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Submitted online via: https://tinyurl.com/TPA-CD-Changes.

Re: Proposed Changes to the Tri-Party Agreement and Consent Decree Public comment Period. The Future of Tank Waste Cleanup at the Hanford Site.

Dear U.S. Department of Energy, U.S. Environmental Protection Agency, and Washington Department of Ecology,

Columbia Riverkeeper ("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 16,000 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, Riverkeeper has worked with Tribal Nations and people in communities throughout the Northwest who rely on a clean Columbia to address toxic and radioactive waste at the Hanford Nuclear Site. Based on this experience, our organization has seen firsthand and appreciates the complex challenges and unanswered questions relating to long-term management of nuclear waste. Thousands of people are employed protecting the Columbia River from

Hanford's toxic legacy, and we are grateful for the resources they protect and for their work. The Columbia River is the lifeblood of the Northwest.

Oregon Physicians for Social Responsibility (Oregon PSR) works to protect human life from the gravest threats to health and survival. Oregon PSR is an organization of health professionals and public health advocates working collaboratively with community partners to educate and advocate for societal and policy change that protects human health at the local, state, national, and international level. OR PSR seeks a healthy, just, and peaceful world for present and future generations.

Washington Physicians for Social Responsibility (WPSR) is a 40-year-old, health professional-led advocacy organization working to create a healthy, just, peaceful and sustainable world. WPSR takes on the gravest current threats to human health and survival - nuclear weapons, economic inequity, and a climate crisis driven by dependence on fossil fuels. WPSR leverages the credible and trusted voice of healthcare professionals to educate the public, influence decision-makers, and promote public policies that support our mission.

Riverkeeper, Oregon PSR, and WPSR submit to the Tri-Party Agreement (TPA) agencies the following comments on the Holistic Settlement and potential proposed changes to the TPA and the *Washington v. Energy* Consent Decree (collectively "agreement").

1. **General Comments**
    a. **The federal government should pursue cleanup that ensures that Tribes at Hanford can exercise their Treaty rights and that all Tribes impacted by the proposed changes have a voice in Hanford cleanup decisions.**

Since time immemorial, Tribes have relied on resources along the Hanford Reach, an area of incalculable cultural and religious significance for Tribes at Hanford. These natural, cultural and religious resources, including sacred sites, are now impacted, threatened, and/or inaccessible because of Hanford. The displacement of Tribes from Hanford is an ongoing harm. The agreement does not solve the problem of how the pollution at Hanford impinges on Treaty-reserved rights for Tribes at Hanford. Dr. Holly Barker, a professor of sociocultural anthropology at the University of Washington, stated, "It's like an intergenerational human rights abuse. We've already hurt human beings that we can't even begin to know or think about yet."[1]

The late Dr. Russell Jim, founder of Yakama Nation's Environmental Restoration and Waste Management Program ("ERWM"), stated, "If they were to clean up Hanford to comply with the

[1] *The Hanford Site's Cleanup Shows the Lingering Repercussions of American Nuclear Production at Home*, Delaney Dorsey, InkStick Media (Aug. 19, 2024). Availble at https://inkstickmedia.com/the-hanford-sites-protracted-cleanup-shows-the-lingering-repercussions-of-american-nuclear-production-at-home/.

Treaty of 1855, it would protect all future generations - not just the Yakama." These words ring true, and Riverkeeper recognizes and emphasizes that the proposed changes presented in the agreement were negotiated without any meaningful input from Tribal Nations.

The federal government should pursue cleanup that ensures that Tribes at Hanford can exercise their Treaty rights safely. Where this is difficult or seemingly impossible at this time, the government should commit more time and resources to addressing the harm it has caused through the displacement of Tribes and the creation of vast toxic and radioactive pollution impacts, in a durable effort to lessen the harmful impact of Hanford's pollution. ERWM staff explain in a recent Inkstick Media article

> The treaties of the Walla Walla Council of 1855 and Executive Order 13007 ensure access for Tribal Members to hunt, fish, and gather on their ancestral lands. Though the existence of the Hanford Site has significantly limited Tribal access to these lands in violation of the treaty, the practices of hunting, fishing, and digging roots for ceremonial purposes and food continue to have deep cultural significance for the Yakama Nation, according to [Trina] Sherwood and her [ERWM] colleagues Rose Ferri and Laurene Contreras. Now, these practices bring the risk of exposure to radioactive contamination. "If you are a tribal member and you are out digging roots, you have got basically three pathways of contamination," said Rose Ferri, a project tracking resource analyst for the Yakama Nation. These pathways include dermal, from skin to soil contact, inhalation, from disturbing polluted soil, and ingestion, from consuming contaminated plants and roots, Ferri explained.[2]

Changes to the cleanup must begin with this premise: Tribes have a legal right to resources and practices inextricably linked to the Hanford site and are at the frontlines of exposure to radioactive and toxic contamination.[3]

As Yakama Nation has reminded the TPA agencies, repeatedly, the Comprehensive Land Use Plan is out of date and does not align with this premise or the Treaty of 1855, and it should not be used as a basis for decision-making without a major revision and update. Long-term impacts must be evaluated in a thorough supplemental environmental impact statement (EIS). Tribal people will be at Hanford forever and will interact closely with Hanford and the water, wildlife, vegetation and other resources connected to Hanford. The law maintains to protect people from

[2] *Id.*
[3] We are still learning about the harm of Hanford's pollution. In August 2024, EPA updated its IRIS database to acknowledge that hexavalent chromium poses a much greater risk for cancer through oral exposure than through the inhalation pathway, potentially impacting cleanup at Hanford. Hexavalent chromium harm is disproportionately experienced by people who would exercise Treaty-reserved rights at Hanford, and it causes multiple, serious forms of illness including cancer.

the pollution present now, and in the future, to the greatest extent possible. Hanford waste requires the highest level of removal, treatment, and immobilization that technology can provide as we move forward experiencing generations of Hanford's polluting impact. These communities deserve a greater voice in the decision.

The agreement has implications for people for millennia, across the Western U.S., Tribal ceded and unceded lands, and through communities that have no idea about this agreement. Yet, the agreement and proposed changes could result in the transport of Hanford's tank waste—the legacy of making plutonium for nuclear weapons and nuclear power ("Atoms for Peace")—through many communities and watersheds.

