Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

August 24, 2010

RECEIVED
AUG 27 2010
EDMC

Mr. Matthew S. McCormick, Manager
U.S. Department of Energy, Richland Operations Office
P.O. Box 550, MSIN: A5-11
Richland, Washington 99352

Re: *100-N Area Integrated Groundwater Sampling and Analysis Plan*-DOE/RL-2009-58, *Draft A*
0088571

Dear Mr. McCormick,

The Yakama Nation ERWM Program appreciates the opportunity to review and provide comments on the *100-N Area Integrated Groundwater Sampling and Analysis Plan*-DOE/RL-2009-58, *Draft A*.

The Confederated Tribes and Bands of the Yakama Nation is a federally recognized sovereign pursuant of the Treaty of June 9, 1855 made with the United States of America (12Stat. 951). The U.S. Department of Energy's Hanford site was developed on land ceded by the Yakama Nation under the 1855 Treaty with the United States. The Yakama Nation retains reserved rights to this land under the Treaty.

The Yakama Nation ERWM Program's review comments are enclosed. The Yakama Nation ERWM Program identified four areas of significant concern.

Purpose and Scope:
The Yakama Nation ERWM Program has serious concerns regarding the scope of integration of groundwater monitoring as presented. This Sampling and Analysis Plan does not include an explanation of how activities under this plan relate, and are integrated with actions and results of other 100 Area sampling and monitoring activities.

The approach presented is based on future permit conditions. The Yakama Nation ERWM Program takes issue with decisions based on assumptions. Programmatic decisions must be based on Tribal and public acceptance and negotiated agreements with regulators. There needs to be a more comprehensive analysis of impacts from all 100 Area contaminations.

Characterization of the Vadose Zone and Aquifer:
As proposed, this Sampling and Analysis Plan is inadequate and does not take into account the complex nature of the Columbia River and the interconnectedness of river upwellings and the aquifers. Current data from the River Corridor Baseline Rise Assessment Phase III sampling indicate the presence of constituents of concern/dangerous waste constituents in the river exceeding clean up levels, suggesting deep vadose zone contamination. The soil characterization and groundwater monitoring programs should be expanded to include

upgradient monitoring and sampling with consideration of future influx of contaminants and comingling of plumes from the Central Plateau.

RCRA Treatment, Storage, and Disposal Units:
The approach presented for implementation of alternative requirements for groundwater monitoring applies an individual point of compliance for each RCRA TSD unit independent of other Solid Waste Management Units (SWMUs), utilizes a limited number of wells, and has an incomplete list of constituents of concern/dangerous waste constituents (COCs). The concentration limits proposed do not reflect the most stringent cleanup levels (i.e. hexavalent chromium- for surface waters). These undermine the basic premise of application of alternative requirements for groundwater monitoring – integration of monitoring networks and a single point of compliance (throughout the entire groundwater operable unit) and understanding of the vertical and horizontal extent of all constituent contamination. Furthermore, the groundwater protection standards of WAC 173-303-645(3) have not been satisfied.

The effectiveness of the RCRA corrective action groundwater monitoring program should be based on achievement of the Model Toxics Control Act (MTCA, 2007, as amended) Method B groundwater cleanup levels throughout the entire groundwater operable unit for all constituents. To be able to provide a defensible and technically sound determination, the RCRA TSDs dangerous waste constituents should include all constituents listed for the SWMUs and other areas of concern, and the well monitoring network enlarged.

Tribal and Public Involvement:
The Yakama Nation ERWM Program is concerned that future changes to this integrated plan under the proposed approach will affect the Tribal and public involvement process of WAC 173-303-830/840 and ultimately reduce opportunities to challenge or seek modification of corrective action decisions in the future.

Our June 21, 2010 and June 30, 2010 letters to Ecology and the Tri-Party Agencies stated our concerns and position regarding corrective actions on the Hanford site. The Yakama Nation continues to support the recent Hanford Advisory Board advice (#231) regarding inclusion of corrective action into the Hanford Facility Permit. The Yakama Nation ERWM Program considers this to include activities conducted under WAC 173-303-645 or WAC 173-303-646 corrective actions.

