

X-745E Cylinder Storage Yard

The X-745E cylinder storage yard is located to the West of the X-344 toll enrichment facility and to the Northwest of the X-630-1, recirculating water pump house and the X-630 2A and X-630 2B cooling towers. This cylinder yard is inside the limited area fence (controlled access area – NRC terminology). Therefore, the storage yard has open access from inside the limited area. X-745E is a non-leased facility. The yard is posted as a radioactive controlled area, radioactive material, and hazard communication signage for uranium hexafluoride and PCBs are posted. PNADs are required for access. It is a Category 2 nuclear facility by PAAA requirements.

This storage yard was constructed in 1995 of 11-inch thick, un-reinforced concrete. The paved surface of this yard is 215,000 square feet and has the capacity of storing 4,400 model 48G cylinders in a double stacked configuration (see Fig. 7) with 4' isle spacing and 60" center-to-center stacking.



Figure 7. X-745E stacking configuration.

Currently, the storage yard holds full-depleted uranium cylinders, empty cylinders, of the 10 and 14 ton variety, enriched heel cylinders of the 10, 14 and 2.5 ton varieties. The two patched (previously breached cylinders) are stored on this yard. The 2.5-ton variety cylinders are not stacked, but are sitting singularly on concrete saddles (see Figure 8). All other cylinders are double stacked on concrete saddles. All cylinders in this yard are owned by DOE.



Figure 8. X-745E showing separate single stacked row 91 and vehicle path.

X-745E is “fan-shaped” to fit the area available for construction with the bottom tip of the fan being toward the X-630-1 pump house (southeast) and the fan opening up to the northwest. This is why there is a continuous change in row length on this yard.

The South, West, and East edges of this storage yard are bounded by sloping grassy area. The northern portion of the yard drops off into a rip-rap and a run-off collection point as shown in Fig. 9. Vehicle access ramps large enough for stacker operation are located at the southwest corner of the yard, directly off of Warren Avenue (a gravel road).



Figure 9. Northeastern corner of X-745E showing rip-rap and DFF&O sample point.

The second access ramp, also large enough for stacker operation is at the far northeast corner of the yard directly off of Wood Avenue (a gravel road). The eastern edge of the yard has a mounted vehicle guardrail in place (see Fig. 10). Stacking in this yard has rows running north to south, with cylinder positions running west to east. Stacking stops approximately 30 feet from the guardrail on the eastern edge of the yard. This is to preclude stacking on top of concrete slab cuts over a water main, which travels north to south under the concrete. (If anything must be done to this pipe, tearing up of the concrete can be done without having to move cylinders).



Figure 10. Eastern edge of X-745E showing guard rail.

There are lighting fixtures mounted on wooden poles (see Fig. 11) around the periphery of the yard (4). There are two fire plugs to the south of the yard off of 25th Street and two fire plugs to the east of yard off of Wood Avenue.



Figure 11. Light fixture at north side of X-745E.

There are three (3) building structures on the South edge of yard near the entrance road as shown in Fig. 12. The first is a 20 x 20 foot storage shed for yard tools (snow shovels, wooden wedges, stainless steel bands, deicer, etc.). This shed has an external connection for a portable generator for lighting, if required. The second building is a 5 x 6 structure, which houses the HP technicians' equipment and office material. There is no lighting for this structure but there is a power line for an air conditioner. The third structure is a 10 x 12-foot work shack. There is power to this structure to run lighting, air conditioner, chargers for radios, and heater. There is a desk and chairs in this structure to house work force during inclement weather.



Figure 12. Three buildings on X-745E.

A surface water run-off sample point is located to the northeast corner of the yard in the rip-rap area.