6. Pennsylvania Case Study

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In response to the LLRW Policy Act, Pennsylvania entered into an "Appalachian Compact" with the states of Delaware, Maryland, and West Virginia to share the costs of siting, building, and operating a LLRW storage facility. Together, these states generated about 10 percent of the total volume of LLRW then produced in the United States. Pennsylvania, which generated about 70 percent of the total produced by the Appalachian Compact, agreed to host the disposal site.

In 1990, the Pennsylvania Department of Environmental Protection commissioned Chem-Nuclear Systems Incorporated (CNSI) to identify three potentially suitable sites to accommodate two to three truckloads of LLRW per day for 30 years. CNSI, the operator of the Barnwell South Carolina site, would also operate the Pennsylvania site for profit.

Figure 9.7.1 Sketch of the proposed Pennsylvania LLRW disposal facility.

Credit: Pennsylvania Department of Environmental Protection, 1998.

CNSI's plan called for storing LLRW in 55-gallon drums encased in concrete, buried in clay, surrounded by a polyethylene membrane. The disposal facilities, along with support and administration buildings and a visitors center, would occupy about 50 acres in the center of a 500-acre site. (Can you imagine a family outing to the Visitors Center of a LLRW disposal facility?) The remaining 450 acres would be reserved for a 500 to 1000 foot wide buffer zone.

The three-stage siting process agreed to by CNSI and the Pennsylvania Department of Environmental Protection corresponded to three scales of analysis: statewide, regional, and local. All three stages relied on vector geographic data integrated within a GIS.

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