The Yakama Nation ERWM Program looks forward to written comment responses and dialog on these concerns and comments. If you have any questions, please contact Russell Jim at (509) 945-6741, or Wade Riggsbee at (509) 967-5375 or (509) 945-6756.

Sincerely,

Russell Jim, Manager
Yakama Nation
ERWM Program

Enclosures:

Comments on Appendix A
Comments on Chapters 1-7

Cc/enc:

Dennis Faulk, U.S. Environmental Protection Agency
Jane Hedges, Washington Department of Ecology
Susan Leckband, HAB
Ken Niles, Oregon Department of Energy
Gabriel Bohnee, NPT
Stuart Harris, CTUIR
Wade Riggsbee, Yakama Nation ERWM
Dave Rowland, Yakama Nation ERWM
John Beckstrom, Yakama Nation ERWM
Jean Vanni, Yakama Nation ERWM
Administrative Record

Comments on Chapter 1:
Section 1.1-Purpose and Scope:
The first sentence of the first paragraph incompletely combines two different thoughts, too simplistically. When there has been a release affecting groundwater, from a regulated unit, under WAC 173-303, the facility must establish a corrective action program. Ecology specifies the requirements of WAC 173-303-645(11) through the facility RCRA permit. In addition to simply monitoring to track plumes, it must demonstrate the effectiveness of groundwater remediation. This corrective action program must prevent dangerous constituents and parameters from exceeding their respective concentration limits at the compliance point by removing the dangerous waste constituents and parameters or treating them in place.

The second and subsequent paragraphs discuss an approach to govern modifications to this plan through the primary document process of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement [TPA]). The approach is based on as- of- yet to be approved permit conditions. Only one of these (the II.Y.) conditions has been subject to the public review and comment process required of WAC 173-303-830. Other referenced permit conditions are not available (even in draft form) for reader clarification.

The process to determine the applicability of use of alternative requirements for groundwater monitoring has not been open or transparent. The technical basis for this decision has not been provided nor supporting documentation referenced. Furthermore, it is stated that "Ecology finds that the characterization, remedy selection, and final remedy expected for the 100-NR-2 groundwater operable unit will be equally protective compared to unit-specific groundwater monitoring that would otherwise be in place under WAC 173-303-645." ***The Yakama Nation ERWM Program takes issue with any assumptions based on undetermined future decisions.***

There is a lack of groundwater monitoring units for the 100-NR-1 Solid Waste Management Units (SWMUs). While Chapter 6 (100-NR-1 Solid Waste Management Units) identified seven sites where there had been releases, there are or were a total of 81 sites requiring remedial action. These are grouped based on the predominant waste type: Radioactive Waste (37 sites), Petroleum Waste (22 sites), Inorganic Waste (6 sites), Burn Pit Waste (6sites), Surface Solid and Miscellaneous Waste (9 sites), and the river shoreline. The petroleum sites have significantly impacted groundwater (over ~ 100,000 gals) and will require corrective action (including monitoring) via the RCRA permit in accordance with WAC 173-303-646(2). While accurately stating remediation of some of these sites met the Interim Action Record of Decision (ROD) cleanup levels, these cleanup actions still exceed groundwater protection cleanup levels anticipated for the final ROD under the Model Toxics Control Act (MTCA, 2007, as amended). RCRA corrective actions requirements for these SWMUs are not met in this SAP.

The Yakama Nation ERWM Program is not completely adverse to the appropriate application of alternative requirements for groundwater monitoring of RCRA TSDs. The Dangerous Waste Regulations, and Ecology's authority to implement them, require cleanup actions to be as stringent or more as the Federal regulations. Likewise, we anticipate that the final revision of this SAP (DOE-RL-2009-58) will support this premise and also reflect/incorporate our comments.

