You Think There's a Lot of High-Level Radioactive Waste Stuck at Calvert Cliffs Right Now? How about Twice as Much?!

Total commercial high-level radioactive waste
generated in Maryland by certain dates

Reactors	1974	1995	(2008)	2011	2026	(2036)	(2056)	**Excess to Yucca by 2036**
Calvert Cliffs 1 & 2	0	641	(~1,050)	1,142	1,710	(2,052)	(2,736)	910

- In metric tons of heavy metal. To convert from metric to U.S. tons, multiply by 1.1023.
- 1974 refers to the year Calvert Cliffs Unit 1 began its operating license, and hence waste generation. Calvert Cliffs Unit 2 began commercial operations and waste generation in 1976.
- 1995, 2011, and 2026 data are from the U.S. Department of Energy (DOE) Yucca Mountain Final Environmental Impact Statement, Feb. 14, 2002, Table A-7 and A-8, pgs. A-15 and A-16 (http://www.ocrwm.doe.gov/documents/feis_2/vol_2/apndx_a/index2_a.htm)
- 2008, 2036, and 2056 data are calculated using the average annual generation rate for high-level radioactive waste at Calvert Cliffs. This was calculated by taking DOE's 1974 to 2026 grand total of 1,710 tons and dividing by 50 years, giving a 34.2 ton per year average rate.
- The U.S. Energy Information Agency, a subdivision of DOE, although in possession of the current figures for how much high-level radioactive waste has been generated at Calvert Cliffs, does not publicly report current waste inventories. The last data available from EIA were current as of December 31, 2002. The next update will not be available until late 2010. See http://www.eia.doe.gov/cneaf/nuclear/spent_fuel/ussnfdata.html.
- The year 2011 is when 63,000 metric tons of commercial high-level radioactive waste will have been generated in the U.S., enough to fill Yucca Mountain to its legal limit. All waste generated after 2011 will be excess to Yucca, and stuck in Maryland, even if Yucca were to open someday and fill up to capacity.
- DOE's year 2026 total for Calvert Cliffs assumes only a 10 year license extension at the two old reactors, but in the mid-1990s, the U.S. Nuclear Regulatory Commission (NRC) granted both Calvert Cliffs units 20 year license extensions. In fact, Calvert Cliffs received the first 20 year license extensions in the country. (Constellation Energy then spun off a subsidiary to help other nuclear utilities win rubberstamp license extensions from NRC.) Thus, assuming a 20 year license extension, and a 34.2 ton/year generation rate, over 900 tons of high-level radioactive waste could be generated at Calvert Cliffs that would be excess to Yucca's legal capability to accept it. That is, Calvert Cliffs' wastes from 2011 to the end of its 60 year operating license in 2036 will be excess to Yucca. In other words, over 25 years' worth of high-level radioactive waste generated at Calvert Cliffs will be excess to Yucca.
- 2056 refers to NRC's current toying with the idea that "80 is the new 60" – proposals to extend the operating licenses at nuclear plants like Calvert Cliffs to 80 years, twice the duration originally conceived. If Calvert Cliffs' current twin reactors operated till 2056, there would then be 1,594 tons of high-level radioactive waste excess to Yucca, more than is currently stored at the site.

Additional commercial high-level radioactive waste
that would be generated if a new reactor gets built (in metric tons)

New Reactor	40 Years of Operations	60 Years of Operations	80 Years of Operations
Calvert Cliffs-3	1,200	1,800	2,400

If an EPR (European, or Evolutionary, Pressurized-water Reactor) is built, it would generate an additional 30 metric tons, on average, of irradiated fuel per year (a conservative estimate). All of this waste, of course, would be in excess to Yucca's legal capacity to accept it.

If NRC allows Calvert Cliffs Units 1 and 2 to operate for 60 years, and allows Calvert Cliffs Unit 3 to operate for 60 years, then 2,700 metric tons of irradiated nuclear fuel excess to Yucca's capacity will be stuck on the shore of the Chesapeake Bay, with nowhere to go.

Of course, if Yucca never opens – which is looking more and more likely – then all the irradiated nuclear fuel ever generated at Calvert Cliffs will be stuck there indefinitely.

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