Management Program and the Storage and Disposition of Weapons-Usable Fissile Materials Program are speculative at this time but could increase or decrease cumulative impacts, depending on the decisions resulting from the PEISs being prepared for these programs and the time frame of site-specific projects. Information on potential waste management activities at the candidate sites was included as appropriate in the assessment of waste management impacts in the Tritium Supply and Recycling PEIS.

The Storage and Disposition PEIS alternative of burning plutonium in a reactor could result in increased cumulative impacts at the candidate sites if this Record of Decision selected a new facility, and the Record of Decision for the Storage and Disposition PEIS selected a separate new reactor. The impacts of combining tritium production and plutonium disposition in a single reactor, the multipurpose reactor, were evaluated in the Tritium Supply and Recycle PEIS. Cumulative impacts from constructing two separate reactors would approximately double those presented for a single reactor in the Tritium Supply and Recycling PEIS. Cumulative impacts from construction of a APT for tritium production and a new reactor for plutonium disposition would be represented by adding together the APT and ALWR or MHTGR impacts evaluated in the Tritium Supply and Recycling PEIS. Cumulative impacts would be minimized if tritium production and plutonium disposition were to take place in a single reactor.

The Environmentally Preferable Alternative

The environmentally preferable alternative is the alternative that would cause the least impact to the physical environment, and best protect worker and public health.

With respect to all three decisions, the no action alternative is the environmentally preferable alternative. Under the no action alternative, tritium requirements to support the nuclear weapons stockpile would continue to be met by recovering residual tritium from weapons components, purifying it, and refilling weapons components. These activities would be performed at the Savannah River Site, the current location of this function. However, under the no action alternative, the Department would not establish a new tritium supply capability and the Department would not meet future stockpile requirements of tritium. This would be contrary to the Department's mission as specified by the Atomic

Energy Act of 1954, as amended. Thus, no action is not a reasonable alternative.

Of the alternatives that would satisfy the Department's mission, the potential environmental impacts are generally small and, except for the commercial reactor options to purchase an existing reactor or irradiation services, the impacts are within the same range. The Department considers the commercial reactor options of purchasing an existing reactor or irradiation services to be the environmentally preferred alternative.

Implementation of either of these options would result in certain environmental impacts. The environmental impacts of construction activities would be limited to any support facilities that would be required. Operation of the commercial reactor options would have few potential environmental impacts. No additional spent fuel over and above what the reactor(s) would otherwise generate during their planned lifetime would be generated, assuming that operating scenarios do not change fuel cycles. If fuel cycles were changed, additional spent fuel would be generated.

There are no environmental grounds for discrimination among sites for the tritium supply alternatives. Therefore, the SRS is the environmentally preferred site since impacts from upgrading tritium recycling facilities are less than building new facilities at any of the other sites. Resource areas where no major differences exist, or where potential environmental impacts are small are: land resources, air quality, water resources, geology and soils, biotic resources, socioeconomics, and site infrastructure.

Comments on the PEIS and Related Documents

Several comments were received on the Final PEIS during the 30-day period following the filing of the Final PEIS with the Environmental Protection Agency (EPA). The EPA stated that all of its specific comments on the Draft PEIS had been adequately addressed in the Final PEIS. A vendor for one of the ALWRs commented that on the Final PEIS did not adequately reflect the fact that the electricity-producing reactor options have an environmental benefit. That is, construction of such a reactor would offset the need to build and operate an equivalent capacity of fossilfueled power plants, whereas the accelerator would have an additional environmental impact from a power plant needed to provide electricity for operating the accelerator.

The Final PEIS assessed the environmental impacts associated with providing power to the APT. Two methods were assessed: (1) Purchasing electricity from regional power pool grids; and (2) building and operating a dedicated power plant. If a new dedicated power supply were constructed, impacts would occur to air resources, land use, soils, biotic resources, and socioeconomics at the construction site. Operation of a dedicated power supply, or increased electrical demand on the power pool would result in increased impacts to air resources, water resources, waste management systems, and local traffic. Impacts to land use, soils, waste management systems, and biotic resources could occur at the plant location and along the transportation system supplying the coal or gas to the power plant. While these environmental impacts were assessed, no decision regarding a preferred source of power is appropriate at this time. If an accelerator were eventually built, the site-specific NEPA review would more fully explore the options of providing power to the accelerator, and the appropriate decision would be made at that time. The environmental impacts that could be avoided through the use of a multipurpose reactor are discussed qualitatively in the Final PEIS for both the ALWR, MHTGR, and commercial reactor alternatives. These impacts are presented as part of the cumulative impacts discussion in the previous section.

Additional comments on the Technical Reference Report and cost analysis were also received from the vendor for one of the ALWRs. The vendor questioned the basis of the cost estimate and the judgments used in developing the uncertainties related to schedule, production assurance, and cost as presented in the Technical Reference Report. The commentor presented a revised set of assumptions resulting in modifications to the cost ranges for the large and small ALWRs, APT and commercial reactor options. The Department does not agree with these assumptions. However, if these assumptions were accepted hypothetically, and applied consistently and appropriately to each of the ALWR, APT, and commercial reactor options, the result would be to increase the cost range of the purchase of irradiation services and lower the cost ranges of all other light water alternatives. Thus, there still would be significant overlap in the cost of these alternatives, and there would be no effect on the decisions presented in this Record of