We do not support elimination of our opportunities to comment on changes to groundwater monitoring or Sampling and Analysis Plan(s) modifications by removal of TSD Sampling and

Analysis Plans from the RCRA permit under the guise of doing corrective actions according to the II.Y Condition. We do not support the proposed changes to the II.Y Conditions. We request DOE develop a matrix identifying the sections enforceable under the RCRA permit and subject to the WAC 173-303-830/840 process. We suggest the following be subject to the RCRA modification process:

1. Changes related to the 100-N Area Integrated Groundwater Sampling and Analysis Plan-DOE-RL-2009-58 (including changes in aquifer tubes, wells, Contaminants of Concern, sampling frequency, etc)
2. Changes related to the 100-NR-2 OU Interim Remedial Action –Apatite Barrier
3. Changes related to the 100-NR-2 OU Long-term Monitoring
4. Changes related to the Quality Assurance Project Plan
5. Changes to the Groundwater Monitoring Plan for the 100-NR-1 Solid Waste Management Units
6. Changes to the Groundwater Monitoring Plan for the 100-N-Area Regulated TSD units [1301-N, 1325-N, 1324-N/NA]
7. Acceptance of the *Integrated 100 Area Remedial Investigation/Feasibility Study Work Plan, Addendum 5: 100-NR-1 and 100-NR-2 Operable Units* (DOE/RL-2008-46-ADD-5).

Comments on Section 1.2-History of Groundwater Monitoring
Exceedances and groundwater impacts are noted along with decisions to not do corrective action based on 'influences of upgradient facilities or of constituents not listed in 40 CFR 264, Appendix IX.' The statistical analysis performed does not seem to have met the requirements of WAC 173-303. Nor does it seem that DOE has performed its obligations under WAC 173-303-645(10)(g).

The Yakama Nation ERWM Program continues to be concerned about the path forward for soil and groundwater remediation on the 100-N Area waste site. Groundwater protection standards of WAC 173-303-645(3) must be satisfied. Any proposed groundwater monitoring plan/program (including well network) must, at a minimum be designed to detect all dangerous waste constituents at the point of compliance.. We propose 'points of compliance' are established in the following locations: Immediately adjacent to the RCRA TSD units, throughout the entire plume, the confined aquifer, the unconfined aquifer, and in the river. For a more complete understanding of these concerns, see our letters to the Tri Parties dated June 21, 2010 and July 20 2010.

Comments on Chapter 2: Geology, Hydrogeology, and Groundwater Chemistry:
Section 2.3: Groundwater Chemistry
Under the Dangerous Waste Regulations of WAC 173-303-646(2), corrective action is required regardless of the time at which waste was managed at the facility or placed in such units and regardless of whether such facilities or units were intended for the management of solid or dangerous waste. ***The Yakama Nation ERWM Program requests nitrates are identified as dangerous waste constituents for the RCRA TSD units. The Yakama Nation ERWM Program requests the wells identified in Figure 5-2 be added to the monitoring network for these units.***

Well number 199-N-80 consistently exceeds the drinking water standard for chromium. Yet the rationale for sampling purpose is identified as to confirm to Sr-90; monitor deep tritium rather than any chromium issues. This well is not included in the monitoring system for the 1301-N TSD

unit for which it is closely associated and down-gradient. In their April 16, 2009 letter to Mr. Mark French, Ecology stated "Chromium concentrations in groundwater at wells located near and immediately downgradient to the 116-N-1 (1301-N) surface impoundment (e.g., 199-N-80, 199-N-56, and 199-N-3) have exceeded and continue to exceed the 48ug/L groundwater cleanup level (WAC 173-303-720(4)).

Due to the uncertainty associated with exceedances for chromium of the drinking water standards, and exceedances of the 2007, as amended, MTCA soil cleanup levels for field remediation of the 116-N Stack and filter-house tunnels, the Yakama Nation ERWM Program requests the 199-N-80 well be included as a part of the 1301-N RCRA TSD groundwater monitoring network. See comments on Chapter 4 for more clarification regarding the groundwater monitoring network.