Riverkeeper appreciates the recognition in this agreement that tank waste should be removed from Hanford because it poses a long-term risk to the people who rely on Hanford now and those who will rely on Hanford in the future. Riverkeeper also supports the commitment to construct more tank space to handle the high-level waste in Hanford's tanks.

i. Questions

- Please provide more clarity about the pace of putting new tank space into operation and the purpose of the tank space. As Oregon Department of Energy (ODOE) pointed out in its comments on these proposed changes, "Accelerating the installation schedule for a new 1,000,000-gallon tank in the SY farm would have protective benefits to the mission, and it would enhance operations of the 200W waste treatment system." ODOE also observes, "Without capacity to treat or store treated LAW all retrieved LAW would be shipped offsite in liquid form, which Oregon strongly opposes."
- Does delaying implementation of new tank space push the system towards shipping liquid waste offsite?
- When Ecology and Energy say that they are engaging Tribal Nations, and formal government-to-government consultation may be occurring, how far does this extend from Hanford?

b. Communities impacted by this proposal are not being contacted. The agencies negotiated for years, and public interest groups are only a few weeks into understanding the breadth of what we are being asked to comment on.

During the public hearings, Riverkeeper and others, including ODOE, expressed concern that the current comment period may be the only opportunity to comment on whether to ship liquid or grouted waste through communities that are likely unaware of the proposed changes. The implications of decisions underway could resonate for decades or longer including; whether to grout material rather than vitrify it; whether to grout material on the Hanford site or offsite;

whether to ship liquid or solid material, or both; the wisdom and risks associated with selecting one route over another; the comparative risks and spill consequences of one method of shipment versus another; and the acceptability of Hanford tank waste in other communities. These questions cannot be answered until the people most impacted are involved. Yet, the public is being asked to provide final comments without any supporting environmental analysis by September 1. Fundamentally, this process is flawed and backwards, and many people who could be harmed are not being involved in the decision-making process.

Specifically, multiple commenters have raised concerns regarding the lack of effort put forward by TPA agencies to contact people along potential transportation routes and final disposal locations. The routes and potential final disposal locations would include environmental justice and Tribal communities already overburdened by toxic pollution, as well as major water resources and other natural resources. What are the agencies' specific plans to conduct outreach prior to the agreement being signed, and prior to Energy's selection of an alternative by the end of this year?

Additionally, Energy stated in public hearings that its decision regarding whether to ship grouted or liquid tank waste could rely in part on a previous environmental review conducted for the Test Bed Initiative (TBI) and other NEPA documents, cobbled together, likely with an additional business case analysis—as opposed to a supplemental or new environmental review. Previous environmental reviews had limitations and flaws pointed out by commenters, and data from the TBI have not been obtained. How will the agencies rectify these concerns? How will the previous environmental reviews interact with new laws and legislation concerning environmental justice communities?

Riverkeeper urges the TPA agencies to conduct a new environmental review through a supplemental environmental impact statement (SEIS) to analyze the impacts of proposed changes to the TPA and Consent Decree. Previous analyses do not provide adequate NEPA coverage to address the potential impacts of the new, vastly expanded, proposed grout and shipment program. We also urge TPA agencies to envision how to maximize the potential of vitrification at Hanford, which could benefit people across the region and the Western U.S. who depend on Hanford and who may become exposed to waste if it is not adequately immobilized.

i. Questions

- What are the agencies' specific plans to conduct outreach prior to the agreement being signed, and prior to Energy's selection of an alternative by the end of this year?
- If there are no plans to conduct specific outreach by the end of the year, can TPA agencies outline when, during implementation of the

agreement, the agencies plan to conduct outreach and solicit public engagement?

c. Energy, EPA and Ecology are falling short of meeting their own requirements for engagement with overburdened communities and environmental justice communities.

Executive Order 14096[4] sets out to "dismantle racial discrimination and institutional bias that disproportionately affect the health, environment, safety, and resiliency of communities with environmental justice concerns." Energy and EPA have fallen short in identifying and addressing concerns regarding several decisions in the agreement, including the decision to grout material rather than vitrify it and the potential of shipping liquid and/or solid waste through overburdened communities. Executive Order 14096 dictates

> To ensure that the Nation's policies and investments respond to the needs of every community, **all people should be afforded the opportunity to meaningfully participate in agency decision-making processes that may affect the health of their community or environment.** The Federal Government must continue to remove barriers to the meaningful involvement of the public in such decision-making, particularly those barriers that affect members of communities with environmental justice concerns, including those related to disability, language access, and lack of resources. The Federal Government must also continue to respect Tribal sovereignty and support self-governance by ensuring that Tribal Nations are consulted on Federal policies that have Tribal implications. In doing so, we must recognize, honor, and respect the different cultural practices — including subsistence practices, ways of living, Indigenous Knowledge, and traditions — in communities across America. As our Nation reaffirms our commitment to environmental justice, the Federal Government must continue to be transparent about, and accountable for, its actions.[5] (emphasis added)

The agencies are falling short of this standard, and we appreciate comments from ODOE that additional public dialogue should inform major actions by the federal government that could result in radioactive and toxic pollution moving through or remaining in overburdened communities.

During the July hearings, in-person and online public meetings had significant accessibility challenges. In the Olympia meeting, online participants were unable to hear much of what was said. Most folks at the sparsely attended Olympia meeting also drove from Seattle, indicating

[4] Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (2023) availbe at https://www.whitehouse.gov/briefing-room/presidential-actions/2023/04/21/executive-order-on-revitalizing-our-nations-commitment-to-environmental-justice-for-all/

[5] *Id.*

that a public meeting in Seattle would have resulted in more participation (something public interest groups noted in our comment extension request).

In the Hood River meeting, some attendees were required to walk down two flights of stairs without the option of an elevator, to gain access to the meeting. In addition, the TPA agencies should have allowed the presentation of alternative viewpoints at the public meetings, such as allowing organizations to set up informational tables. The public hearings should have also been an opportunity for the public to submit oral testimony to the agencies. Only allowing the submission of written comments hinders participation and accessibility. Lastly and perhaps more concerning is the fact that TPA agencies choose to not hold public hearings in locations that would be on the transport route for grouted or liquid tank waste.

i. Questions

- Why did the agencies not hold public meetings in Spokane, Maupin, Bend, Klamath Falls, or other cities along potential transportation routes?
- Have the agencies identified any environmental justice or overburdened communities that could be impacted by the decision. If not, why not?
- Have the agencies identified drinking water sources that could be impacted by the Settlement? If not, why not?
- Why were there no meetings held at or near reservations impacted by Hanford or potential transportation routes? Why not meet in Toppenish and engage the local Tribal community? (The casino has a good meeting space, and it is very accessible.)

