 year estimate was selected. It is possible that the 85 percent unit could be completed in a shorter time. For the 45 percent complete unit, peak year workers were estimated to be approximately 2,065. The 85 percent complete unit would require a peak work force of approximately 1,525. Operations would require approximately 830 workers.

## Other Missions Beyond Tritium Production

Multi-Purpose Reactor Concept: The ALWR, MHTGR, and the purchase options of the commercial reactor alternative would also be capable of utilizing fuel fabricated from excess plutonium to make tritium and generate electricity. To "burn" plutonium in an ALWR or a commercial light water reactor, a plutonium Pit Disassembly, Conversion, and Fuel Fabrication Facility would be needed to fabricate the plutonium and uranium (mixed oxide) fuel rods. For the MHTGR, only a plutonium Pit Disassembly and Conversion Facility would be needed, because the MHTGR design already includes a fuel fabrication facility. The MHTGR, if used to "burn" plutonium, would utilize fuel fabricated solely from plutonium without blending it with uranium. However, because tritium production declines significantly in a plutonium-fueled MHTGR, twice as many reactors would be necessary in order to produce the steady-state (3/16)tritium requirements. The need to include a plutonium Pit Disassembly, Conversion, and Fuel Fabrication facility for the ALWR and commercial reactor options, and the need for plutonium Pit Disassembly and **Conversion Facility and more reactors** for the MHTGR, would be major contributors to potential direct environmental impacts.

If an ALWR or commercial light water reactor were used as multi-purpose facilities, the new plutonium Pit Disassembly, Conversion, and Fuel Fabrication Facility would cover up to 129 acres and require a peak construction work force of approximately 745 during the 6-year construction period. Operation would require approximately 650 workers. If an MHTGR were used as a multipurpose reactor, the new plutonium Pit Disassembly and Conversion Facility would cover up to 30 acres and require a peak construction work force of approximately 125 during the 6-year construction period. Operation would require approximately 520 workers.

## **Recycling Facilities**

The tritium recycling facility processes and recycles tritium for use in nuclear weapons. This includes emptying reservoirs returned from weapons in the stockpile, recovering and purifying the tritium, reclaiming reusable reservoirs, providing new gas mixtures, and refilling reservoirs. The facility also tests reservoirs and provides appropriate waste management activities.

1. *No Action:* The Department currently operates tritium recycling facilities at the Savannah River Site. These facilities would continue to operate without modifications or consolidation to meet environmental, health, and safety requirements, or to maximize efficiencies. Environmental impacts would not change from those experienced today.

2. Construct New Facilities: If the tritium supply and recycling facilities were to be located at any site other than the Savannah River Site, new recycling facilities could be collocated with the supply facilities. The tritium recycling activities would be housed in two buildings for operations and several support facilities. All tritium handling activities would be completed in the tritium processing building, which would be designed to contain tritium releases should they occur. An auxiliary building would house non-tritium activities and extremely small amounts of working tritium. The recycling facilities would cover approximately 196 acres. Construction would take approximately 4 years and require approximately 335 workers during the peak year of construction. Operation of the recycling facilities would require approximately 910 workers.

3. Upgrade Existing Facilities at Savannah River Site: There are two options for the upgrade of recycling facilities at the Savannah River Site. The first, the unconsolidated upgrade, would result in the continued use of all existing facilities and thus no consolidation of tritium handling activities. Five buildings would be upgraded in order to meet environmental, health, and safety requirements. No additional land area would be required. Construction of the upgrades would take approximately 3 years and require approximately 26 workers during the peak construction year. Operations would require approximately 970 workers.

The second option, the consolidated upgrade, would result in closing one

building and transferring its functions to two existing buildings. Four buildings would be upgraded to meet environmental, health, and safety requirements and one to accept the transferred activities. The land area required for the facilities would not change. Construction would take approximately 3 years and require approximately 36 workers during the peak construction year. Operations would require approximately 910 workers.

## Siting of New Tritium Supply Facilities

New tritium supply facilities, if constructed, would be located at one of five sites currently owned by the Department. These five sites are:

1. Idaho National Engineering Laboratory: The INEL is situated on approximately 570,000 acres, approximately 50 miles west of Idaho Falls and presently employs approximately 10,100 workers. The site has been used to test, build, and operate nuclear facilities. Research and development activities include reactor performance studies, materials testing, environmental monitoring, waste processing, breeder reactor development, and naval reactor operator training. Currently, there are four operational reactors. In addition to nuclear research, INEL supports processing and/or storage of high-level, low-level, and transuranic radioactive wastes.

2. Nevada Test Site: The NTS is situated on approximately 854,000 acres, 65 miles northwest of Las Vegas. Approximately 6,850 workers are presently employed at the site. The site is a remote secure facility for conducting underground testing of nuclear weapons and evaluating the effects of nuclear detonations on military communications, electronics, satellites, sensors, and other materials. NTS is also the location of a low level radioactive waste management facility.

3. Oak Ridge Reservation: The ORR is located on approximately 35,000 acres, 20 miles west of Knoxville, TN. Approximately 15,000 workers are presently employed at the site. It includes three major facilities: the Oak Ridge National Laboratory; Y-12 Plant, and the K-25 site. The Oak Ridge National Laboratory conducts basic and applied scientific research and technology development. The K-25 site is the location of the former Oak Ridge Gaseous Diffusion Plant. It currently serves as an operations center for environmental restoration and waste management programs. Y-12 is the primary location for nuclear weapons activities at Oak Ridge. These include