Comments on Chapter 3-Monitoring Wells:
As proposed, this Sampling and Analysis Plan is inadequate in that it does not take into account the complex nature of the Columbia River and the interconnectedness of river upwellings and the aquifers. Current data from the River Corridor Baseline Rise Assessment Phase III sampling notes the presence of constituents of concern/dangerous waste constituents in the river exceeding clean up levels, suggesting deep vadose zone contamination. ***The Yakama Nation ERWM Program requests the soil characterization and groundwater monitoring programs be expanded to include more rigorous aquifer(s) characterization with placement of additional wells downgradient to define the nature and extent of contamination in the aquifer(s) and into the river.***

Comments on Chapter 4: RCRA Treatment, Storage, and Disposal Units:
The Yakama Nation ERWM Program recommends that DOE edit text to remove sentence regarding discussion as to the permitting structure of the 100-N Area RCRA Treatment, Storage, and Disposal Units (TSDs) and entitles all these units as Surface Impoundments.

Section 4.1: Objectives and Approach for RCRA TSD Monitoring:
General Comments:

1. While this section discusses Ecology's use of an alternative approach for RCRA Groundwater Monitoring allowable under the Dangerous Waste Regulations of WAC 173-303-645(1)(e)(i), statements are made which are over-simplistic, incomplete.

2. Further, it is stated that "Ecology finds that the characterization, remedy selection, and final remedy expected for the 100-NR-2 groundwater operable unit will be equally protective."

If this is a true statement, Ecology <u>is</u> prospectively agreeing to a course of action as yet to be determined, <u>nor</u> for which has there been the opportunity for public involvement/comment by the Tribes or other Stakeholders. ***The Yakama Nation ERWM Program takes issue with any assumptions based on undetermined future decisions. The Yakama Nation ERWM Program requests clarification as to exactly what is the expected final remedy for the 100-NR-2 groundwater operable unit. Furthermore, the Yakama Nation ERWM Program requests clarification on the Public Involvement process and when there will be opportunities to comment on the 'expected final remedy for the 100-NR-2 groundwater operable unit.'***

3. As stated, the objective of RCRA TSD groundwater monitoring being established under this Sampling and Analysis Plan (DOE/RL-2009-58, DRAFT A) is to implement a corrective action program under WAC 173-303-645(11). Under these regulations, the monitoring program may be based on the requirements for a compliance monitoring program under Subsection 10 (of WAC 173-303-645), and must be as effective as that program in determining compliance with the groundwater protection standard under Subsection 3 (of WAC 173-303-645), and in determining the success of corrective action program under WAC 173-303-645 (11)(e). ***As currently presented in this SAP, the requirements of WAC 173-303-645(10) have <u>not</u> been fully or sufficiently met, particularly portions of Subsection 8 regarding number of wells, number and size of samples, frequencies of sampling, etc. to ensure with reasonable confidence that a contaminant release to groundwater from a facility will be detected (see related comment on need to establish background levels); and Subsection 11 regarding conducting a corrective action program which will demonstrate compliance with groundwater protection standards down-gradient and beyond the facility(facilities) boundary.***

4. To state "the groundwater will be declared to have met the "remove or decontaminate" standard (clean closure) for the TSD units" is misleading and incorrect.

5. In accordance to WAC 173-303-610(3), RCRA TSD units are required to have a Closure Plan which includes a detailed description of their groundwater monitoring plan. WAC 173-303-806(4) further defines required additional informational requirements regarding groundwater protection. Development of a Sampling and Analysis Plan is only a portion of a groundwater monitoring plan. The 100-N Area RCRA TSDs currently have a groundwater monitoring plan (PNNL-13914). Changes to or from this plan are subject to the WAC 173-303-830 modification process. It is incorrect to state this SAP will replace RCRA TSD groundwater monitoring simply through Ecology or DOE approval.

