COLUMBIA RIVERKEEPER

0053844

8/31/00

Mike Goldstein
U.S. Environmental Protection Agency
712 Swift Blvd., Suite 5
Richland, WA 99352

Re: Comments on the Proposed Plan for the 300-FF-2 Operable Unit DOE/RL-99-53, Rev, O, and the Focused Feasibility Study for the 300-FF-2 Operable Unit, DOE/RL-99-40, Rev, O

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Dear Mr. Goldstein:

On behalf of Columbia Riverkeeper, I appreciate this opportunity to comment on the referenced document. I also appreciate the extension given for public comment.

For the record, Columbia Riverkeeper is adamantly opposed to an "industrial clean-up scenario" for 300 FF-2 and in general the entire 300 Area. We strongly support "Remove/Treat/Dispose. Given the close proximity to the Columbia River and very close to the intake pump for the city of Richland's drinking water source, we find it unconscionable to allow an "industrial clean-up scenario" to be allowed. The contamination in this area after 50+ years of toxic dumping into the ground created an immensely large source term in the vadose zone. Current records show that the waste in the vadose zone is impacting groundwater which in turn flows into the Columbia River.

We find it odd that EPA is stating that this proposed clean-up will be protective of the environment. When we use the word environment, we consider all life in the entire ecosystem. The "industrial clean-up scenario" limits the amount of exposure to humans, but one must ask how does it limit the ecosystem's exposure to the contaminants? All life that lives in this area is dependent on clean water, clean soil, and clean air. Fish and wildlife cannot adjust their exposure level by some arbitrary time limit set by man.

Most disturbing are the statements that the waste left in place from this limited removal will not impact groundwater in the future and leaving it there will be protective of the environment, yet current records show that groundwater is being impacted. Considering the time frame of some of these contaminants, like uranium that has a half-life extending out to 4.4 billion years, statements are still made that the waste won't move overtime. These statements are not based on valid science but are merely based on political science, science that is designed to limit the amount of money we have to spend on actual clean-up. Too many times at Hanford we have seen political science take the forefront over objective science to justify the decisions being made. Too many times we have seen laws being stretched to accommodate limited clean-up. The 300 Area should be cleaned up to "unrestricted use", using the best available technology, removing as much of the source term as possible.

P.O. Box 912, Bingen, WA 98605
Phone/Fax: (509) 493-2808

P.O. Box 82733, Portland, OR 97282
Phone: (503) 727-2580

P.O. Box 1254, Hood River, OR 97031
Phone: (541) 387-3030

email: crk@columbiariverkeeper.org • web: www.columbiariverkeeper.org

There has been NO VALID ASSESSMENT of all the waste sites, the multitude of contaminants and their long term impact on the ecosystem for as long as those contaminants remain hazardous. There has been NO VALID ASSESSMENT of combining the waste sites and their cumulative impact on the ecosystem. There has been NO VALID ASSESSMENT that addresses the combined or synergistic affects on the ecosystem. Therefore, it is impossible for any agency to state that the current clean-up by limited removal will be protective of the ecosystem for as long as those materials remain hazardous.

In past records of decisions, we were told that these were interim ROD's. This document reads like it is not an interim ROD. We need clarification. Is this proposed ROD a final or interim ROD? Are the other ROD's for the 300 Area and 100 Area's still interim ROD's?

In the letter to STWG written by Jim Owendoff, USDOE-HQ, he states clearly that we will have one time to clean-up these sites. Any other clean-up will not be the responsibility of the USDOE. Adding to this a decision was made by USDOE-HQ that ROD's will have to be approved by headquarters. These actions by USDOE-HQ show that USDOE is only interested in limiting the amount of money spent on clean-up, be it protective or not of the ecosystem. Cleaning up the 300 Area to an "industrial clean-up scenario" only supports USDOE's wishes for limited clean-up and clearly violates the reason for your agency's existence-"the Environmental Protection Agency." The "industrial clean-up scenario" adds even more insult to injury by violating MTCA, totally ignores the TRUST RESPONSIBILITY to the sovereign nations, and will not be protective of groundwater or all life.