2. Comments on the agreement's proposal to ship either liquid or grouted tank waste offsite.

a. Too many uncertainties exist to conclude that liquid tank waste shipments would be feasible or acceptable, and so we oppose liquid tank waste shipments.

Energy has been aware for months that the State of Oregon has major concerns about the shipment of liquid tank waste, expressed directly by Governor Kotek in a July letter. The agreement states that a decision to ship either liquid or grouted tank waste will happen by the end of 2024. This leaves a mere four month timeframe to work out numerous uncertainties and address impacts identified in ODOE's comments, as well as our comments above. The 2024 deadline is too soon for a decision of this magnitude.

Riverkeeper has numerous concerns around the shipping of tank waste offsite. While the intention to remove hazardous and radioactive waste away from the Columbia River to a

geologically superior location is laudable, the methods to achieve this remain concerning. Namely, moving liquid nuclear waste by rail could harm water resources and unsuspecting communities.

Energy should give greater deference to the concerns raised by the State of Oregon and Oregon Governor Tina Kotek. Experts who regularly deal with hazardous materials planning should be informed and invited to participate in the question of whether Oregon hosts shipments of Hanford tank waste, in solid or liquid form (but especially in liquid form).

Energy has not put forward enough information to confidently say how local and state agencies will carry out the proposals in the agreement safely. Furthermore, Energy has not committed to providing that information in a timely manner, underscoring the need to extend the deadline past 2024 for deciding whether liquid or solid tank waste will be shipped from Hanford.

i. Questions

- What are the potential environmental consequences of grouting the material in the U, S, and SX farms and shipping it as a solid or a liquid?

b. A rail route along the Deschutes River provides an example of potential impacts.

One potential rail shipping route would include the BNSF tracks along the Deschutes River, a route vulnerable to track maintenance challenges, including during high water events and landslides. The rail corridor is frequently impacted by wildfires in Wasco County. In 2024, the Long Bend Fire burned thousands of acres in the Deschutes River Canyon south of Maupin, OR. The BNSF line goes through the area. Emergency response resources in the area are strained. In this area, an accident involving solid or liquid tank waste could profoundly impact resources vital to people who rely on the watershed.

Tank waste shipments could pass through Deschutes County, where, according to the County's Emergency Operations Plan, "Much of the population in the County lives in close proximity to either Highway 97/20 or the BNSF Railroad route. In the event of a large spill, a large number of residents could be affected."[6] Please consider also that BNSF may rely on local first responders to provide Hazmat response, and these first responders may not be anywhere near a derailment. According to Deschutes County's Emergency Operations Plan

> Deschutes County has two state Hazardous Materials teams that respond to the jurisdiction. Eugene HazMat Team 2 responds into Southern Deschutes County

[6] Deschutes County, Oregon Emergency Operations Plan. August 2015. https://sheriff.deschutes.org/Deschutes-County-EOP-2016.pdf. p. 586.

> and Salem HazMat Team 13 responds into the central and northern parts of Deschutes County. Other state teams may assist as needed. Response time is approximately **two to three hours** from time of dispatch depending on weather conditions.[7] (emphasis added)

Consider also that, for Deschutes County alone, there is no information about impacts to agencies' ability to access and/or provide information regarding monitoring transportation infrastructure in the event of an emergency; assessing damage to it; restoring it; identifying alternative routes; and identifying and coordinating transportation resources useful to others.

The proposed agreement places a tremendous potential burden on local and state governments, as well as Tribal governments and community organizations who are involved in public safety and disaster response. The reality is that this proposal would put more than 10 million gallons of highly radioactive waste on rails or roads, through watersheds and communities, where the consequences of a radiological incident could be astoundingly high.

Planning must look at difficult scenarios, such as what would occur if a toxic and radioactive release were to occur in a remote or sensitive location. In Oregon, when it comes to train accidents, Oregonians had a frightening experience in Mosier in 2016 when an oil train derailed, spilled, burned for hours, prompted evacuations (including of a school), altered the landscape in the center of town, and caused significant pollution in the vadose zone in Mosier. As a result, Riverkeeper objects to any proposal for Hanford tank waste being shipped as a liquid in the same corridor, uprail of Mosier and upstream of many communities, such as Hood River, Washougal, Camas, Vancouver, Portland, Kalama, Longview, and Astoria. (These are communities where many people are fishing for salmon headed for Hanford, right now.) We agree with the Oregon Department of Energy's comments raising objections to liquid waste shipments.

i. Questions

- How will Energy begin to ascertain impacts to public works and the ability of a community to recover from a radiological release? What would happen if a truck or rail car released toxic and radioactive liquid or solid waste into a fishing site, a place where people lived and relied upon the area entirely for their resources for significant periods of time?
- How will the EPA assure people that their water is safe to drink if a tank waste spill impacts a drinking water aquifer, such as in the Spokane area?

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[7] Deschutes County, Oregon Emergency Operations Plan. August 2015. https://sheriff.deschutes.org/Deschutes-County-EOP-2016.pdf. p. 586. Emergency Support Functions. Oil and Hazardous Materials.

- Over what time and with what frequency would TPA agencies commit to evaluating the fate and transport of all the curies of radionuclides potentially released?
- How will Energy assess and address damage assessments and restoration without an environmental analysis that offers a basic project proposal?
- Will there be a requirement to inform communities along the rail route when these shipments will occur? If not, why not?
- Are communities even aware that Hanford tank waste shipments could impact them, or involved in planning for it? The Department of Ecology ("Ecology") is legally obligated to consider the impacts to Spokane, but the risks go beyond Washington's borders. What kind of risks will Deschutes County (where Bend, Oregon's sixth largest city, is located) be facing?

