nuclear watch new mexico

# A Critique of Some NNSA Answers to Questions on LANL's Planned Tritium Releases

The Los Alamos National Laboratory (LANL) proposes to vent up to 114,000 curies of radioactive tritium gas to the open atmosphere while claiming that it poses no public health and safety risks. Public outcry and congressional pressure prompted the National Nuclear Security Administration (NNSA) to host a public information virtual meeting on this issue on October 20. Due to the overwhelming turnout of some 150 interested citizens and ear-splitting technical difficulties NNSA is holding another public virtual meeting at 5:00 pm Thursday November 5.

Interested citizens can join the discussion at https://www.lanl.gov/environment/flanged-tritium-waste-containers.shtml
If you wish to speak or ask questions you should pre-register at the same site.

The following is Nuclear Watch New Mexico's critique of some NNSA answers to questions asked at or before the October 20 meeting, available by scrolling down at the same site or in NNSA's posted presentations and fact sheet.

> ***Q. Are there other ways to treat this waste that does not involve releases to the atmosphere?***
> *No. NA-LA [NNSA-Los Alamos] has been working with the regulators to determine the safest method to enable movement of these containers from TA-54 to WETF [the Weapons Engineering Tritium Facility] for further treatment and shipment to a licensed off-site disposal facility. WETF has all the appropriate infrastructure to safely manage tritium.*

"No" is a categorical answer without explanation and justification. Has LANL really undertaken a rigorous analysis of alternatives to open venting of tritium? If so, has LANL shared that analysis of alternatives with the New Mexico Environment Department? If not, NMED should deny LANL the necessary "temporary authorization" to proceed with tritium venting.

> *Q. What is tritium and is it dangerous? A. Tritium is a radioactive isotope of hydrogen. Naturally occurring tritium is very rare in our atmosphere. It is not chemically toxic and the amount we plan to release poses no risk to public health and safety or the environment.* [1]

It is not credible to state that the tritium releases pose no risk at all to public health and safety and the environment. As an isotope of hydrogen most released tritium condenses into water vapor and is therefore readily ingested or absorbed by living organisms. Science does not recognize a threshold under which radioactivity poses no risk to living organisms. Further, as

[1] LANL's Flanged Tritium Waste Containers Fact Sheet, https://www.lanl.gov/environment/_assets/docs/fact-sheet.pdf

LANL itself has noted, "In reality, however, tritiated water vapor (HTO) has a dose consequence approximately 10,000 times higher than that of elemental tritium gas (HT)." [2]

> *Q. If you can't release the tritium during the outbreak of COVID-19, is there any danger to the public from continued storage? A. The FTWCs are designed specifically to contain gas under pressure. The containers are in a safe configuration at Technical Area 54. We will not attempt to vent the FTWCs until we are sure it is safe to proceed.*

If the FTWCs are safe why can't LANL wait say 25 years for the tritium to naturally decay? Given tritium's half-life of 12.3 years the estimated total inventory of up to 114,000 curies will have decayed to 28,500 curies in 25 years, a substantially smaller risk to the public.

> *Numerous options were considered, in consultation with regulators, and the selected path forward was deemed to be the safest for the workers, the public, and the environment.*
> *–Movement (or other nearby activities that might damage the container) without venting poses the risk of an unplanned, unmeasured release.*
> *–Leave-in -place does not make progress toward site risk reduction priorities.*
> *–The venting and capture systems are proven and specifically engineered for this application to minimize release and protect workers, the public, and the environment.*[3]

"Numerous options were considered…" Show us the options. Again, was there a credible analysis of alternatives?

The statement that movement of the FTWCs poses a risk of an unplanned, unmeasured release contradicts the previous statement that "[t]he containers are in a safe configuration at Technical Area 54." Which is it? It also bolsters the argument for not moving the FTWCs at all and letting the tritium naturally decay to lower the risk to the public.

The statement "[l]eave-in -place does not make progress toward site risk reduction priorities" itself is contradictory when movement potentially introduces risk at the site and to the public. Those very real possible risks should not subordinated to arbitrary "site risk reduction priorities."

What is the rush to move the FTWCs? Is it to get them out of the way so that LANL can "cap and cover" Area G leaving ~200,000 cubic yards of radioactive and toxic wastes above our groundwater, three miles uphill from the Rio Grande, instead of comprehensive cleanup?

Concerning proven venting and capture systems LANL's application to EPA is vague and does not commit to how much tritium will be captured. So how proven is that?

November 4, 2020

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[2] *Using the CAP88 Plume Model & Dose Assessment Code for the FTWC Project*, LANL, David Fuehne and Rebecca Lattin, 2020-09-21

[3] *Flanged Tritium Waste Container (FTWC) Project Overview*, LANL, October 20, 2020 https://www.lanl.gov/environment/_assets/docs/ftwc-venting-slides.pdf and *Flanged Tritium Waste Container (FTWC) Project Overview*, LANL, November 5, 2020 https://www.lanl.gov/environment/_assets/docs/11-5-presentation.pdf
(the quoted slides are the same in both presentations)