



May 31, 2022

Mr. Jeff Lux, Senior Project Manager
Environmental Properties Management LLC
615 N. Hudson; Suite 200
Oklahoma City, OK 73102

Re: Uranium Daughters in Groundwater
Cimarron Environmental Response Trust, NRC License No. SNM-928

Dear Mr. Lux:

Thank you for the subject letter, dated May 2, 2022, in response to an information request by the Nuclear Regulatory Commission (NRC). As a Beneficiary of the Trust, DEQ has the following questions, intended to clarify the subject letter, and perhaps expedite NRC approval of the Decommissioning Plan (DP). DEQ does not require a direct response.

In Attachment 3, should the third and fourth table both be labeled "Activity (pCi/μg) of total U"? Both appear to describe the same four samples, but the third table appears to describe calculated activity of each isotope per microgram of material and the fourth appears to describe calculated activity of each isotope as a percentage of the total activity of the sample.

The section "Daughter Radionuclides in the Feedstock" estimates the time for various Uranium daughters to reach seven half-lives and approximate the activity of the parent isotope. For the decay chain for the remaining Uranium-235 (U-235), would the time for Protactinium-231 (Pa-231) to achieve the activity of the parent be "over two centuries", which is less than one half-life (32,760 years) for Pa-231, or "over two hundred millennia"?

Similarly, for the decay chain for the remaining U-238, should the time for "newly-grown U-234" (i.e., not received in the feedstock) to achieve the same activity as the U-238 be "most of two millennia" which is less than one half-life (245,500 years) for U-234 or "well over a million years"?

If you have questions or comments, I can be reached by telephone at 405-702-5132 or by email at j.paul.davis@deq.ok.gov.

Sincerely,

J Paul Davis

Environmental Programs Specialist, LPD

c: ~~James Smith, NRC~~

Robert Evans, NRC