The proposed changes place a burden on the Radiological Protection Regional HazMat Team for the Deschutes County area, who must, in the event of a radiological incident:

- Establish and maintain a radiological monitoring and reporting network.
- Secure initial and refresher training for instructors and monitors.
- Provide input to the statewide monitoring and reporting system.
- Under fallout conditions, provide city and County officials and department heads with information on fallout rates, fallout projections, and allowable doses.
- Coordinate radiological monitoring throughout the County.
- Provide monitoring services and advice at the scene of accidents involving radioactive materials.[8]

Who will ensure that community-level emergency response needs are met? The transportation corridors are full of activity where people could come in close proximity to the waste being transported, including on railroad tracks, rail sidings, rail bridges—potentially even trucks carrying liquid tank waste on public roads.

c. A tank-by-tank analysis is required to assess the impact of what Energy proposes in the agreement

Waste in the S, SX, and U farms includes high-level waste from T Plant, REDOX, PUREX, and other facilities that produced toxic, radioactive, and chemically complex wastes. During public hearings, agencies suggested that the selection of these farms was based primarily on the cost

[8] Deschutes County, Oregon Emergency Operations Plan. August 2015. https://sheriff.deschutes.org/Deschutes-County-EOP-2016.pdf. Basic Plan. Roles and Responsibilities. Regional Protection. Regional Hazmat Team. p. 52

and difficulty of accessing the tank waste for the purpose of vitrification, as well as the difficulty the agencies have experienced in establishing reliable cross-site transport of high-level waste. At the same time, the proposed changes include the potential for both supernatant and sludge transfers in pipelines from 200 West to 200 East. It is important for the public to understand how and if it would be possible to move tank waste from 200 West to vitrification systems in 200 East, because the alternative proposal of shipping liquid tank waste through distant, unaware communities presents problems, also.

Additionally, tank-by-tank analysis is required to assess the impact of what Energy proposes in the agreement. Riverkeeper appreciates the guidance given by EPA that it is likely that multiple Treatability Variances will be necessary for the proposed settlement to be executed as proposed, and this could be a process that will be very specific to the tanks in question. Riverkeeper hopes that the information is provided to the public with a reasonable amount of time for people to review, comment, and consider the implications of moving so much highly radioactive tank waste in a non-vitrified form to a community outside of Hanford, through communities outside of Hanford.

i. Questions

- What are the characteristics of the waste in the S, SX, and U tank farms that would be shipped through communities?
- How would Energy provide confirmation to the public that each load meets safety standards, with full disclosure to the communities impacted about what will be coming through and how?
- How would Energy demonstrate that each load meets waste acceptance criteria and disposal standards, and how will Energy demonstrate that it is handling material according to the Nuclear Waste Policy Act?

d. EPA must exercise its authority under Executive Order 14096

The EPA has a vital role to play in ensuring that the agreement incorporates the viewpoints of all those who will be impacted by the proposals. By Executive Order 14096, EPA is responsible for decreasing barriers to participation in major decisions such as these for overburdened communities, Tribal communities, and people in areas with environmental justice concerns. Riverkeeper urges EPA to seek an amendment of the TPA changes and Consent Order that establishes meaningful public process, comment opportunities, and a National Environmental Policy Act (NEPA) analysis that supports the goals of Executive Order 14096.

i. Questions

- How large a zone of groundwater could be poisoned by a liquid tank waste railcar spill near the mouth of the Deschutes River, for example, and how would this impact the River over time?
- How persistent would radioactive and toxic pollution be in drinking water sources near Spokane, in the case of a major accident with a truck carrying liquid tank waste?
- In the case of grouted waste, how would the material perform while exposed, in fast-flowing water, potentially in flood conditions along a remote stretch of rail line before responders can isolate it?
- How would the shipment of liquid tank waste affect workers transporting that waste?

e. Too little outreach has been done by the TPA agencies.

All of the Tribes who rely on the Columbia River could be impacted by transportation of tank waste, in either a liquid or grouted form. In the Energy-acknowledged absence of a robust public engagement effort along the routes, Energy should immediately abandon the idea of shipping liquid waste through these regions. EPA must compel Energy to contact and consult the people who could be harmed. This is a major decision, and billions of dollars are already being allocated with the expectation that this proposal can sustain public scrutiny.

Riverkeeper continues to stand for the position that any waste leaving Hanford must leave in the most stable manner possible (not the most expedient or least costly to the current generations making decisions), reducing harm to people and the environment along any proposed shipping routes and potential ultimate disposal locations.

i. Questions

- How does the Natural Resources Damages Assessment process and the Trustees Council's work interact with this settlement and agreement? Are Trustees who are also decision-makers responsible for implementing the cleanup, such as Energy, accurately balancing the costs of cleanup and mitigation of natural resource damages?
- Riverkeeper does not fully understand the implications of the proposal for Tribes impacted by Hanford, or the interests of the people of Oregon, regarding natural resource damages. We are concerned that proposed changes could impact or be impacted by the NRDA process in ways that are not factored into Energy's analysis, and this creates uncertainty regarding the reliability of Energy's Business Case Analysis.

3. **Signature and entry of the proposed Consent Decree modifications and TPA changes would be premature without additional public involvement and environmental analysis.**

Riverkeeper is deeply concerned that the agreement establishes a default path for Energy to proceed that has not been fully vetted through a detailed environmental analysis. The agreement states

> Unless and until either the court does not enter the proposed Consent Decree modifications or those modifications are withdrawn from consideration for entry by the court, and subject to the provisions of Section 4 of this Agreement, Ecology and Energy will conduct their affairs in a manner consistent with the proposed Consent Decree modifications. Settlement agreement p. 5.

Because modifications to the Consent Decree could have significant unforeseen impacts, Riverkeeper encourages the agencies not to divert resources into developing grout without additional public process and analysis. Thankfully, there is room for regulators to demand more information and demand more opportunities for public engagement and understanding. As stated in the agreement

> Withdrawal of consent by Ecology, Energy, or EPA to approve the proposed (TPA) change requests described in Section 3 below, either whole or in part, shall be a basis for Ecology or Energy, in their sole discretion, to withdraw consent to the proposed Consent Decree modifications, either whole or in part.

Ecology and EPA should withdraw consent unless and until Energy commits to conducting a full and robust public engagement process, a supplemental EIS under NEPA, and adequate consultation with Tribes. Additionally, Ecology should hold open the possibility of using its state authority and conducting an EIS under the State Environmental Policy Act (SEPA), at the very least until Energy indicates its intended path forward regarding additional environmental analysis.

a. **Agency Specific Comments**
    i. **Comment to Energy and EPA: Energy must prepare a Supplemental Environmental Impact Statement and hold additional public meetings around the region.**

The agencies should conduct a NEPA analysis prior to reaching final decisions regarding the treatment, transport, and disposition of tank waste, and this NEPA analysis should consist of a Supplemental Environmental Impact Statement (SEIS), not a Supplement Analysis (SA) or Business Case Analysis, which does not fulfill the requirement for meaningful engagement of communities who will face impacts from this agreement.

