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Washington State Department of Ecology
3100 Port of Benton Boulevard
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Comments submitted online via https://ecology.commentinput.com/?id=JSWZPd5p6 and https://ecology.commentinput.com/?id=aSpjMtBFH

Re: Comment on the Dual Path Approach in the 200 East Area, class 2 and class 3 permit modifications

Dear U.S. Department of Energy and Washington Department of Ecology,

Columbia Riverkeeper is a non-profit organization with a mission to restore and protect the water quality of the Columbia River and all life connected to it, from the headwaters to the Pacific Ocean. Columbia Riverkeeper has over 25,000 members and supporters who live, work, and recreate throughout the Columbia River Basin, including thousands of members and supporters in Washington. For over two decades, Columbia Riverkeeper has worked with Tribal Nations and people in communities throughout the Northwest who rely on a cold, clean Columbia to address toxic and radioactive waste at the Hanford Nuclear Site ("Hanford").

Below, Columbia Riverkeeper provides comments for both the U.S. Department of Energy ("Energy") and the Washington Department of Ecology ("Ecology") on the Dual Path Approach in the 200 East Area, proposed Resource Conservation and Recovery Act ("RCRA") Class 2 and Class 3 permit modifications ("permit modifications"). We urge Ecology to reject these permit modifications and urge Energy to abandon the Dual Path Approach and instead focus on improving operations at the Low Activity Waste Vitrification facility ("LAW facility").

I. General Comments on the Dual Path Approach

A. Energy's decision to submit permit modifications at this time unnecessarily confuses the public process.

Ecology invites public comments by stating, "[t]he U.S. Department of Energy is holding a 60-day public comment period regarding the proposed change to the Hanford Facility Resource Conservation and Recovery Act Permit, Revision 8C."[1] At the same time, Ecology is revising and taking comments on Revision 9 of the RCRA permit for Hanford. At the outset, the overlap of comment periods has caused confusion regarding what actions are being permitted, what permit documents to comment on, and what agency to direct those comments to. Additionally, on both of Energy's Hanford event pages, it stated, up until October 5, that the comment period runs until October 9 but then, subsequently, that the comments are due on October 6. The Tri-Party Agencies ("TPA"), including Energy, often ask how to better engage the public; these types of confusing, overlapping comment periods do not elicit public participation.

Energy's decision to submit permit modifications supporting the Dual Path Approach at this time, is unnecessarily confusing. Columbia Riverkeeper encourages the agencies to better coordinate public comments, or at the very least provide more clarity for the public when overlaps occur.

B. Columbia Riverkeeper agrees with the concerns raised by Ecology that the Dual Path Approach will take time and money from the LAW facility.

Columbia Riverkeeper supports the pursuit of vitrification of tank waste, and we share Ecology's concerns that diverting waste from AP-106 into less durable forms of waste will siphon resources away from the critical work of immobilizing waste in glass. In a May 22, 2026 letter, Ecology stated that Energy's proposal would "divert taxpayer and staff resources away from other priority work and would not result in any additional tank waste being treated."[2] Given the technical and logistical hangups with the grout proposal, we emphatically agree that Energy has pushed the new grout program too quickly.

The LAW facility has yet to be in operation for more than a year. Energy's move to grout a new waste stream from AP-106 stems from what the agency describes as a bottleneck: the ability to pre-treat tank waste faster than the LAW facility is currently able to vitrify. However, the LAW facility's capacity limitations are directly tied to anticipated operational startup hiccups. Columbia Riverkeeper remains unconvinced that time and money should be diverted from the startup of the LAW facility. Grouting tank waste has been a stated goal of Energy and it seems more than coincidental that Energy is proposing an immediate shift to grouting tank waste.

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[1] Ecology Public Comment Form for the Class 2 and Class 3 Permit Modification, https://ecology.commentinput.com/?id=JSWZPd5p6 (last visited Oct. 9, 2026).

[2] Letter from Washington Dept. of Ecology Director Casey Sixkiller to Dept. of Energy Office of Environmental Managment, Assistant Secretary Tim Walsh (May 22, 2026) available at https://click.everyaction.com/k/140215067/649893458/553478215?nvep=ew0KICAiVGVuYW50VXJpIjogIm5ncHZhbjovL3Zhbi9FQS9FQTAxNy8xLzExMzMyMSIsDQogICJEaXN0cmlidXRpb25VbmlxdWVJZCI6ICI3N2FiMDI3Yi0xNmJjLWYxMTEtYTZhOS0wMDBkM2E1NmQyZjciLA0KICAiRW1haWxBZGRyZXNzIjogIm1hcml0b25pX2J1Y2hAeWFob28uY29tIg0KfQ%3D%3D&hmac=AOpmCFGsEFZtS3LJy8rZA8mF994E3V9KTiBfdkvrCZw=&emci=73ab027b-16bc-f111-a6a9-000d3a56d2f7&emdi=77ab027b-16bc-f111-a6a9-000d3a56d2f7&ceid=4620845

Can Energy provide budget numbers on how it intends to pay for both grouting a new waste stream and addressing the issues presented as the LAW facility continues to ramp up, such as operating both melters simultaneously, pressure issues, etc.?

