Heart of America Northwest

Heart of America Northwest comments on LERF and 200 Area ETF permit are attached. Please note that these are also submitted for the concurrent comment period on 242-A and pipelines to LERF.

Comments of Heart of America Northwest to WA Department of Ecology on Class 3 Permit Modifications for Construction of Basin 41 at the Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility, including two transfer pipelines of 5000 and 2,380 feet (process condensate through the 5000 foot line from the 242-A Evaporator)

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We want to start our comments with a note of appreciation that the comment periods and workshops for these two integrally related permit modifications were integrated. Because the projects are literally interlinked, having one combined workshop and comment period allowed public to review and comment based on presentations that showed the relationship of the projects, e.g., how the pipelines proposed in one modification (ETF) would bring waste to the new proposed LERF Basin 41. It also enabled the agencies to conduct just one outreach program for both modifications. We hope that the TPA agencies will integrate closely related permit modification comment periods in this manner in the future.

LERF Basin 41was dug out in 1990. Now USDOE proposes to add clay and geotextile liners for a 7.2 million gallon basin. Is this the design that would be chosen if the basin was not already dug out (which was done before USDOE acknowledged that RCRA hazardous waste law permitting applied)? The permit lacks groundwater monitoring provisions.

Transfer lines shown to the new Basin 41 from 242-A and LERF are 5000 and 2,380 feet respectively – far more than a mile. Yet, the only leak detection will be at the end of the lines.

While integrating the two comment periods was a strong positive public involvement step, there are **serious shortcomings in the public comment process for the permit modifications, including a failure to follow SEPA**:

- Ecology's main website for comment periods failed to list this comment period and provide links for commenting or materials: https://ecology.wa.gov/Events/Search/Listing (viewed Sept 6, 2020 and to confirm Sept. 8, 2020).
    - Ecology's Nuclear Waste Program website did have the link to the fact sheet and comment submission form.
- The two page fact sheet is devoid of any meaningful information regarding the wastes, quantities, potential impacts, and alternatives. There is no RCRA technical fact sheet provided in any link, nor in either of the permit documents (totaling over 2,000 pages).
- Most importantly, **Ecology's website and notice did not provide any SEPA documentation to accompany the permit proposal**. Building a brand new 7.8 million gallon capacity basin and over a mile of pipelines for waste effluents from High Level Nuclear Waste Tanks and process condensate from the 242-A Evaporator. The public is legally entitled to review the SEPA documentation regarding whether there are potential significant impacts to the environment or human health and whether there are alternatives that would reduce or eliminate potential impacts at the same time the public reviews and comments on the permit.
  We raised the need to have SEPA documentation (which may have included a threshold determination, Mitigated Determination of Non-Significance or adoption of prior NEPA and SEPA reviews of potential impacts) in our comments on the initial draft during phase one of the permit modification process. We were told then that SEPA review and documentation would occur and be presented for the final permit modification.
  The potential for significant impacts is clear from the scale of the proposed projects. However, the applicant (USDOE) and Ecology have failed to provide any SEPA documentation analyzing impacts or showing why they believe there will be no impacts due to adopted mitigation measures.
  The agencies' fact sheet has one link for documentation regarding the permit, which is to the administrative record for the submission of the 524 page permit for the 242-A Evaporator permit modification, July 8, 2020 (20-ECD-0032), and the link for the 1532 page permit modification submittal for the LERF and 100 Area ETF: https://pdw.hanford.gov/document/AR-03744. There are no other links or documents provided for review.

> Basin 41 was designed and dug out in 1990. It will have two geotextile liners and a bentonite clay – soil mixture base and a "floating" cover. There are no SEPA or NEPA analyses of alternatives, especially for the danger level of these wastes and potential for long term release, or of mitigation measures such as limiting the time for use of the basins. Nor are there analyses of potential impacts from leaks in the pipelines and tanks (or alternative measures to detect and respond to leaks) which the permits would allow to be added.