The timeline offered by Energy does not allow for meaningful input. Energy stated that it intends to complete a "Supplement Analysis" and a "Business Case Analysis" to make an important decision regarding the treatment location, transport routes, and disposal location for over 10 million gallons of high-level tank waste by the end of 2024, or early 2025. Energy's commitment to informing the public is inadequate, and lack of public engagement will harm the implementation of any agreement if communities are blind-sided by inequitable, unmitigable risks.

As stated above, the people most impacted by the proposed changes must have a meaningful opportunity to weigh in and understand the risks. As inconvenient as it may be to Energy, they must meaningfully consult with all Tribes who could have tank waste shipped through their communities as a solid or a liquid. This should occur during the development of a SEIS. Energy's assurance that they will do further "public engagement" is vague at best. And, as noted by many commenters, Energy has refused to commit to developing an SEIS.

In the case of a rail or truck accident, how would a solid or liquid tank waste release impact a small stream, a tributary of the Columbia, and/or the Columbia River and the communities that depend on them?

The Tank Closure Waste Management (TC/WM) EIS does not provide the analysis needed to draw conclusions about the environmental impacts of new proposed changes, changes which were not fully contemplated over ten years ago. We agree with Oregon Department of Energy, who commented

> A full supplemental Environmental Impact Statement (EIS) should be performed for the full grouting and offsite disposal transportation campaign. The impact of a comprehensive off-site transportation and disposal campaign has not been thoroughly assessed. The scale of potential grouting at 200W, tens of millions of gallons, far exceeds scenarios assessed in prior impact evaluations. The most recent submission to the Federal Register was AR-23306,12 and the 2013 Record of Decision stated, ''DOE has decided to implement Waste Management Alternative 2, which includes disposal of LLW [low-level radioactive waste] and MLLW [mixed low-level radioactive waste] at IDF [Integrated Disposal Facility]-East from tank treatment operations.'' and "While the TC&WM EIS did not anticipate a large increase in the amount of secondary waste sent offsite for treatment and potential disposal, it did acknowledge that it could occur." The above statements were made as justification for the lack of a supplemental EIS for at most 332 m3 of mixed low-level waste (LLW) offsite. Tens of millions of gallons of liquid would be well over 100,000 m3 grouted if as suggested by System Plan 10 approximately 71,000 m3 of LAW is generated by S, SX, SY, and U tank farm. This volume, if shipped, is more than two orders of magnitude higher than previously

considered offsite shipping campaigns. Population densities and the standard of care for such evaluations including environmental justice assessments have also changed since the TC&WM EIS was completed. Because of the significant scope change, previously unassessed factors, and time elapsed since the last full EIS and NEPA evaluation, Oregon expects an updated assessment with full public participation and comment, including route-specific analysis of potential transportation options.

We agree that a full analysis is required, and Energy must fulfill its NEPA obligations by conducting a full Supplemental EIS regarding the tank waste treatment and immobilization and disposal system at Hanford.

A Supplement Analysis (SA) of the TC/WM EIS is not sufficient. Using an SA, Energy is not required to have any meaningful public notice, comment, or engagement when adopting a determination that no further NEPA documentation is required. The SA would only be available to the public "for information," and not necessarily for comment. Energy has no obligation to provide the public with notice, opportunity to comment, or public meetings while conducting an SA. We support the comments offered by Heart of America Northwest on the issue of the inadequacy of an SA, and we share concerns raised by Oregon Governor Tina Kotek, the Oregon Department of Energy, and Tribes impacted by Hanford and the Settlement that an SA falls short of what is required for informed decision-making when it comes to the shipment of tens of millions of gallons of tank waste.

ii. Comment to Ecology. SEPA is a necessary tool to approach the environmental analysis that should be necessary for potentially shipping waste through Washington communities. Under the HEAL Act, Ecology must consider the impacts of the proposed actions before approving Energy's plans.

Prior to finalizing any proposed changes, we urge Ecology to require Energy to do an adequate NEPA analysis (not an SA). Ecology should also commit to fulfilling its own obligations under SEPA before committing to support Energy's preferred approach for alternative treatment. The agreement clearly leaves Ecology room to consider these issues and to propose amendments to changes to the Consent Decree and TPA changes.

SEPA is necessary to understand the proposed action, and Ecology should undertake SEPA before Energy takes actions under this agreement that could introduce waste shipments across the region. SEPA provides independent state review, and it can look beyond Washington's borders because the impacts to Washington's neighbors are important for Washington residents, particularly along transport routes that cross or parallel the Columbia River or other major water resources important to both states.

Additionally, Washington has its own Environmental Justice law, the HEAL Act. Accordingly, Ecology must consider the environmental justice impacts of the actions that would come from the proposed changes before approving Energy's proposed path forward (a decision that Energy has scheduled for the end of 2024, which cannot be achieved while honoring commitments and HEAL Act requirements to address environmental justice concerns for communities near transport routes).

The proposed changes open a wide swath of concerns in a large area. There is ample precedent for SEPA analysis looking at upstream and downstream impacts, and this could be important for the region's ability to understand the hazards involved with toxic and radioactive waste at Hanford. A robust analysis would include Ecology looking at potential major impacts to Washington communities along shipping routes, which may include Spokane, Pasco, and regional rail and public vehicle routes.

Additionally, Ecology must consider how proposed changes could cause major impacts in Tribal communities who were not reached out to, despite Energy insisting that waste transport has negligible risks. Ecology should consider impacts to any Tribes whose land the Hanford shipments would cross, with potential significant and adverse impacts to natural, cultural and religious resources.

i. Questions

- When will the community have an opportunity to meaningfully comment on Energy's decision to send waste, or not, through Spokane neighborhoods, or Tribal communities, or Bend?
- How will Ecology fulfill its responsibilities under the HEAL Act?

iii. **Comment to EPA: EPA should seek more information before making determinations about the environmental justice implications of the proposed actions.**

EPA's analysis of the implications of the Test Bed Initiative (TBI) was intentionally narrow, and specific to the waste being treated and the volume being moved. As suggested by Hanford Challenge during public meetings, agencies may want to understand the results of the TBI before making large resource commitments pursuant to the proposed changes. As ODOE noted, as of this comment deadline, the TBI has not produced grouted tank waste. It is difficult to think through the potential impacts of jumping from 2,000 gallons of tank waste to over 10 million gallons of tank waste, with undefined treatment locations and transport routes. The proposal involves the movement of toxic and radioactive waste across Tribal communities, environmental justice communities, on public roadways and rail lines with known maintenance challenges.

