

Public Comment Submittal on the Department of Environmental Quality Notice of Intent to Approve a Draft Hazardous Waste Treatment, Storage, and Disposal Permit Modification for INTEC Liquid Waste Management System Partial Permit at the Idaho National Laboratory (EPA ID No. ID4890008952) (Docket No. 10HW-2102) Issued September 28, 2021 (Which addresses changes to the Integrated Waste Treatment Unit (IWTU))

Comment Submittal by Tami Thatcher, November 11, 2021

The public notice from the Idaho Department of Environmental Quality states: “The proposed Class 3 permit modification request addresses the replacement of the sintered metal filter elements in the Process Gas Filter (PGF) with ceramic filter elements, modifications to the wet and dry radiological decontamination systems, addition of 36 new thermocouples to the shell of the Carbon Reduction Reformer (CRR) and several other changes. The ILWMS Partial Permit is being modified to include design, operation and inspection changes to the IWTU.”

The actual changes include many changes to various waste tanks in the facility and includes new tanks and new but vague discussion of where decontamination waste will go. For example, in the 130 megabyte document of over 2000 pages, there are the changes to include new Condensate Collection Tank and a new Decontamination Collection Tank. And it is briefly mentioned that decontamination waste may be returned to the “NWCF for interim storage.” What this actually means is unclear since the Department of Energy usually means “forever” when it states “interim storage.” Does the decontamination waste pose additional treatment problems? Does it increase the number of storage canisters for the treated waste?

The redesign of the Process Gas Filters has been in turmoil, apparently landing on the decision that safety fuses cannot be removed entirely but cannot be made to function as intended. The intended function of the safety fuses was to reduce the likelihood that radioactive material mixed with solids would not downstream to processes not intended to receive this material. Such acceptance of the increased likelihood of unintended flow of what is called “product” or “solids carryover” and I will call “radioactive sticky sand” will gum up piping and may cause HEPA filter failure. Such flow of the radioactive sand and plant gum-ups will require more plant shutdowns with accompanying chemical decontamination.

This situation puts radioactive material into plant areas that affect worker safety and worker radiological exposure. It places more reliance on ad hoc operator decisions and on non-safety-related radiological monitoring equipment which has been known to fail during upset conditions. The failed attempts to redesign the safety fuses such that plant gum-ups are prevented increases the likelihood of operational problems and accidents.

And importantly, it appears that the increased frequency of forced shutdowns due to gumming up the plant will create waste streams that the permit has not addressed how these new waste streams will be treated.

And if the plant shutdowns are frequent enough, the generation of new waste or additional waste may be so high, that the facility never catches up on treating the waste, if the plant manages to operate and without significant accidents.

The Department of Energy has acknowledged that its previous estimate of the treated waste storage canisters was inadequate and that its current storage accommodations for the treated sodium-bearing waste are inadequate. But no information on why the initial estimates were wrong has been provided. And no information on how the current increased estimates were derived have been provided.

Because the requested permit modification is ambiguous about how the decontamination solution waste will be treated or when, the public must be provided with more information. And the Idaho DEQ should require explicit information about any difficulties the added decontamination waste streams may create and how it will be stored and treated.

The Idaho DEQ must not assume that *startup* of radiological operations of the Integrated Waste Treatment Unit (IWTU) indicates that the waste will be treated in a timely manner or at all.

The Idaho DEQ should require that the Department of Energy replace the existing tanks for the sodium-bearing waste soon, perhaps within 7 years, if the total waste volume has not been significantly reduced within 3 years from now.

I have recently requested from the Idaho DEQ a public hearing on this matter, but I have not received notice of a public meeting being planned or of extension of the public comment due date.

Also, there has been no indication that the radiological emissions from the IWTU will be adequately characterized or monitored by the Department of Energy. And so far, the Idaho DEQ's Idaho National Laboratory Oversight Program appears more determined to provide cover for the Department of Energy's ongoing radiological contamination than to provide actual radiological monitoring with accurate explanation of the results. Failing to highlight elevated levels of radiological detections, failure to explain the detection capability attained with stated radioactivity was not detected, and extended monitoring outages are certainly unacceptable.