D23. DECOMMISSIONING PLANNING WHEN THERE IS NO PLACE TO PUT THE WASTE (PART I)

The delay in the federal waste management system to begin accepting spent nuclear fuel (SNF) and the continuing unavailability of off-site low-level radioactive waste (LLW) disposal affect nuclear power plant (NPP) decommissioning planning. The status of SNF and LLW disposal, current waste management alternatives, and the projected schedule for disposal facilities becoming operational are important factors for those NPP's.

Affected NPP's can use dry storage technologies until a repository for SNF becomes operational. For LLW, strategies are available to reduce the volume of LLW from nuclear plant operations and decommissioning activities. Further more, plant areas such as the radioactive waste and turbine buildings may be suitable with minimal modifications to accommodate extended storage of LLW.

A variety of NRC approved on-site dry storage technologies for SNF are now available for use when the capacity of the spent fuel pool is exceeded, or to benefit from the more simple, passive mode of operation. The options for management of LLW are not so straight-forward. This presentation primarily considers how decommissioning planning is affected when access to a LLW disposal facility is not available. Of particular interest is the significant storage space that the radioactive waste building (RWB) can provide for extended storage of accumulated LLW. SNF and LLW Disposal: SNF will remain on-site until away-from-reactor storage/disposal becomes available. The federal repository for SNF is projected to be available in the year 2010, at the earliest. A monitored retrievable storage (MRS) facility to fill the gap is not likely to be completed even long after January 31, 1998, the date when DOE was to begin accepting commercial NPP SNF. For those plants, the time until the end of the decade will be eventful. It will be a time when 1) DOE commitment to begin accepting commercial SNF in 1998 will be clarified; 2) An MRS could become available as a government or commercial operation plans and schedule for the operation of the federal repository are defined; 3) State/Compact LLW disposal facilities are planned to be operational for most NPP's. Until SNF and LLW disposal become available, decommissioning planning and preparations must account for the wastes that will remain on-site.

SNF Management: SNF is normally stored in the spent fuel pool until the pool capacity is exhausted. Additional SNF can be accommodated in on-site dry storage facilities. Even if all the SNF were contained in the spent fuel pool when the plant is shut down, a transition from wet storage to dry storage could be beneficial. However, SNF must remain in the spent fuel pool for at least five years. The removal of the SNF from the spent fuel pool is on the critical path for decommissioning operations. One alternative is to transfer the SNF to an independent spent fuel storage installation (ISFSI) using dry storage technology. The capital investment for an ISFSI would eventually be offset by the lower cost to maintain an ISFSI, and lower costs for decommissioning operation that would no longer be affected by the presence of SNF in the spent fuel pool.

For more, "Decommissioning Planning When There's No Place to Put the Waste," pg.18, Nuclear Plant Journal, January-February 1996.