It is anticipated by the Yakama Nation ERWM Program that Ecology will impose the MTCA 2007 (as amended) standards to the closure of the RCRA TSD units at 100-N and also when evaluating the final cleanup levels for the Solid Waste Management Units at 100-N. The Yakama Nation ERWM Program requests DOE edit this paragraph to accurately reflect the WAC 173-303 TSD 'Clean Closure' process rather than stating or implying future decisions by Ecology regarding the 100-N Area TSD units or delete it. We expect to have the opportunity to comment on closure performance standards with the reissuance of the Hanford Facility RCRA permit and that a statement acknowledging this fact be included in this SAP.

Section 4.3: Groundwater Monitoring Network and Point of Compliance:
This sampling plan is designed to support use of Alternative Requirements for RCRA groundwater through separate and individual points of compliance for each RCRA TSD unit. MTCA (WAC 173-340) applies a point of compliance throughout the groundwater operable unit. ***As such, the Yakama Nation ERWM Program believes any groundwater monitoring plan developed under an approach using alternative requirements would need to establish background levels for all naturally occurring contaminants whose background value is above MTCA 2007(as amended) groundwater cleanup values to ensure with reasonable confidence that a contaminant release to groundwater from a facility will be detected. The Yakama Nation ERWM Program requests text edits to reflect this. Provide rationale for not establishing these background levels. See additional related comments on Section 4.8.***

Additionally, The Yakama Nation ERWM Program understands this to mean the 100-N Area Integrated Groundwater Sampling and Analysis Plan will contain a groundwater monitoring network consisting of the appropriate number, location of wells, sampling efforts and, analysis of a complete list of constituents (dangerous waste constituents) to be able to determine compliance with concentration limits throughout the entire groundwater operable unit. Again, having three separate points of compliance for the RCRA TSD units defeats the underlying premise of application of alternative groundwater monitoring requirements, is inconsistent with the Hanford Groundwater Strategy.

As previously noted, the Yakama Nation ERWM Program suggests points of compliance be established at the following locations: immediately adjacent to the TSD unit, throughout the plume, in the unconfined aquifer, in the confined aquifer and, in the river. If there are to be separate points of compliance, the Yakama Nation ERWM Program requests DOE develop individual TSD unit groundwater monitoring plans which meet WAC 173-303-645 RCRA monitoring objectives (including upgradient wells) and provide these for public and Tribal review and comment.

The Yakama Nation ERWM Program understands the limits of regulatory authority of the State, however, nitrate, sulfate, manganese, tritium, strontium-90, and petroleum hydrocarbons, are subject to RCRA as primary contaminants originating from these RCRA TSD units. Tritium and SR-90 included as 'tracers.' ***Therefore, the Yakama ERWM Program requests Tables 3-1 and 4-1, and Figures 3-1, 5-1, 5-2, 5-3, 5-4 are updated to include and designate the following wells as RCRA groundwater monitoring wells.***

Requested wells:
199-N-1, 199-N-2, 199-N-3, 199-N-14, 199-N-16, 199-N-18, 199-N-19, 199-N-21, 199-N-26, 199-N-27, 199-N-28, 199-N-29, 199-N-34, 199-N-50, 199-N-56, 199-N-57, 199-N-64, 199-N-74, 199-N-80, 199-N-96A, 199-N-99A, 199-N-173, and 199-N-106A.

