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Western New York Nuclear Service Center

No Action Alternative

Technical Report

Prepared for the
U.S. Department of Energy
West Valley, New York

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2.0 IMPLEMENTATION ACTIVITIES

Under this No Action Alternative, no decommissioning implementation activities would take place. Once the EIS starting point activities are completed, the site would continue to be monitored and maintained as required by State and Federal regulations to protect the health and safety of workers, the public, and the environment.

The site maintenance program would be modified as appropriate for facility and system conditions at the EIS starting point. These conditions would include continued interim storage of the vitrified HLW canisters in the Main Plant Process Building (MPPB), operation of the Waste Tank Farm Tank and Vault Drying System, the installation of a full-scale permeable treatment wall (PTW) near the leading edge of the North Plateau Groundwater Plume.

Facilities would be repaired as necessary to maintain them in a safe condition. Portions of facilities would be replaced periodically to this end, with examples being the roofs of the MPPB and the geomembrane covers over the waste disposal areas. Similarly, the functioning of the PTW would be periodically restored with the installation of fresh media. These activities would take place during the No Action Alternative and so are not specifically considered implementation activities toward decommissioning.

Capabilities would remain in place to deal with unexpected failures of structures, systems, and components, such as a leaking waste tank, as well as with other site emergencies that may occur. Appropriate site management and oversight would remain in place.

3.0 DATA TABLES AND EXPLANATORY TEXT

This No Action Alternative does not require any implementation activities prior to the start of the stewardship period and thus, no implementation analysis, data tables, or explanatory text is necessary. Consistent with CEQ guidance (refer to Section 1.1.1), during the No Action Alternative stewardship period, actions may be taken consistent with current management practices to ensure protection of the public and the environment. Such activities, such as the periodic replacement of the disposal areas' geomembranes, building roof replacements, and installation of fresh PTW media, are analyzed and discussed in Section 4 as a part of the stewardship activities.

4.0 POST-IMPLEMENTATION/STEWARDSHIP ACTIVITIES AND IMPACTS

This section contains a series of tables which show the estimated impacts and costs associated with the No Action Alternative, which is essentially stewardship of the WNYNSC at the completion of the EIS starting point. The following four categories of engineering data are presented:

- **Resource Requirements** – includes estimated quantities of construction material, equipment usage, consumable materials and supplies, fuel consumption, water use, and number of personnel;
 - **Operational Issues** – includes estimates of environmental radiological and non-radiological emissions, noise levels, typical activity durations, and personnel radiation exposure;
 - **Waste Generated** – includes estimated volumes of radioactive, mixed, and clean waste to be shipped off site for disposal; and
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- **Cost Estimate** – includes cost estimates for new construction, consumable materials, energy and fuel, labor, and waste disposal/storage.

The activities associated with the stewardship of the site under this alternative have been divided into two categories: (1) those activities expected to occur annually (e.g., building maintenance, environmental monitoring, security); and (2) those activities expected to occur on a periodic basis (e.g., building roof replacement, disposal area geomembrane replacement, PTW media restoration). The impacts and costs associated with each category of activity are shown in the tables provided in this section.

4.1 Resource Requirements

4.1.1 New Construction/Capital Purchases

There are no new construction projects or capital purchases associated with the No Action Alternative.

4.1.2 Consumable Materials

Table 4-1 presents the estimates of the amount of consumables that would be used during the implementation of the No Action Alternative. The annual WVDP and SDA estimates are based on the assumption that 25% of the Operations work effort (shown in Table 4-3) would occur in a radiation environment. For the roof replacement activities it was assumed that 50% of the Operations and Subcontractor work effort would occur in a radiation environment. For replacement of the NDA and SDA geomembrane covers, the consumable materials estimates were based on URS, 2005, with the SDA cover estimates scaled-up based on the SDA to NDA area ratio. Installation of fresh PTW media (i.e., zeolite) was assumed to be comparable to the amount initially installed (see the Sitewide Close-In-Place Alternative Technical Report). The consumable materials unit usage rates are shown in Appendix A, Table A.6-1.