C. How will Energy utilize both the Tank-Side Cesium Removal demonstration project and the Advanced Modular Pretreatment System to meet the projected pre-treated tank waste numbers?

During Energy's public meeting, slides showed that the 2026 capacity of the Tank-Side Cesium Removal ("TSCR") demonstration project is 100,000 gallons per month, currently the LAW facility is capable of treating 40,000 gallons per month and estimated to reach 170,000 gallons per month in a little over a year. Energy projects that by 2028, TSCR and the Advanced Modular Pretreatment System ("AMPS"), together will be capable of treating 300,000 gallons of tank waste per month, thus exceeding the LAW facility's capabilities. However, TSCR was only ever meant to be a demonstration project and not to run concurrently with AMPS. Can Energy explain how the Tank-Side Cesium Removal demonstration project ("TSCR") will be able to expand beyond a demonstration project adding capacity to AMPS and for how long? Without TSCR, how many gallons of tank waste will AMPS be able to pre-treat per month and when?

The Dual Path Approach relates closely to proposed changes with respect to AMPS. Accordingly, we request that Energy be transparent about how it will estimate the pollution impacts of the facilities on people and the environment.

The Defense Nuclear Facilities Safety Board ("DNFSB) wrote in November 2025

> H2C nuclear safety personnel recently decided to use a new atmospheric dispersion parameter for the AMPS safety design, which is 20% of the current DOE-approved value (see 10/31/2025 report). This week, DOE stated that although they are evaluating the use of a modified parameter, they have not established, approved, or authorized the use of any modified parameter. Additionally, DOE informed H2C nuclear safety that they must use the current DOE-approved parameter unless DOE authorizes a revised value, and the modified parameter is identified in the project's Safety Design Strategy (SDS). The DOE safety-basis approval authority must approve any SDS change prior to its use.[3]

Has this issue been resolved? What are the parameters for assessing emissions from the operation of AMPS? The Dual Path Approach will cause emissions, and Energy should clarify:

- Have the parameters for air dispersion from AMPS and all emission points been evaluated by Ecology, EPA, and Energy, and approved by the Tri-Parties and

[3] Defense Nuclear Facilities Safety Board, Hanford Nuclear Site Reports (Nov. 14, 2025) available at https://www.dnfsb.gov/documents/reports?f%5B0%5D=reports_document_type_facet%3A38&f%5B1%5D=reports_doe_site_facet%3A64&page=4

appropriate regulators, and has this information been fully implemented by contractors in preparation?

- Please include in the permit a requirement that Safety Design Strategy is based on accurate modeling, vetted through public processes and peer review.
- Please provide information referenced in the DNFSB report about the DOE-approved parameters, and the current expected modeling parameters. Are they the same?

Removing waste from Hanford is absolutely necessary, but Energy's rush to reclassify and ship away liquid or solid tank waste from Hanford seems to pose unassessed risks, and it would be a disservice to alter air dispersion modeling expectations without counseling Tribes, agencies, and people impacted.

D. Ecology should reject Energy's permit modification requests as both premature and lack supporting documentation.

The reclassification of tens of millions of gallons of high-level radioactive tank waste in the 200 West and East areas and the subsequent move to grout that waste, needs a full complement of supporting documents. As stated by Energy at the August 2026 Hanford Advisory Board Meeting, this includes a National Environmental Policy Act ("NEPA") analysis, two "blanket" variances from EPA, one for low organic and high organic material, and both 200 West and East WIRs. So far, the public has only seen a barebones NEPA Supplemental Analysis and two WIRs, one of which was released during this public comment period.[4] Ecology must reject Energy's permit modifications at this time.

1. The Environmental Protection Agency has not issued a Treatability Variance for either the 200 West or East WIR.

In the absence of the EPA's review, it's unclear if Energy has demonstrated in either the 200 West or East WIRs that the waste to be reclassified meets the applicable criteria laid out in 40 CFR 268.44(a). Namely that "it is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard."[5] EPA's issuance of a Treatability Variance certifies that Energy sufficiently demonstrated that either 1) the waste significantly differs from waste analyzed in developing the current treatment standard, the waste cannot be treated by the specified method, or 2) even if treatment is possible it's inappropriate either technically or environmentally.[6] Without the EPA's independent certification it's unclear whether Energy sufficiently demonstrated this. Ecology must not approve permit modifications in support of the Dual Path Approach without this review.