The potential for leaks is more than hypothetical, and their potential impacts are significant. Ecology acknowledged this at the August 18, 2020 public meeting, in response to a question and comment from Heart of America NW's Gerry Pollet. Indeed, the 242-A Evaporator has not been operating for two years due to corrosion of a transfer line. This was not disclosed in any materials.
Yet there is no SEPA (or NEPA) document to review regarding the potential for leakage, the potential impacts from leakage, or of mitigation measures needed to detect and respond to them promptly.

Ecology disclosed, in response to a question from Gerry Pollet during the meeting, that a report on leak detection capability was being prepared and was under review as of the August 18, 2020 public meeting on the permits, Heart of America NW's Gerry Pollet requested that the agencies provide the report and place a link to it on the comment page to enable informed public comment. This might have alleviated the failure to prepare any SEPA documentation regarding leak potential and impacts. However, the report was never provided or placed on the website for this comment period.

The only cure is a "do-over." If Ecology does not follow its own requirements to ensure that Ecology officials have SEPA documentation to review accompanying the permit proposal, then why should any other agency? If the public does not have SEPA documentation for this proposal from Ecology, why would other agencies ensure that their permit proposals are accompanied by the agency's SEPA Determinations or EIS?

Ecology can not simply ignore SEPA for a major RCRA permit modification to open up a 7 million gallon basin, over a mile of high level waste pipelines and numerous tanks.

Leak Detection Requirements are Inadequate and Do Not Meet Legal Requirements:

Pipeline PC-5000 will be 5,000 feet – over nine tenths of a mile (.95 mile). The line to transfer process condensate from the Waste Treatment Plant will be 2,380 feet. Yet, USDOE proposes to have just ONE single electronic leak detection point at the end of the pipelines at the Basins. See Permit Sections 4.1.2.1, 4.1.37.3.3, 4.1.51. Ironically, USDOE proposes to remove the words "single point" for detection capability and replace it with "end of line" leak detection. The semantic change is solely to avoid embarrassment of having a permit that allows for "single point" of detection at the end of 5,000 feet of piping.

A leak in the secondary piping (encasement) would render the entire end of line detection point irrelevant. If waste leaks through the primary line, there is a significant chance that: a) it will not flow most of a mile through the secondary pipe to the end point (the waste is not water); and, b) that there will also be a leak in the secondary pipe.

However, the entire leak detection system depends on waste flowing for as much as nine tenths of a mile through the secondary piping to the end point detection.

The capability of the single endpoint electronic leak detection (and visual sight glass backup) is woefully inadequate. At the August 18 meeting, the agencies responded to us that the leak detection limit is 1.5 gals per hour to be captured at end point to be reported in 24 hours. Thus, leaks of up to 36 gallons a day would be allowed to go without discovery or notification. Leakage of these wastes at such large quantities would violate the relevant CERCLA and HWMA leak reporting requirements.

> Section III.4.c.4.a provides for visual inspection just once a day at the LERF catch basin if electronic detection is inoperable. If there is any evidence of leakage, the visual inspections should be at least once every eight hour shift. However, transfers should be halted pursuant to a new permit condition if there is any credible evidence of a release or leakage.

Ecology and the public both need to consider a SEPA analysis of alternatives to mitigate the potential for leakage, including installation of additional electronic leak detection systems (using liquid detection and radiation and chemical vapor monitoring). Ecology should not approve the permit until additional leak monitoring and detection capability is determined and added to the permit.

Section III.4.c.4.b of the proposed 242-A permit provides that USDOE would not need to notify Ecology of failure or inoperability of leak detection capability for transfers to LERF Basins 41 or 43 for 90 (ninety) days.

This must be rejected. The permit should specify that USDOE must immediately notify Ecology when it has information that the leak detection equipment may be inoperable.

The permit should specify that no transfers may occur while leak detection is inoperable.

The permit should also specify that if there is doubt regarding its functionality (e.g., minimum detection or that waste may be leaking) then increased visual inspection of the line as well as the alternative visual leak detection site must occur at least every 8 hours.

