the dismantling of nuclear weapons components, maintaining uranium and lithium component fabrication capabilities, and storing special nuclear materials.

4. *Pantex Plant:* The Pantex Plant is located on 10,000 acres, 17 miles northeast of Amarillo, TX. Approximately 3,400 workers are presently employed at the site. Activities at Pantex include fabrication of chemical explosives, nuclear weapons assembly and disassembly, testing, repair and disposal of nonnuclear components, and development activities in support of the national laboratories. Pantex also is the interim storage site for sealed plutonium components from dismantled weapons.

5. *Savannah River Site:* The SRS is situated on approximately 198,000 acres, 12 miles south of Aiken, SC. Approximately 20,300 workers are presently employed at the site. Currently, tritium recycling operations to support nuclear weapons activities are conducted at the SRS. Other activities include interim storage of plutonium, waste management, and environmental monitoring and restoration. Past activities at SRS have included nuclear fuel and tritium target fabrication, operation of reactors for nuclear material production, chemical separation for recovery of plutonium and plutonium isotopes, tritium extraction, and uranium fuel reprocessing. The facilities that supported these past activities are currently supporting waste management and environmental cleanup activities and will ultimately be decommissioned and decontaminated.

Commercial Reactor Site: The commercial light water analysis does not evaluate a specific site. Currently, commercial light water reactors are operating on 59 sites in 32 states. Approximately one-half of these sites contain two or three nuclear units. The sites range in size from 84 to 30,000 acres. The largest use of the sites is for cooling systems, including reservoirs and artificial lakes, and safety buffer areas. Analysis of specific candidate reactors would be conducted in a separate NEPA document.

Preferred Alternative

Based on the analysis presented in the PEIS and Technical Reference Report, the Department announced a preferred alternative in the FINAL PEIS. The preferred alternative is a acquisition strategy that assures tritium production for the nuclear weapons stockpile rapidly, cost effectively, and safely. The preferred strategy is to begin work on the most promising production alternatives of purchasing an existing commercial light water reactor or irradiation services with an option to purchase the reactor for conversion to a defense facility, and to design, build, and test critical components of an accelerator system for tritium production.

The Savannah River Site was designated as the preferred site for an accelerator, should one be built. The preferred alternative for tritium recycling and extraction activities was to remain at the Savannah River Site with appropriate consolidation and upgrading of current facilities, and construction of a new extraction facility.

Tritium Supply Evaluation

This section describes the results of the Department's evaluation of each of the alternatives. It summarizes their environmental impacts, costs, and schedule and production assurance risks. The evaluation of schedule, production assurance and costs were completed by developing base estimates and then conducting a formal assessment by experts to determine the risk. The risk is presented as the probability of achieving a specific objective. Base cases were developed for six schedule components, production capacity and availability, and five cost components. The estimates were normalized to insure consistency across all tritium supply alternatives. Technical experts (different groups for schedule, production assurance, and cost) were asked to provide judgments of the probability of success of the base estimates for each of the schedule components, capacity and availability, and each of the cost components. In addition, potential technical, regulatory, or institutional problems were identified for each tritium supply alternative and their probability for causing schedule delay, production assurance uncertainty or cost uncertainty were assessed. The impacts of the problems on schedule, capacity and availability, and cost were assessed. This information was combined through multiple simulations to develop probabilities of meeting various schedule, production assurance and cost objectives. The environmental impacts reported in the PEIS were evaluated for discriminators among tritium supply technologies and among sites.

The schedule, production assurance, and waste factors which discriminate among tritium supply technology alternatives are summarized in Table 1. These are: (1) The capability of meeting a schedule supporting a START II Protocol stockpile size; (2) the likelihood of producing the amount of tritium necessary to meet maximum (3/8) tritium requirements; (3) amount of additional spent fuel generated; and (4) amount of additional solid low level radioactive waste generated. Costs are presented in Table 2. They are divided into: (a) Total life cycle cost with revenue; (b) total life cycle cost without revenue; (c) total project cost; (d) operations and maintenance cost; and (e) revenue.

Additional environmental discriminators are the need for or generation of electricity, and cancer risk from a severe accident. The APT and HWR are users of electricity while the ALWR(s), MHTGR(s), and purchase of a partially completed or existing commercial reactor will result in the generation of additional electricity. The range between the potential amount of electricity used (550 MWe for the APT) and the potential amount of electricity generated (1,300 MWe for the large ALWR) is 1,850 MWe. The amount of electricity used was evaluated for each candidate site against the capability of the power pool to supply electricity. No significant impacts on the pool or the ability to supply the required amounts were identified. A separate evaluation of the option of the construction and operation of a dedicated 550 MWe coal or gas-fired electrical generating plant was completed for the APT. The potential impacts of a gas-fired electrical generating plant were incorporated into the environmental analysis for each of the sites. The cancer risks attributable to a severe accident are, in absolute terms, very low for each alternative. However, in comparative terms, the APT clearly has a significantly lower cancer risk than any of the new facility reactor alternatives. Therefore, cancer risk is considered a discriminator between the APT and new reactor alternatives for the purposes of this decision. The results of the evaluations are described below.