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[4] *See generally,* Waste Incidental to Reprocessing Evaluation for Offsite and/or Onsite Solidification and offsite Disposal of 200 East Area Tank Waste at the Hanford Site, Washington, U.S. Dept. of Energy (Sept. 2026) available https://pdw.hanford.gov/document/AR-41889?utm_medium=email&utm_source=govdelivery

[5] 40 C.F.R. 268.44(a)(1).

[6] 40 C.F.R. 268.44(a)(1)-(2).

2. Energy diverged from its practice of issuing a draft WIR for public comment.

Energy failed to hold a public comment period on the draft of the 200 East WIR determination despite the longstanding practice of holding public comment periods for drafts of WIR determinations. While DOE M 435.1-1 does not require public comment periods for draft WIR determinations, Energy's website explicitly states that Energy and the Nuclear Regulatory Commission ("NRC")

> [H]ave agreed to an open public consultation process where documentation between the agencies, meetings and clarification calls discussing technical topics are open to the public to review or observe. DOE will also request public comments on the draft evaluation.[7]

At Hanford, Energy has continuously implemented this policy of releasing draft WIR determinations for public comment, to not do so for this WIR was an abrupt change in policy. Generally, agencies are required to "provide a reasoned explanation for the change, display awareness that they are changing position, and consider serious reliance interests" when changing their existing policies. *FDA v. Wages & White Lion Investments, L.L.C.*, 145 S. Ct. 898, 917 (2025). This doctrine also applies when agencies deviate from "a position articulated in [a] nonbinding guidance document" when the guidance document implements a "a standardized review process" that "effectively" resembles adjudication. *Id*. at 918 n.5, quoting *Department of Homeland Security v. Regents of Univ. of Cal.*, 591 U. S. 1, 18 (2020).

A guidance document is a document that contains either a statement of general applicability of an interpretation of a statute or regulation, or an agency's policy on a statutory, regulatory, or technical issue.[8] While it is unclear as to whether the agreement that Energy and NRC have made to have an open consultation process can be categorized as an official guidance document, it is nonetheless a policy on how Energy and NRC will make WIR determinations and it is a policy that the public has come to rely on. Energy's own website states that

> In cases of very small quantities of waste, or where the public has been given an opportunity for involvement and the NRC was consulted in previous similar evaluations, a compelling argument can be made to modify or forgo a new public comment period and a new NRC consultation process.[9]

This is not the case with the 200 East WIR, which is reclassifying 78.8 million gallons of tank waste that the public has not been given an opportunity to review. The argument to forgo a

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[7] *How DOE Makes Reprocessing Waste Determinations*, U.S. DEP'T OF ENERGY (last visited Oct. 7, 2026), https://www.energy.gov/em/how-doe-makes-reprocessing-waste-determinations.
[8] *Agency Use of Guidance Documents*, CONG. RSCH. SER. (last visited Oct. 7, 2026), https://www.congress.gov/crs-product/LSB10591.
[9] *Id.*

public comment period was not made, either in the WIR itself or other publically available documents. Ultimately, Energy has abandoned the process that they agreed to comply with, without an explanation as to why and seemingly without considering the reliance on this policy. Columbia Riverkeeper asks Energy to explain their reasoning for failing to comply with their own policy of having an open consultation process that allows the public to comment on the draft of the 200 East WIR determination.

3. The WIR raises more questions than answers.

The WIR raises confusion particularly surrounding the classification of the waste at each stage of the pretreatment and solidification process. Both the 200 East and West WIR Determinations state that the pretreated waste will be treated as low level waste ("LLW"). However, both documents determine that the waste will only be below concentration limits for Class C LLW set forth in 10 C.F.R. § 61.55 once the waste is both pretreated *and* solidified. What will the concentration levels be prior to solidification? Does this meet the requirements for a LLW categorization? There is also no discussion in either of the documents of the categorization of the waste prior to pretreatment. Does this mean that the waste is high level waste before the radionuclides are removed? Will it be treated and transported as such?