Specific comments on the proposed plan:

MTCA requires detailed site investigations before clean-up levels are determined. This has not been performed according to MTCA staff experts at the Washington State Department of Ecology. Without adequately characterizing the waste, we can not create a valid assessment of potential impacts or justify an industrial clean-up scenario that is supposed to be protective of the ecosystem.

Method C soil clean-up standards can not be applied without evaluating all applicable pathways (WAC 173-340-740 (4)). All pathways including groundwater must be assessed. The draft plan considers direct exposure to solid waste and contaminated soils as the primary exposure pathway for humans with ingestion and inhalation as secondary and "others" are considered "incomplete or inconsequential." The exclusion of groundwater must not occur and the piecemeal approach of assessing pathways should not continue.

1. Page 1, 2nd column, 2nd paragraph. The second sentence of the paragraph states: "Remedial alternatives for the 300-FF-2 OU waste sites were evaluated based on a reasonably anticipated future industrial land-use scenario and criteria prescribed by CERCLA." Ecology staff have repeatedly commented on the applicability of the Model Toxics Control Act (MTCA) in relation to a site's qualification for Method C soil standards. In particular, under MTCA, a

site does not necessarily qualify for Method C soil standards even if zoned "industrial" property or planned "industrial". All pathways must be evaluated concurrently to ensure Method C or Industrial for soil will be protective of human health and the environment. Soil cleanup standards are derived primarily by consideration of: (a) exposure through direct contact with contaminated soil (through inadvertent ingestion, adsorption through the skin or breathing of dust), and (b) potential for groundwater contamination caused by leaching of contaminants from the soil. Even though the property may be zoned industrial or there is currently industrial usage, Method C soil cleanup standards may not be applied without evaluation of all applicable pathways. The potential for leaching of contaminants into groundwater is unaffected by the land use (e.g., industrial). If the groundwater pathway is not evaluated for protection from soil contamination, then Method C for soil regulatory requirements are not met. Soil cleanup standard needs to be based on protection of groundwater, the industrial soil Method C standard would not apply and a soil standard based on protection of groundwater would have to be determined (WAC 173-340-740(4)). Qualification and application of industrial cleanup levels must be evaluated on a case-by-case basis. And Industrial cleanup standards may not be applied to industrial properties where hazardous substances remaining at the property after remedial action pose a threat to human health or the environment in adjacent non-industrial areas. Given the proximity of the 300 Area both to the nearby Columbia River and to the shallow groundwater. According to the "Reader File" at Ecology, Ecology staff have communicated a belief that MTCA values protective of groundwater are required unless a detailed justification for use of other values can be found. This justification has not been provided to-date.

We hereby request that all of Ecology's "Reader Files" related to the 300 Area clean-up be included in this comment document and be placed in the "Administrative Record".

The 300 Area is close to the Columbia River and the city of Richland's drinking water intake pump. Limited unit-specific source unit and/or contamination characterization has been performed on the 300-FF-2 OU source sites. Uranium leachability studies have not been performed. Defending a clean-up scenario prior to adequate characterization or leachability study is premature and scientifically un-defensible. It has been recommended that Ecology not allow latitude in selecting a cleanup standard that is not protective of groundwater (i.e., that does not strictly follow the MTCA process). Ecology & EPA should start with the "100X groundwater" value of 10.5 mg/kg and require a demonstration of protectiveness to justify use of a higher cleanup value. Such demonstration requirements are consistent with other MTCA cleanup actions throughout Washington State."

Typically, with other MTCA cleanup actions throughout Washington State, an adequate amount of characterization data is obtained **prior** to selecting a soil cleanup level that is higher than the "100X groundwater" value. Here, for the 300-FF-2 OU cleanup actions, very little characterization data exists.

2. Table 3(a). Table 3(a) indicates the preliminary remediation goal (PRG) for uranium is 505 mg/kg with a provision to perform a leach test prior to implementation of remedial actions to verify soil cleanup level is protective of groundwater and river pathways. Information on Ecology's "Reader File" indicates that Ecology staff have recommended that the PRG for uranium should start with 10.5 mg/kg with a provision to perform a leach test prior to implementation of remedial actions. Specifically, the PRG should start with the "100X groundwater" value of 10.5 mg/kg and require a demonstration of protectiveness to justify use of a higher cleanup value. Such demonstrations requirements are consistent with other MTCA cleanup actions throughout Washington State. In other words, the approach as identified by Table 3(a) is directly opposite of what would satisfy applicable MTCA ARARs. .

