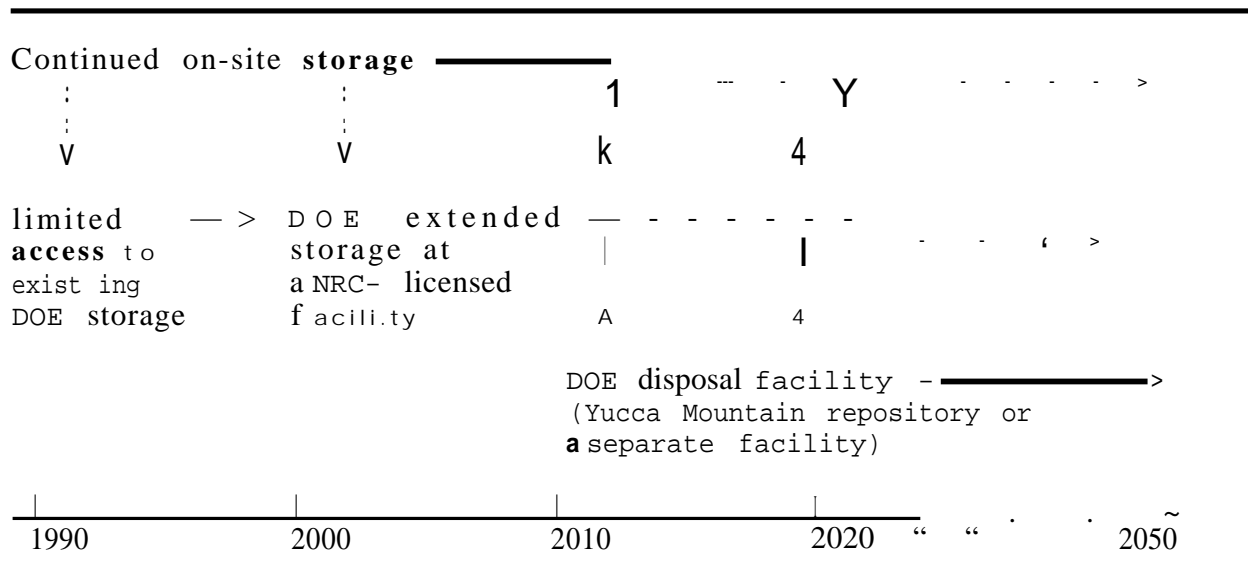


## Chapter 4

### A MANAGEMENT APPROACH FOR GTCC WASTE

As indicated in the previous chapters, GTCC waste will have to be stored for at least 15 to 20 years while a disposal facility is being developed. Many large generators will probably store GTCC waste on-site; some generators, especially small ones, claim that they will exhaust their on-site storage capacity and that this capacity cannot be expanded. Off-site storage for an extended period could be available in several years at an NRC-licensed, DOE storage facility. While such a facility is being developed, GTCC waste generators could be given limited access to an existing unlicensed DOE storage facility on a case-by-case basis, determined by DOE or NRC. Once the extended-storage facility is available, all GTCC waste in limited-access storage could be transferred to it. Figure 3 portrays this integrated management approach.

**Figure 3. A Management Approach for GTCC Waste**



Source: OTA

If the above approach for managing GTCC waste over the next two decades is implemented, then the Federal Government needs to make several decisions and undertake many activities regarding storage, disposal, and funding. These decisions and activities are summarized in the following discussion. The sequence and minimum timing of these activities are further developed in Appendix D.

### **Limited-Access Storage**

**During the next several years while an extended storage facility is being developed, DOE could provide limited access to an existing, unlicensed, storage facility at one of its national laboratories.** This would reduce the potential for GTCC accidents, **especially those** involving sealed sources, and ensure adequate storage capacity for those generators who do not have adequate on-site storage capacity for their GTCC waste. DOE and/or NRC could determine technical criteria for accepting GTCC waste; DOE, NRC, and possibly Congress could establish additional technical and non-technical specifications (e.g., **waste** volume limits, generator eligibility, and **a** decision on fee subsidization). DOE could then estimate the required storage capacity as well as storage costs prior to adapting one of its existing facilities.