Utilizing an appropriate number of Interim Action Monitoring (IAM) Apatite Barrier monitoring wells (unidentified) seems prudent in further defining the extent and nature of contaminant plumes for the other contaminants of concern and provide information that can be used to help determine a final groundwater remedial action. ***The Yakama Nation ERWM Program recommends inclusion of an appropriate number (and appropriate location) of IAM monitoring wells.***

Section 4.4: Dangerous Constituents: Sections 4.4.1, 4.4.2, 4.4.3:
Regardless of whether a dangerous constituent is listed on the Part A for the 100-N Area TSD units (1301-N, 1325-N, 1324-NA and 1324-N), WAC 173-303-645(4)(a)provides for inclusion of other constituents that may be or have been detected in groundwater in the uppermost aquifer underlying a regulated unit, including those reasonably expected to be in or derived from waste contained in these regulated units. Furthermore, the following may also be specified in the permits; indicator parameters (e.g. specific conductance, pH, total organic carbon, total organic halogen, or heavy metals), waste constituents or reaction products identified under detection monitoring programs that provide a reliable indication of the presence of dangerous constituents in the groundwater.

Review of groundwater data and comparison of up-gradient groundwater quality to down-gradient groundwater quality has indicated increases in down-gradient concentrations for other constituents. The Yakama Nation ERWM Program requests indicator parameters, conductivity, temperature, turbidity, and alkalinity be evaluated as well as the following additional constituents (dangerous waste constituents) be included in Table 4-1, using analytical methods as listed, and unfiltered sampling performed. The Yakama Nation ERWM Program also recommends sampling frequencies be quarterly for at least two years with subsequent evaluation for consideration of reducing sampling frequencies to semiannually:

Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, total chromium, copper, iron, lead, manganese, magnesium, nickel, potassium, selenium, silver, strontium, thallium, tin, vanadium, zinc as reported by Method 6010, hexavalent chromium as reported by Method 7196, Hg as reported by Method 7471, chloride, fluoride, nitrate, nitrite, phosphate, and sulfate as reported by Method 9056 (Inorganic Anions by IC). Americium-241 as reported by Isotopic-Am, cesium-137, cobalt-60, and europium-154/155 as reported by GEA. Nickel-63 as reported by LSC, Plutonium-239/240 as reported by Isotopic-Pu. Total uranium as reported by Alpha spectroscopy. Tritium as reported by EPA 906.0. Gross alpha/beta as reported by EPA 900.0. Strontium-90 as reported by GFP. Total Petroleum Hydrocarbons as reported by WTPH-Dx. ***We question the absence of sampling for PAHs and request clarification on this issue.***

Section 4.5: Concentration Limits:

WAC 173-303-645(5)(b) has been misinterpreted in its application. It is only after it has been determined that the constituent(s) will not pose a substantial present or potential hazard to human health and the environment that an alternate concentration limit will be established. The Yakama Nation ERWM Program believes it is the obligation of DOE to ensure soil and groundwater cleanup/remediation actions will result in the most beneficial use to the maximum extent practicable for both these media (including surface waters). ***The Yakama Nation ERWM Program believes use of the most protective and more stringent concentration limits (i.e. cleanup levels) should be employed. Use of the concentration limit cited in Table 4-1 for hexavalent chromium is unacceptable. The Yakama Nation ERWM Program requests Table 4-1 is edited to reflect 10ug/L for hexavalent chromium. Provide the rationale for use of 48ug/L as opposed to 10ug/L (AWQS) for hexavalent chromium which is more protective of Tribal cultural resources in the River.***

The Yakama Nation ERWM Program requests DOE ensure the following standards are used to establish concentration limits for RCRA TSD groundwater monitoring.

1) WAC 173-340-720[Method B calculation tables]
2) 40 CFR 141 and 143 [Safe Drinking Water Act of 1974 (SDWA) levels]
3) Federal Water Pollution Control Act of 1977 and Water Quality Standards
4) WAC 173-201A [Water Quality Standards for Surface Water of the State of Washington]
5) WAC 173-201A-040
6) Ecological screening levels listed in WAC 173-340-900 (Table 749-1)

Section 4.7: Compliance Period:

While citing the correct WAC 173-303-645 regulations, the text has been either been poorly worded, parsed, or implies all closure actions required have been completed, appropriate closure documentation submitted and approved by Ecology. *All discussion of closure status of TSD units and establishment of a corrective action monitoring plan separate from the final*

permit renewal process (i.e. the opportunity for public comment on the entire draft permit-including review of Closure Plans) is misleading and erroneous.