3. Page 1, 2nd column, 2nd paragraph. The second sentence of the paragraph states: "Remedial alternatives for the 300-FF-2 OU waste sites were evaluated based on a reasonably anticipated future industrial land-use scenario and criteria prescribed by CERCLA." The term "reasonably anticipated" is not associated with or derived from MTCA or RCRA requirements. To the contrary, the term is in direct conflict with fundamental applicable MTCA requirements. Furthermore, the Proposed Plan defers groundwater evaluation and remediation to the 300-FF-5 OU, and as such, does not satisfy applicable MTCA ARARs for justifying the stated "reasonably anticipated" future use scenario. Groundwater in the 300 Area does not meet the criteria in MTCA that eliminates it as a future drinking water source. Groundwater standards shall, by law, be based on the most beneficial use and reasonable maximum exposure expected to occur now and in the future. Considering the half-life of uranium, this is a very long time and we cannot predict what the land use will be in 50 years, let alone 100 years or 500 years. We also must not forget the potential for failure of institutional controls. The most beneficial use at most sites, and certainly in the 300 Area considering its relationship to the Columbia River and Richland, is a source of drinking water unless it can be demonstrated otherwise (WAC 173-340-720).

   WAC 173-340-720 presents two major criteria/demonstrations that must be met for groundwater at a site to qualify for an exposure scenario other than the highest beneficial use requiring the highest water quality for drinking and other domestic uses. The groundwater must be demonstrated not to be a current source of drinking water and not be a future source of drinking water. It may be true that the groundwater under the 300-FF-2 OU does not currently serve as a source of drinking water. No investigation to date that I know of has been performed to allow conclusions to be made as to whether the groundwater beneath the 300-FF-2 OU connects with water pumped from north Richland for drinking water purposes. However, the groundwater within the 300 Area

does not meet any one of the three criteria in MTCA that would eliminate it as a future source of potable water; therefore, it fails the demonstration. Specifically, to eliminate groundwater as a future drinking water source, the 300 Area groundwater must meet one of the three following criteria: 1) the groundwater beneath the site is present in insufficient quantity to yield greater than 0.5 gallon per minute (WAC 303-340-720(1)(a)(ii)(A)), 2) the groundwater contains natural background concentrations of organic or inorganic constituents that makes the groundwater not practicable for drinking and contains TDS at concentrations greater than 10,000 mg/l (WAC 303-340-720(1)(a)(ii)(B)), and 3) the groundwater is situated at a great depth or location which makes recovery of water for drinking water purposes technically impossible (WAC 303-340-720(1)(a)(ii)(C)). To date, USDOE, EPA, or Ecology has failed to demonstrate that the 300 Area groundwater's future highest beneficial use and maximum exposure is not drinking water and that soil and groundwater standards need not be based on this potential future use. In conclusion, the term "reasonably anticipated" is just another way of saying that applicable MTCA ARARs have not been satisfied.

When we consider protection of the environment/ecosystem we must assume that drinking water standards will not be protective of all species. MTCA is the first step in assuring protection, but we must go even further if we are to meet our TRUST responsibility to the sovereign nations. We must be able to prove that our current clean-up strategy will be protective of all species. Currently EPA, USDOE or Ecology could not prove that an "industrial clean-up scenario" is protective and can not demonstrate that the contamination in the vadose zone for as long as it remains hazardous will not impact the groundwater, or impact the ecosystem.

The plan defers groundwater clean-up requirements to 300-FF-5 OU-ROD with almost no justification for separating out the groundwater from the source term. This same strategy of separating out groundwater occurred in the 100 Areas and Columbia Riverkeeper (formerly Columbia River United) objected to this myopic approach to clean-up. Groundwater should not be separated, this approach allows for even more delays in remediating the groundwater and allows for potentially even less clean-up.