It seems premature to assume that the successful treatment of 3 gallons of tank waste (Phase 1 of TBI) can predict the success of grouting and shipping over 10 million gallons of tank waste, and yet Energy appears poised to make a decision by the end of 2024.

How can EPA accurately evaluate the environmental justice implications of Energy's proposed course of action on this timeline? Additional environmental review of the agreement proposals is necessary, and this review should explore ways to avoid harm to people in Tribal communities, communities with environmental justice concerns, and communities who rely on water resources impacted by Hanford waste and pollution.

4. **Additional Comments and Questions.**
    a. **Riverkeeper is encouraged by the openness to explore new tank waste treatment and retrieval technologies, but concerned by assumptions regarding landfill closure.**

Riverkeeper supports the comment shared by Miya Burke from Hanford Challenge during the Olympia public hearing suggesting that new tank waste treatment or retrieval technology information should be applied to areas where more waste could be removed, including areas such as WMA-C. Exploring the possibility of addressing harmful pollution (pollution currently destined for an unlined landfill closure, according to Energy's plans) with new and improved technology seems like a valuable idea, one that could lessen harm for future generations. Additionally, we support ODOE's recommendation for developing a longer-term committee or program to ensure continual technological assessment.

ODOE identifies in its comments an important underlying principle: retrieving tank waste, as much as possible, is a common goal. ODOE stated in its comments on the proposed changes

> Minimizing the waste remaining in tanks when declared closed is a critical aspect of any closure plan. According to Washington Administrative Code (WAC) 173-303-61016, closures must minimize the need for further maintenance and controls and minimize or eliminate human or environmental exposures to contaminants. Fully retrieving tanks before closure is the best method to meet relevant Washington Ecology and EPA requirements.

We agree, and the Washington law cited by ODOE supports Miya Burke's suggestion that Energy should be open to all strategies for reducing tank waste pollution as much as possible. Washington has itself acknowledged that grout is not as good as glass, and soil has absorbed high-level waste. Material that could go unretrieved in tanks and remain buried at Hanford forever was once intended to be turned into glass in steel canisters bound for a deep geologic repository.

Above: The narrower canister would contain waste from the direct-feed HLW vitrification facility, and the wider canister would contain waste from the direct-feed LAW vitrification system. Photo by Columbia Riverkeeper. 2015.

This seems to deviate from the Nuclear Waste Policy Act, with consequences that were not fully addressed by the analysis offered in the TC/WM EIS.

Energy must produce a new supplemental EIS. Over 12 years old, the TC/WM provides tremendously valuable information and analysis, but it is nonetheless an analysis based on assumptions that have changed as climate models shift over time and additional tank leaks occur. Knowledge of how pollution behaves at Hanford has increased, due to intensive study, education and effort by Tribes, workers, agencies, watchdog groups, whistleblowers and experts from a wide array of communities, disciplines and organizations. Energy should leave more room for evolving knowledge to recover and immobilize more waste in tanks and soil while assessing the current path proposed more carefully.

We support the concerns raised by Yakama Nation objecting to the assumption that Hanford can be used as an unlined landfill for tank waste that has leaked into soil or left in grouted tanks in the soil at Hanford. Yakama Nation's comments include

> the Yakama Nation will continue to disagree with leaving the tanks as RCRA/AEA landfills until there is some assurance that HLW has been retrieved to the maximum extent under existing technologies, and that in-tank treatment through grouting has been proven to be effective in stabilizing HLW permanently. Neither of those has happened yet.

And,

> …the Tri-Parties have no legal authority to abrogate treaty rights or limit their exercise or scope in any DOE actions to close the tank farms. There is no explanation in the milestones about how any failure to protect treaty uses will be taken into account when making final closure decisions.

Yakama Nation's comments highlight the need for a full EIS to consider changes occurring in the cleanup. All parties acknowledge that cleanup is far from complete, and potentially far more challenging in a changing climate. The risks to future generations argue for the most durable waste form possible and a re-consideration of whether landfill closure is the right approach for cleanup in the Central Plateau. To support landfill closure, the agreement relies upon assumptions from Hanford's out-of-date and inadequate Comprehensive Land Use Plan (CLUP). The CLUP should not be relied upon without reconsideration and an overhaul or update.

b. The federal government must treat tank waste as the law requires, and the agreement does not resolve basic definitional questions.

The Nuclear Waste Policy Act defines tank waste as high-level waste. Rather than forbearing the use of a new, weaker definition of high-level waste (which is basically the status quo), Energy should permanently abandon plans to apply this definition at Hanford. It is not adequate to "forbear" what is not legal and not appropriate for Hanford.

The material in S, SX, and U farms is clearly high-level waste. Hanford's Dangerous Waste Managements Units report describes, waste in tank U-112 as follows, "Waste transferred to Tank 241-U-112 included bismuth phosphate first-cycle waste and REDOX high-level waste from the 241-U Tank Farm."[9] The most recent tank status report indicates that U-112 is assumed to have leaked, and the tank holds 44,000 gallons of sludge and 4,000 gallons of supernatant.[10] This is

[9] Hanford Site Waste Management Units Report. January 2023. DOE/RL-88-30. Rev. 32. P. 2531.
[10] Waste Tank Summary Report for Month Ending June 30, 2024. P. 30.

just one example of a high-level tank waste problem that Energy must not address through application of the interpretive rule.

c. Will one million gallons of new tank space be adequate, and how will ongoing and future tank leaks factor into the use of new tank space?

During public hearings, the new tank space was identified as being necessary for flexibility and efficiency in the tank waste storage and treatment system. M-045-139 states that, by 2040, Energy will "Complete construction and initiate operation of (i.e., declare ready to operate) 1 million gallons of new multipurpose storage capacity for Hanford tank waste in the 200 West Area." It also states

> For purposes of this milestone, "multi-purpose" shall include, at a minimum, additional tank capacity to augment the existing SY Tank farm system, including providing operational capacity to potentially support Single-Shell Tank System retrievals and Double-Shell Tank System emergency space.