Section 4.8: RCRA Data Evaluation:

The Yakama Nation ERWM Program notes use of *limits of quantitation (LOQ)* rather than the more familiar terms of *practical quantification limits (PQLs)* identified in WAC 173-303-645(8). ***The Yakama Nation ERWM Program requests clarification as to why this approach is presented. Additionally, the Yakama Nation ERWM Program requests clarification on what additional actions may be taken if results of the confirmation process remain inconclusive.***

Comments on Chapter 5: 100-NR-2 Groundwater Operable Unit:

As proposed, this Sampling and Analysis Plan is inadequate and does not take into account the complex nature of the Columbia River and the interconnectedness of river upwelling and the aquifer. Current data from the River Corridor Baseline Rise Assessment Phase III sampling note the presence of constituents of concern/dangerous waste constituents in the river exceeding clean up levels, suggesting deep vadose zone contamination. ***The Yakama Nation ERWM Program requests the soil characterization and groundwater monitoring programs be expanded to include upgradient sampling with consideration of future influx of contaminants and comingling of plumes from the Central Plateau.***

Additionally, the Yakama Nation ERWM Program submitted comments on DOE/RL-2008-46-ADD 5 and its SAP, DOE/RL-2009-42. *We anticipate our concerns and requests to be addressed and reflected within this document (DOE/RL-2009-58, DRAFT A), as appropriate.*

Comments on Section 5.1-Interim Action Monitoring (Apatite Barrier):

The Yakama Nation ERWM Program submitted comments on the Proposed Plan for Amendment of 100-NR-1/NR-2 OU Interim Action Record of Decision-DOE/RL-2009-54, Revision 0 and the Treatability Test Plan for Apatite Permeable Reactive Barrier Extension for the 100-NR-2 Operable Unit. Both spoke to our concerns regarding Sr-90 and Total Petroleum Hydrocarbons. *We anticipate our concerns and requests to be addressed and reflected within this document (DOE/RL-2009-58, DRAFT A), as appropriate.*

Comments on Section 5.2-Long-Term Monitoring: We are particularly concerned with the limited list of constituents of concern/dangerous waste constituents to be samples and analyzed and the frequency of sampling.

Comments on Chapter 6: 100-NR-1 Solid Waste Management Units:

"Active" waste management areas listed in Appendix C of the Hanford Federal Facility Agreement and Consent Order (TPA) were identified with no groundwater monitoring requirements, subject to final Record of Decision actions. By definition (WAC 173-303-040), solid waste management units include spills and other areas where solid wastes have been placed at any time, irrespective of whether the location was intended for the management of solid or dangerous wastes . ***The Yakama Nation ERWM Program requests <u>all</u> 100-NR-1 waste sites listed in Appendix C of the TPA be identified in Chapter 6 and the rationale for not performing groundwater monitoring be provided. The Yakama Nation ERWM Program anticipates all final closure decisions will be based on achievement of the Model Toxics Control Act (MTCA) 2007 (as amended) standards.***

Comments on Chapter 7: Quality Assurance Project Plan:

Section 7.1.1.1-Regulatory Project Manager: The Yakama Nation ERWM Program recognizes the limited role of the project managers to approve minor changes to Sampling and Analysis

documents (i.e. SAPs) during Unit Manager Meetings between the Tri-Party Agencies. The Yakama Nation ERWM Program believes these changes to be limited to those types RCRA modifications identified per WAC 173-303-830 as "Class 1" modifications. Changes other than those listed as such in WAC 173-303-830 are considered significant modifications to the Sampling and Analysis Plan. ***The Yakama Nation ERWM Program does not support elimination of opportunities for review and comment on changes to Sampling and Analysis Plan(s). The Yakama Nation ERWM Program requests clarification of the roles and decision-making authority (including examples of changes possible under their position) of project managers. The Yakama Nation ERWM Program requests this information be included within this 100-N Area Integrated Groundwater Sampling and Analysis Plan.***