In Figure 2 and in the text of the plan, it is explained that the groundwater beneath the two TRU Burial Grounds (618-10 and 618-11 Burial Grounds) and the seven Outlying Source Sites will be addressed in the 300-FF-5 OU. It is understood that the 300-FF-5 OU previously included groundwater beneath 300-FF-1 OU and portions of groundwater beneath 300-FF-2 OU (near and beneath the 300 Area Complex).

The inclusion of groundwater directly beneath the two TRU Burial Grounds and beneath the seven Outlying Source Sites is not supported by the groundwater contamination investigation/characterization performed for the 300-FF-5 OU.

The 300-FF-5 OU investigations primarily focused on uranium groundwater contamination near the 300-FF-1 OU and the 300 Area Complex.

The 300-FF-5 OU investigation is an inadequate investigation and/or characterization on which to base groundwater remedial decisions associated with the two TRU Burial Grounds and the seven Outlying Source Sites.

At the time of the 300-FF-5 OU investigation, the tritium contamination associated with the 618-11 Burial Ground was not acknowledged/known and has thus, not been evaluated by the investigation supporting the 300-FF-5 Record of Decision (ROD).

Public records indicate that uranium groundwater contamination is likely occurring from sources other than 300-FF-1 OU. Specifically, it has been concluded that the source sites are located outside of the uranium groundwater plume, as defined in the 300-FF-5 OU documentation.

The plan explains that the 300-FF-5 OU Operation and Maintenance (O&M) plan (DOE/RL-95-73) will be updated "to ensure that adequate groundwater monitoring requirements and institutional controls are in place." (pages 9 and 10).

The inclusion of groundwater directly beneath the two TRU Burial Grounds and beneath the seven Outlying Source Sites is not supported by the groundwater contamination investigation performed for the 300-FF-5 OU. The updating of the 300-FF-5 OU O&M will not achieve the aquifer contamination investigation/characterization that was performed by the 300-FF-5 Focused Feasibility Study.

Updating the 300-FF-5 OU O&M will only establish monitoring criteria to be performed at certain groundwater monitoring wells. The majority of 300-FF-2 OU source sites do not have dedicated groundwater monitoring networks and as such, unit-specific groundwater monitoring will not occur. If we look to the future it is very misleading to assume that we will have adequate monitoring wells operating 50 years, or even 100 years in the future.

The proposed plan does not indicate that unit-specific groundwater monitoring for the land-based source sites (i.e., burial grounds, cribs, dump sites, surface impoundments, landfills, waste piles, etc.) will be performed. For example, the 618-10 Burial Ground does not have a dedicated groundwater monitoring network. In addition, very little unit-specific source site characterization has been performed for the land-based units.

Although the "Proposed Plan for the 300-FF-2 Operable Unit" (DOE/RL-99-53, Rev. 0) identifies that groundwater monitoring will be conducted, it does not commit to conducting unit-specific groundwater monitoring for all land-based

source sites. Similarly, it does not commit to conducting unit-specific source-site characterization for the land-based units prior to removal activities.

As a result, it appears that remediation decisions for the land-based units are being made with little supporting unit-specific characterization information. It appears that some of the characterization will be completed using the proposed "observational approach" (page 21) whereby the waste will be characterized as the cleanup proceeds.

This approach effectively excludes the public from any participation in, or scrutiny over, the quality of the waste characterizations and associated clean-up actions. In addition, because groundwater remediation and source site remediation activities have been separated, this approach does not satisfy applicable MTCA requirements or relevant and appropriate RCRA requirements.

Columbia Riverkeeper strongly encourages the EPA to adopt the "unrestricted clean-up scenario" for the 300 FF-2-Operable Unit and to clean-up the entire 300 Area to "unrestricted use" because of the close proximity to the Columbia River. If the Tri-Party Agencies want to protect the ecosystem in the future, there is no other alternative other than removing as much waste as possible. We must remember science is just starting to learn about the combined and synergistic effects of these contaminants on life forms. We must consider contaminants from other sources as well as Hanford derived contaminants when we decide how clean is clean for these areas. We must consider the potential biological impacts that may occur for as long as these contaminants remain hazardous. For a lot of these wastes, its well beyond the seven generations.

Sincerely,

Gregory deBruler, Consultant
Columbia Riverkeeper