Why are the agencies waiting until 2040 to build and operate tanks that would seem to be very useful sooner? We hope the agencies think holistically about how and when to bring new double-shelled tank space into operation, and ODOE offers detailed suggestions for why accelerating the development of new tanks should be considered.

The Hanford Advisory Board (HAB) repeatedly urged the construction of new tank capacity, for years, for a combination of reasons. HAB advised Energy that it would likely need capacity to address leaks as well as additional capacity to run tank waste treatment more efficiently. For example, HAB Advice 294, which was routine advice on Energy's budget from 2017, urged Energy to "provide additional funds to establish new storage capacity for tank waste."[11] Riverkeeper supports the idea of establishing additional tank space as early as possible to assist in accelerating the work of addressing Hanford's tank waste and its harmful pollution. As ODOE points out, additional tank space may be necessary to leave open opportunities for on-site immobilization.

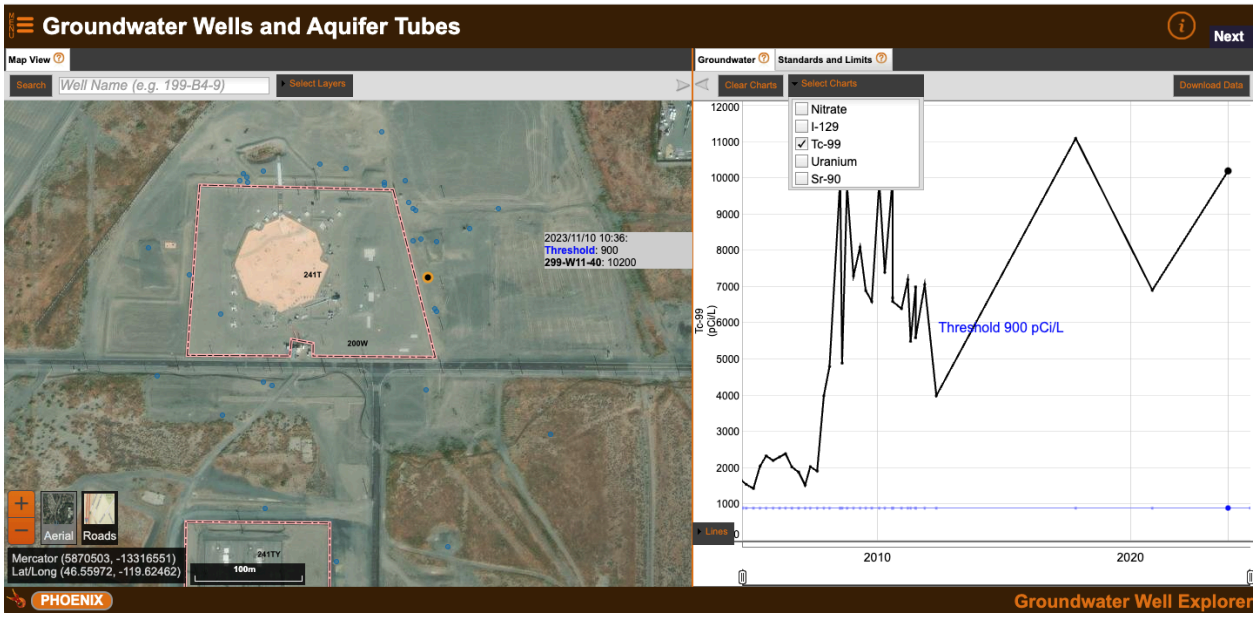
d. Establishing functional cross-site tank waste transfer lines for supernatant and sludge should be a high priority.

Energy has cited the difficulty in moving waste across the Central Plateau, from 200 West to treatment and immobilization facilities in 200 East as a reason for preferring to grout material either at Hanford or offsite. Because transfer lines for supernatant and sludge are critical to connect tank waste to vitrification facilities, as well as facilitating efficient use of tank space, their completion should be a high priority.

[11] Hanford Advisory Board. Advice 294. Budget Advice. November 13, 2017. p. 3. https://www.hanford.gov/files.cfm/Hanford_Budget_Advice_294.pdf

We agree with comments and questions posed by the ODOE on this issue, including their suggestion that the "completion of upgrades to the cross-site supernatant transfer line should include the option to reach DFLAW feed tanks." In our view, this would allow for the possibility that additional 200 West material could be vitrified. ODOE is not objecting to considering grout, but ODOE's comments highlight a tangible long-term benefit of maximizing vitrification capacity, where safely possible, and its potential co-existence with grouting activities, stating, "Improving DFLAW operations and integration with the 200W mission would also serve a role in reducing the technetium-99 and iodine-129 risk budget on the site, as DFLAW condensate enriched in those isotopes can be incorporated into the grout that is transported off-site." ODOE's suggestion that the supernatant transfer line from 200 West be able to reach the DFLAW system improves the potential for greater groundwater protection and more durable waste immobilization. These issues are best addressed through a SEIS.

Data available on PHOENIX underscore ODOE's concern regarding the long-term impact of Tc-99 and I-129. The figure below includes data from a well near the T Farm which exceeds groundwater standards by an order of magnitude.



The ongoing Tc-99 problem in the Central Plateau underscores the importance of creating adequate and timely tank space and focusing on improving the ability of Energy to move tank waste towards effective treatment and immobilization facilities, many of which are still in planning.

We encourage Energy to provide more details about how to accelerate the schedule for establishing the option of cross-site transfers of tank waste. Where Energy discusses

"re-activation" of the sludge line, we share ODOE's question about the practicability and status of this line and the concerns raised by Hanford Challenge.

i. **Questions**
   - When will the public be able to review a budget that can accomplish the proposed timeline for establishing cross-site transfer of both supernatant and high-level waste sludge? As ODOE points out, the current five-year plan differs from the proposed changes with regard to transfer lines.
   - Is the cross-site slide transfer line usable?

e. The 2024 date for selecting a grouting alternative should be removed from the proposed changes.

The 2024 date is inappropriate and premature. As discussed in detail above, it is not possible to have the information necessary to make such a decision at this time, much less provide the public, Tribes, states, stakeholders, and every person impacted by the storage, transportation, and disposition of tank waste notification so that they can consent to the risks being imposed upon them. Additionally, as raised by Hanford Challenge, ODOE, and others, we are confused by the timing of the Test Bed Initiative (TBI), the results of which would seem to provide very important information for decision-making currently scheduled for the end of 2024, well before completion of the TBI.

f. Riverkeeper opposes the shipment of liquid tank waste, and has major unresolved questions about the shipment of any tank waste through Tribal communities, communities along transportation corridors, and communities with environmental justice concerns.