Section 7.1.4-Quality Objectives and Criteria:

It is unclear how, or whether, the data quality objectives process (DQO) for 100-N Area groundwater operable unit (100-NR-2 OU) has been completed to support the Quality Assurance Project Plan. ***The Yakama Nation ERWM Program requests a brief explanation of the outputs of the DQO process to determine the number of samples taken and analyzed is included in this section and a reference to the data provided. The Yakama Nation ERWM Program requests clarification as to how the TPA requirements of Section 6.5 (conduct QA/QC and sampling and analysis activities in accordance with EPA document Guidance for the Data Quality Objectives Process-EPA/600/R-96/055)(QA/G-4) 2000 as revised, was met or will met.***

Section 7.1.6-Documents and Records:

As previously stated, the Yakama Nation ERWM Program does not support significant changes to this SAP without appropriate review and comment opportunities. Table 7-1 gives examples of such actions we believe require review by the public. ***The Yakama Nation ERWM Program requests this section be rewritten to be consistent with and according to WAC 173-303-830 requirements.***

Section 7.2-Section B: Data Generation and Acquisition:

The Yakama Nation ERWM Program supports use of the most stringent cleanup levels for groundwater. This includes application of cleanup levels protective of surface waters and our Tribal cultural resources in the River. The Yakama Nation ERWM Program requests additional clarification on the following:

- How precision, bias, and sensitivity as data quality indicators were used in establishing quality objectives of this SAP.
- What number or percentages of valid measurements are needed to meet sampling objectives?.
- What are the corresponding standard procedures and work packages and will these be available for review and comment?

Section 7.2.1-Sampling Process Design-Experimental Design: ***See comments on Chapters 3 & 4.***

Section 7.2.6.2-Laboratory QC Samples: Description of QC checks outside of control limits as discussed in Section 7.4 is inadequate per EPA guidance. ***The Yakama Nation ERWM Program requests additional information is included in this SAP.***

Section 7.2.6.3-Quality Control Requirements:

- It is unclear why spiking concentrations could range from the detection limit to the upper limit of concentrations. Shouldn't the aim be to spike at a concentration approximately equal to the concentration in the sample prior to sampling? ***The Yakama Nation ERWM Program requests further clarification on this issue. Clarify whether matrix spike results and laboratory blanks will be used to correct sample results. Clarify if surrogate compounds will be included in spike analysis.***

- Table 7-5: Double-Blind Standard Constituents and Schedule: It is unclear why percent relative standard deviation (% RSD) is, with the exception on Nitrate, the same as the relative percent difference (RPD) for the field duplicates for these constituents. Shouldn't %RSD be less? ***The Yakama Nation ERWM Program requests clarification.***
- ***The Yakama Nation ERWM Program requests additional clarification as to what types of procedures will be used for conducting investigations for double-blind standards that are outside of acceptance limits.***
- ***The Yakama Nation ERWM Program requests additional sampling within the sampling quarter for those samples that have exceeded required holding times.***
- ***The Yakama Nation ERWM Program requests additional description is included to identify additional procedures to be followed to correct or compensate for QC problems if they occur.***

Section 7.4.1 & 7.4.2-Data Review, Verification, and Validation; - Verification and Validation Methods: . *The Yakama Nation ERWM Program suggests Ecology publication# 04-03-030, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies, Section 13-Data Verification and Validation as an additional resource.*

Section 7.4.3-Reconciliation with User Requirements: Description of the Data Quality Assessment process as discussed is inadequate. ***The Yakama Nation ERWM Program requests DOE edit this section to reflect guidance per Ecology publication# 04-03-030, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies, Section 14-Data Quality (Usability) Assessment.***

Comments on Appendix A:

The Yakama Nation ERWM Program requests all wells installed for apatite injections be included in Table A-1.

Provide rationale for not surveying elevation of wells N-128 through N-156.