Table 4-10. Waste Volumes for Off-Site Disposal (ft³)

| Waste Type | Annual | | Periodic (20 to 25 years) | | | | |
|------------------------------------|--------|------|---------------------------|-------------|-------------|-----------|-----------|
| | WVDP | SDA | MPPB Roof | Other Roofs | PTW Replace | NDA Cover | SDA Cover |
| Construction and Demolition Debris | 1,100 | 30 | neg. | neg. | neg. | neg. | neg. |
| Hazardous Waste | 26 | neg. | neg. | neg. | neg. | neg. | neg. |
| LSA Waste | neg. | neg. | neg. | neg. | 73,000 | 1,300 | 4,800 |
| Class A Waste | 10,000 | 30 | 36,000 | 13,000 | 310 | neg. | neg. |
| Class C Waste | neg. | neg. | neg. | neg. | neg. | neg. | neg. |
| Low-Level Mixed Waste | neg. | neg. | neg. | neg. | neg. | neg. | neg. |

In Appendix A, the basis for how these waste off-site disposal volumes were estimated is discussed in Section A.9.1 for Construction and Demolition Debris (CDD), Section A.9.2 for Hazardous and Low-Level Mixed Wastes, and Section A.9.3 for Low-Level Radioactive Waste.

4.4 Costs

The estimated annual and periodic costs to monitor and maintain the WNYNSC are shown on Table 4-11.

Table 4-11. Total Cost Estimate (Y2008)

| Category | Annual | | Periodic (20 to 25 years) Cost | | | | |
|--------------------------|--------------------|--------------------|--------------------------------|--------------------|--------------------|--------------------|--------------------|
| | WVDP | SDA | MPPB Roof | Other Roofs | PTW Replace | NDA Cover | SDA Cover |
| Material | \$1,400,000 | \$320 | \$1,700,000 | \$610,000 | \$1,800,000 | \$410,000 | \$1,100,000 |
| Labor | \$6,100,000 | \$1,500,000 | \$2,000,000 | \$720,000 | \$930,000 | \$1,500,000 | \$4,100,000 |
| Waste Disposal | \$270,000 | \$1,300 | \$1,000,000 | \$370,000 | \$870,000 | \$61,000 | \$170,000 |
| Contingency | \$1,900,000 | \$370,000 | \$1,200,000 | \$420,000 | \$900,000 | \$490,000 | \$1,300,000 |
| Total Cost (2008) | \$9,700,000 | \$1,800,000 | \$5,800,000 | \$2,100,000 | \$4,500,000 | \$2,500,000 | \$6,700,000 |

The annual cost estimate to monitor and maintain the WVDP site was based on actual cost data found in the 2003 and 2004 CAPRs, as described in Appendix A, Section A.1. Likewise, the annual cost estimate to maintain the SDA was based on information provided by NYSEERDA, as described in Appendix A, Section A.2. The cost estimate for the periodic replacement of the Main Plant Process Building roof was based on experience from the last time that the roof was replaced (i.e., April 1997 to June 2000) (refer to Appendix A, Section A.3). The cost estimate for replacement of the PTW media was taken from the Sitewide Close-In-Place Alternative Technical Report. Where necessary, these actual cost data were supplemented with additional data in order to complete the cost estimates. For example, waste disposal costs were estimated and added. Also, a 25% contingency factor was applied. Finally, NDA and SDA geomembrane replacement costs were based on URS, 2005 (refer to Appendix A, Section A.4).

Given the typical schedule shown on Figure 4-1, Figure 4-11 shows the total cost by stewardship year for the No Action Alternative.