**State** concerns about the permanence of such a facility could be allayed by requiring **that any** GTCC waste in limited-access storage be moved to the extended storage facility when it becomes available.

### **Extended Storage**

**DOE's estimate of the time required to develop an acceptable disposal facility for GTCC waste will indicate the time that this waste will have to remain** in storage. NRC and/or DOE could then determine performance objectives and technical criteria for waste packaging and extended storage. DOE, NRC, and possibly Congress could establish non-technical specifications on use of this facility, as were made for the limited-access storage facility. With this information, DOE could better design the extended-storage facility and determine storage costs. Considering the probable uncertainties in waste volumes that will require off-site storage, a modular storage facility could be incrementally developed as storage needs become more apparent.

### **Disposal**

If a decision about the disposal of GTCC waste were required today, permanently isolating GTCC waste in a deep-geologic repository would be an acceptable option. It is possible, however, that further research of alternative disposal technologies could indicate that an intermediate-depth disposal facility used only for GTCC waste would provide an acceptable level of isolation. Such research could commence in a couple of years if DOE determines that GTCC waste disposal in the repository would produce unacceptable environmental or institutional impacts or would be more expensive than other disposal alternatives.

### **Funding Mechanisms**

The LLRWPA of 1985 states that the beneficiaries of the activities generating GTCC waste should bear all reasonable costs associated with its disposal. Since GTCC waste cannot be disposed of immediately, it could be argued that the beneficiaries should also bear the cost of pre-disposal management. However, there are some who argue that the delays in selecting a disposal option, which make GTCC waste storage necessary, are the fault of the Federal Government even though the Federal Government was made responsible for GTCC waste disposal only in 1985. When, how, and how much money is collected from generators for the disposal of their GTCC waste may depend in part on when the waste is accepted for storage and/or disposal. Funding mechanisms are discussed below for several groups of GTCC waste generators.

For waste accepted for limited-access storage, estimated costs for extended storage and disposal could be collected at the time of waste acceptance. Given the current uncertainties about disposal costs, however, acceptance fees could be quite high if full-cost recovery is a primary goal. Unreasonably high costs would discourage the use of the limited-access facility, yet some waste generators may need use of it to protect public health and safety; unrealistically low costs would leave the Federal Government with an obligation to pay the balance of future disposal costs.

**Alternatively, an initial fee for limited-access storage could be collected when GTCC waste is accepted for storage. Once a disposal option is chosen and the costs of extended storage and disposal are better known, a second fee could be calculated. This second fee could be collected when GTCC waste in limited-access storage is transferred to the extended storage-facility.**

Utilities, which generate about 60 percent of all GTCC waste, will probably be able to develop sufficient on-site storage capacity for this waste to last until a disposal facility is available. If the Yucca Mountain repository were chosen as the disposal facility for GTCC waste, utility fees paid into the Nuclear Waste Trust Fund could be increased to cover GTCC **waste disposal costs.**

Due to the problems associated with controlling the fate of many thousand sealed sources, it may be desirable to add a materials management fee into the initial cost of all sealed sources. This type of arrangement could be used for sealed sources sold after disposal costs have been estimated (within the next several years). When the user is finished with a source, this fee could be partially or entirely refunded depending on the costs that would be required to subsequently manage the source. If the source could be recycled, the user would receive a larger refund. This type of “deposit-return” funding arrangement would encourage the proper management and disposal of sealed sources.

For all other non-utility GTCC waste or GTCC material now in use, including sealed sources, waste management fees could most easily be collected in one lump sum or in periodic installments when the waste is accepted for extended storage and/or disposal by the Federal Government. Collecting “deposit-return” management fees prior to waste acceptance may be more difficult, but not impossible, due to the large number of present generators. As with limited-access storage, unless extended-storage and disposal fees are reasonable, waste generators may delay transferring their waste to a waste management facility, which could jeopardize public health and safety. Furthermore, if a waste generator goes out of business before its GTCC waste has been stored or disposed, the Federal Government may have to accept the waste and pay for its storage and subsequent disposal in order to maintain public health and safety.