Riverkeeper has serious concerns about the shipment of any tank waste through overburdened communities. Until these communities are part of this process, we cannot accurately evaluate issues that could arise with transporting waste. Additionally, we do not know the full scale of the shipments. Millions of gallons of high-level waste would be processed to remove some radionuclides, then processed to meet shipment requirements either as a liquid or a grout form, but the action is still too poorly defined for us to offer comments.

i. **Questions**
   - What volume of liquid would be allowed in each truck or railcar?
   - Is the tank waste characterized adequately to provide a realistic comparison and assessment of the harms that could be caused by moving tank waste in differing forms, volumes, and routes.

g. Proposed changes to the TPA and Consent Decree raise questions about how tank waste will impact groundwater resources.

Proposed new milestones and revisions to existing milestones offer both good and concerning aspects. Establishing a goal for new tank storage capacity is a positive step. However, long timelines still leave ample room for further delays. What happens in 2040 if goals have not been reached for tank storage capacity, and tank leaks are progressing? Removal and treatment of the 22 tanks identified will theoretically be in progress for retrieval and treatment. The expectation is that a major renegotiation will occur in 2038. Riverkeeper remains deeply concerned that the proposed changes kick the can down the road when it comes to future delays, with major consequences for prolonged groundwater contamination. We believe a Supplemental EIS is necessary to evaluate this problem.

h. Should TPA agencies be grouting material that currently meets the definition of high-level waste? Why is vitrification not being pursued for all of the material?

At Hanford, money spent on grouting tank waste is money that could have contributed to the vitrification program that is underway. If the federal government can build a machine to turn tank waste into glass, why have the agencies abandoned the idea of vitrifying the waste in U, S, and SX farms? Why is Ecology's principle of "as good as glass" not being implemented more broadly, considering the immense potential benefit of immobilizing so much highly dangerous radioactive material? Ecology's website states

> Concrete is not "as good as glass." Washington state has remained open to alternative treatments for Hanford waste, but we have always insisted that any treatment for disposal at Hanford be at least as good and effective as glass. So far, no alternatives have met that test, and concrete falls well short. It is porous and — relative to radioactive contaminants — short-lived. Large quantities of waste left in tanks, even if it is topped with concrete, eventually would leak out, seep through the soil into the groundwater, and from there into the Columbia River. That is not an acceptable outcome to the state.[12]

Ecology and EPA must explain why the standard "as good as glass" applies to treated and immobilized tank waste in Washington, but not elsewhere. The same website states,

> Up to 90 percent of Hanford's tank waste could be reinterpreted as low-level under this new interpretation. But that's already been done at Hanford. Nearly 20 years ago, the federal Energy department, federal Nuclear Regulatory Commission and Hanford regulators agreed to let 90 percent of the tank waste be

[12] https://ecology.wa.gov/waste-toxics/nuclear-waste/hanford-cleanup/high-level-nuclear-waste-definition - accessed 8.27.24

> treated as though it was low-level – referred to at Hanford as "low-activity." However, under this agreement the waste could only be treated as low activity if it is incorporated into glass, which will keep its toxic and radioactive constituents encapsulated and stable for thousands of years…
>
> Since Energy is already treating 90 percent of the tank waste as if it were low-level, it would appear that the primary motivation to reinterpret that waste is to avoid its commitments to glassify much of the waste. Declaring most of the tank waste as low-level opens the door to treatment methods other than glass encapsulation. The most likely choice would be concrete. Energy already has discussed the possibility of leaving waste in dozens of the tanks and filling them with concrete rather than pumping the waste out. It also is considering removing some of the tank waste and mixing it with concrete rather than glass.

The agreement seems to set forth a new policy at Hanford, that grouting tank waste is the preferred method, producing a waste form Ecology finds unacceptable for waste disposal at Hanford. What environmental analysis supports grout as a superior form of waste for the material in tanks in the U, S, and SX farms?

Riverkeeper appreciates the urgency that supports the logic of removing as much tank waste from the Columbia Basin as quickly and safely as possible, based on a sincere desire to protect the Columbia and the Tribes and many communities who rely on it. This is a difficult question, and Riverkeeper does not have all of the information necessary to answer it. Regardless, it should not be answered by the "Business Case Analysis," but rather an environmental analysis that would allow Energy to fulfill its legal obligations, as well as the State of Washington.

5. Conclusion

While the agreement has positive aspects, Riverkeeper continues to have major questions and concerns regarding the changes to the cleanup. However, Riverkeeper cannot comment adequately without a detailed NEPA analysis, including a proposal for how Energy plans to accomplish cleanup under the Settlement Agreement. As it stands, this process is inadequate for supporting the decisions being made and could lead to unnecessary harm and errors in judgment regarding treatment methods and transportation routes.

We agree with ODOE who wrote

> Additional public dialog is warranted to ensure that landfill closure meets applicable regulatory and legal requirements…

> In conclusion, we recommend establishing a long-term, ongoing process for technology evaluation and development. This approach would ensure that the Hanford cleanup effort continues to benefit from the latest advancements in retrieval and treatment technologies, potentially leading to more complete waste removal and safer, more efficient closure options, minimizing the amount of contamination left in unlined landfills on the Central Plateau.

Riverkeeper reserves the right to comment after September 1, 2024 as new information arises. By Energy's own admission, they intend to provide additional information regarding alternative treatment (grouting) location, transport, and disposition with respect to tank waste by the end of 2024 or 2025, at which point they should solicit public comment.

This cannot be the only opportunity provided for meaningful public comment on these issues.

Riverkeeper continues to stand for the position that any waste leaving Hanford must leave in the most stable manner possible (not just the most expedient or least expensive), reducing harm to people and the environment along any proposed shipping routes and final disposal locations over many generations. These harms and costs are not accounted for in the current process.

Communities along shipping routes and who will be receiving the waste deserve a say, and any process that does not include these communities is woefully inadequate. The production and deployment of nuclear weapons continues to have a disproportionate impact and place an unfair burden on BIPOC communities across the globe. Cleanup, in the aftermath, must not.

Thank you for the opportunity to provide public comment in support of a cleanup of Hanford that is thorough and just.

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