The relevant legal requirements for permitting and waste transfer via pipeline require operable leak detection. Going 90 days without even notifying Ecology that the single end point electronic detection is inoperable makes a travesty of the legal requirements.

The permit must set much lower minimum detection limits (hourly, daily, and weekly) and require reporting leaks immediately. Ecology should not be waiving the minimum standard for detection of releases in 24 hours. USDOE proposes (III.4.2.1) to replace a meaningful standard with detection “at earliest possible time.” This is meaningless as a permit condition and does not meet legal requirements.

USDOE seeks to have 90 days to demonstrate that it will meet an alternative standard. USDOE has had years to prepare this permit. The permit should set a firm enforceable standard that the public can review and have confidence in the required release detection capability and reporting.

WAC 173-303-64(4)(b) “Containment of Releases” and (4)(c)(ii) require that secondary containment must detect failures of either primary or secondary containment within twenty four (24) hours or earliest practicable time only “if existing detection technologies or site conditions will not allow detection of a release within 24 hours.”

Site conditions do not preclude detection of releases within 24 hours.

Detection technologies are readily available to meet the requirement to detect releases in the primary or secondary containment at far lower minimum detection limits than the 1.5 gallons an hour currently proposed.

Indeed, because the wastes being transferred are radioactive, it is (ironically) easier to detect releases using several different technologies. As we comment earlier, additional electronic detection points may easily be added to the pipelines.

Permit section III.4.c.1 does not even include the relevant WAC language providing for an alternative to detection of failure and release within 24 hours ONLY IF the detection technologies do not exist or site conditions preclude detection. Rather the proposed permit language simply cuts off the full language of the WAC and proposes to waive the standard.

The IQRPE (Meir) at 2.2 states that two leak detection systems for the encasement drain piping systems will be used rather than the one end point actually in the permit.

USDOE seeks approval of a permit with a waiver of the requirements for secondary containment and to notify Ecology of releases from primary or secondary containment within 24 hours. See III.J.2 for transfer lines WTP’s EMF to LERF.

This should be rejected. USDOE should be required to meet the 24 hour notification, if not have real time notification required due to the nature of these wastes, the length of the pipelines, etc. If this alternative were available for this facility and transfer lines, Ecology would have to grant the same waiver anywhere in Washington. USDOE, the permit applicant, has a record of failing to notify Ecology in a timely manner of releases. Consideration of the permittee’s prior noncompliance for notifications is also highly relevant.

To qualify for the variance requested, WAC 173-303-640(4)(i)(D) requires disclosure and consideration of the characteristics and contents of the wastes in the transfer lines

and storage facilities / vaults.[1] USDOE has failed to disclose the waste quantities, characteristics, concentrations for secondary wastes from DFLAW which will be concentrated in EMF and then transferred in the pipelines and units subject to this permit modification. In order to qualify, USDOE must disclose, and Ecology consider, the maximum dangerous waste and radioactive constituent concentrations.

The sumps and vaults in the proposed permit do not have 100% containment capacity as required by Washington's HWMA and RCRA:

This is a serious shortcoming for the highly radioactive and dangerous wastes generated and being transferred from DFLAW.

USDOE contends that an internal building floor with no berming is containment for the sump or vaults. This does not meet the RCRA / HWMA requirements and poses a grave risk of worker exposure to dangerous wastes as well as the potential for ultimate escape and release to the environment. Allowing waste to spread over a large area of sealed concrete floor is not containment. This is compounded by use of older equipment and not requiring automatic backflow detection and overflow prevention. Instead the sump relies on visual observation.

Reliance on Visual Inspection of sumps, tanks, and collection points and only 1 Electronic Detection is Inadequate and Should be Rejected:

WAC 173-303-640 (4)(e) requires secondary containment for 100% of the volume of a tank or vault with dangerous waste.

