

DOW'S CONCEPTUAL APPROACH TO DECOMMISSIONING REVISED DECOMMISSIONING CRITERIA

Surface Soils (Unsaturated Zone)

- 10 pCi/g total thorium

Subsurface Soils (Saturated Zone)

- Use the Site Decommissioning Management Plan Action Plan unrestricted use exposure rate criteria of 10 μ R/hr (above background) after an area has been remediated, backfilled and regraded in lieu of the Action Plan criteria of 10 pCi/g total thorium.
 - According to the Action Plan, the soil release criteria were set so that no individual would receive an external dose in excess of 10 μ R/hr above background
 - Other than groundwater, direct exposure is the only credible pathway of exposure for this site
 - Because the area is a wetland, the most credible reuse scenario is recreational.
 - Any other use would require additional fill, thereby further shielding the user

Groundwater

- Demonstrate compliance with EPA's proposed drinking water standard of 5 pCi/L for Ra-226/Ra-228 in groundwater by modeling the future ingrowth (to 1000 years) of Ra-226 from the decay of Th-230
 - There is currently no Ra-226 in the groundwater.
 - The ratio of Th-232 in the saturated zone (pCi/g) to the Ra-228 concentration in surrounding groundwater (pCi/L) will be used as the surrogate ratio for the future Th-230 pCi/g to Ra-226 pCi/L ratio after 1000 years.
 - The Th-230 in the saturated zone will be limited to the concentration that is projected to result in 5 pCi/L Ra-226/Ra-228 in water after 1000 years in growth.