4. Ecology should conduct an independent SEPA analysis of the Dual Path Approach

We urge Ecology to pause and question whether the NEPA documents offered thus far are adequate for the purposes of addressing Washington's concerns for the total impacts of the Dual Path Approach. Energy's Supplemental Analysis is perfunctory. Shipping the tank waste as a liquid raises valid concerns about safety because of the practical reality of the transportation routes, which cross myriad rivers, streams, wetlands, and impact communities throughout the West. Ecology's SEPA analysis of the Dual Path Approach should address the following:

- The alternative plans to send pretreated tank waste solely through the LAW facility versus sending it through the LAW facility and grouting it offsite and the environmental impacts of each.
- PFAS in the tank waste system and the impacts on human health and the environment of moving liquid tank waste and the potential for leaks and spills as tanker trucks are filled.
- Hexavalent chromium and the movement of that contaminant
- Impacts on human health and environment from the operation of both TSCR and AMPS concurrently.
- Impacts from the increased mobilization of liquid tank waste, which is more prone to leak. From weeping pipes, accidental spills, and truck accidents, the increased mobilization of liquid tank waste increases the risks to human health and the environment.

E. Energy is misleading the public on what constitutes the final grout form of tank waste

Energy has offered many public presentations where grout is depicted in a cohesive structure, such as a brick or monolith. Recently, Hanford Challenge released a photo of the grouted EMF bottoms waste stream. That grouted material is more aptly described as a truck of gravely sand versus a brick monolith. Why has Energy not been transparent about this with the public and what else is being left off the table when it comes to grout?

The permitting of storage and handling of highly radioactive material hinges on the question of whether the product of the AMPS or TSCR process is a clumpy sand, or a block with structural integrity. Whether the material moving from Hanford is a block or not matters to the people who will be in the path of the waste, but it also matters for staging, storing, and conveying waste to be transported. Grouting tank waste is riddled with technical uncertainties and each tank with chemically unique and complex waste poses its own uncertainty. Columbia Riverkeeper echoes concerns raised by Hanford Challenge about grout, from long-lived radionuclides' ability to leach out of grout, to unclear grout expansion factors. Furthermore, Energy's ability to mislead the public and likely regulators on what solidified grout actually looks like raises concerns about what other aspects of this process Energy is misleading the public on.

Energy has not demonstrated that it can operate grouting activities at a larger scale, in a rush, without releasing more contamination, and leaving waste in forms that are more prone to leaching. Turning tank waste into glass is still the most protective final form for this type of waste.

II. Specific Comments on the Permit Modifications

While Columbia Riverkeeper urges Ecology to reject Energy's permit modifications, the following are specific comments related to the proposed permit modifications.

A. The permit modification must include limitations on staging waste.

Please provide additional information about the limitations on staging areas for waste, containers for waste, and the control of elements such as stormwater that might impact outdoor storage, transfers, and transportation. For example, the current permit modification does not include any limitations on the amount of trucks Energy could fill with liquid tank waste or how long those trucks could remain onsite.

Permit conditions must ensure that a backlog of trucks filled with liquid tank waste are not able to build up onsite.

B. The permit modification must explicitly disallow for either grouted or liquid tank waste to return to Hanford.

No parameters in the Permit address whether or not filled trucks may return to the site. The Permit must include explicit language that disallows grouted (or liquid) tank waste to come back onsite if that grout does not meet the waste criteria acceptance at the Utah or Texas facilities. Energy's rush to reclassify waste during the process sets a dangerous precedent, but also puts real physical systems in place that could lead to Hanford becoming an interim disposal site for grouted waste.

C. The permit must include cleanup levels in soil and groundwater that are attached to CLARC values including cancer for hexavalent chromium through ingestion.

Hexavalent chromium is present throughout the Hanford site, including in tank farms. Cleanup in the River Corridor has demonstrated the difficulty of addressing the problem, as chromium sources leaching into the groundwater have contributed to long-lasting and harmful contamination. While the tank farms are relatively further from the River, the dust and groundwater resources will impact any people who interact with the area, as the oral route of exposure is now shown to be a cause of cancer with respect to hexavalent chromium. We encourage Ecology to include specific references to the oral slope factor for establishing cleanup goals, using updated CLARC values (in line with IRIS updates). Closure plans must meet standards in line with these updated values.

III. Conclusion

The facilities that are required to store, stage, and ship tank waste constitute an immense burden on the landscape of Hanford, which remains one of the most intact shrub-steppe habitats in the State of Washington, alongside the vital source of salmon and water, the Columbia River. For the reasons set forth above, Columbia Riverkeeper urges Ecology to reject Energy's proposed permit modifications in support of the Dual Path approach.. Ecology's review and oversight is absolutely critical to the success of cleanup and Permit oversight must implement strong conditions that are protective of human health and the environment. We also urge Energy to abandon the Dual Path Approach and instead focus time and resources on bringing the LAW facility into full operation.

Thank you for the opportunity to provide public comment.



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Columbia Riverkeeper