Tank CA-1 has a capacity of 35,600 gallons and Tank C-100 a capacity of 17,800 gallons. There are 33,400 gallons of waste which may be stored in 330 gallon "totes." None of these are being required to meet the legal standard for 100% secondary containment.

The WAC also requires that the system protect against formation of vapors. The wastes include ammonia, VOCs and other hazardous vapor emitting wastes. There are no

[1] Please disclose the constituents and concentrations in "brine" which was referred to in presentations on October 9 and is the term added to the permit describing wastes to be permitted, e.g., regarding 2025-E containerized wastes to be permitted and stored in addition to dry powder wastes (see, for example, page A.6). Please provide annual quantities and total amounts allowed to be stored.
"Brine" sounds as if it is a saltwater solution. Indeed, that is its dictionary definition. "Brine" is not a defined term pursuant to the dangerous waste rules in WAC 173-303-040. Without disclosure of the contents in the permit and fact sheet, USDOE cannot use this term and Ecology cannot have an undefined term with no limitations and description on dangerous waste constituents.
Use of the term "brine" is misleading and not permissible without describing the specific constituents.
Without these disclosures, it is not possible to comment on adequacy of the permit conditions for storage in a facility which is currently permitted only for storage of dry powder.

provisions to control and protect workers from formation and release of vapors in event of a leak or release.

Tank CA-1 is located over the operator platform. In event of a release, vapors are likely to prevent operator access or to result in serious injury and illness. The permit must have provisions to ensure that hazardous vapors do not form from releases. As with containment, USDOE callously assumes that interior spaces will perform as containment despite the obvious serious health hazard if the floors and operator accessible vaults are used as containment.

The lack of 100% containment for the sumps, sump pumps and other collection points and tanks is exacerbated by the legally inadequate proposed reliance on visual inspection (with apparently one point of electronic leak detection). Sump tank 59ATK-3 will only have a “sight glass to indicate level” and manual pump for overflow protection, instead of automatic cutoff. Reliance on proper following of protocols for visual inspections is particularly inappropriate in event of other upset conditions in the facilities which may interfere with visual inspections, simple operator inattention, and due to a history of the Hanford site contractors even ignoring results of alarms for overflows and leaks (e.g., Tank AY-102). A recording of any overflow or release event is vitally important for permitting and to ensure that a release is reported in a timely manner.

Reliance on a written report following visual inspection is not acceptable.
USDOE has failed to specify in the permit how releases will be contained. Rather, USDOE relies on the entire building floor and walls as containment, which would prevent the workforce from entering and carrying out other essential activities or immediate repairs. The failure to address vapors would mean that the workers in the vicinity of a release or re-entering the space would face serious exposure and illness.

Only one tank will also have a manual override instead of all tanks in the event of equipment malfunction. This opens additional routes of potential release. The permit should require manual overrides as well as electronic release notifications and routine inspections.

A Groundwater Monitoring Plan is Required and Should be Part of the Permit Now, Not Added Later:

The LERF permit proposes to add Addendum O for groundwater monitoring at a later date to be determined. As we have shown above, there are significant concerns over the nature of the wastes and potential for leakage from basins or pipelines. Whether appropriate groundwater monitoring requirements will be part of the permit must be answered now to determine if other permit provisions are adequate.

New constituents from DFLAW need to be added to the groundwater monitoring plan along with new wells. Permitting a massive basin without groundwater monitoring is simply not permissible. The considerations of where groundwater monitoring wells are

needed may determine other design elements. This includes fundamentals of whether the dike built in 1990 and plan for soil/bentonite and geotextile are adequate when considering potential migration routes for groundwater monitoring.

“Procedures to Prevent Hazards” is another required permit element which should be part of this permit at this time, rather than also be deferred to a date to be determined.

Ecology should add a firm closure date for the LERF basins - which have a life of 30 years (Meir IQRPE), a fifteen year assessment for the newest basin, and five year assessments for the decades old basins. Groundwater monitoring conditions must be part of this permit to have a meaningful system to ensure that there will be evaluation of fitness for use.