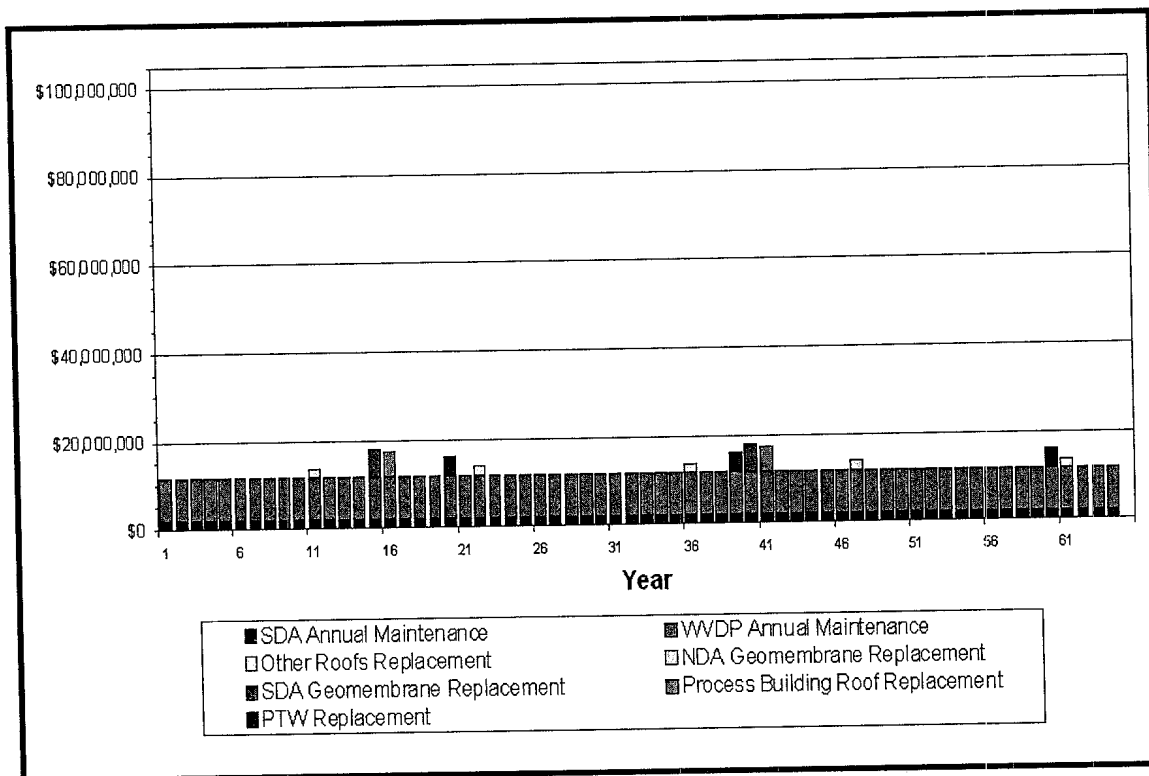


Figure 4-2. Total Costs (Y2008) by Stewardship Year

4.4.1 LLW Disposal Locations

For this report, low-level radioactive waste (including low-specific activity waste) from the WWDV was assumed to be shipped to either the DOE facility or a commercial disposal facility. Table 4-12 shows the disposal costs estimated for both of the sites analyzed for disposal of LLW generated during the No Action Alternative stewardship period. The values in Table 4-12 can be used to estimate the total No Action Alternative cost for LLW disposal at a commercial site. Since the Nevada Test Site only receives LLW from DOE facilities, it was assumed that LLW from the SDA would only be disposed of at a commercial facility.

Table 4-12. Waste Transportation and Disposal Cost Estimate (Y2008)

| Category | Annual Cost* | | Periodic (20 to 25 years) Cost* | | | | |
|--------------|--------------|---------|---------------------------------|-------------|-------------|-----------|-----------|
| | WWDV | SDA | MPPB Roof | Other Roofs | PTW Replace | NDA Cover | SDA Cover |
| DOE Facility | \$270,000 | N.A. | \$860,000 | \$310,000 | \$870,000 | \$61,000 | N.A. |
| Commercial | \$260,000 | \$1,300 | \$870,000 | \$320,000 | \$870,000 | \$41,000 | \$110,000 |

* Costs do not include contingency.

The above waste transportation and disposal costs are based on the *standard* TR assumptions, as described in WSMS, 2008.