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GENERAL COUNCIL  
and  
BOARD OF TRUSTEES



6 January 1995

CONFEDERATED TRIBES  
of the  
*Umatilla Indian Reservation*

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John Wagoner, Site Manager  
U.S. Department of Energy  
P.O. Box 550  
Richland, Washington 99352



Subject: CTUIR CONCERNS ABOUT PROGRESS ON COLUMBIA RIVER  
COMPREHENSIVE IMPACT ASSESSMENT

Dear Mr. Wagoner:

Technical staff of the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) recently brought to my attention that they are increasingly concerned about the lack of meaningful progress being made on the Columbia River Comprehensive Impact Assessment (CRCIA). I shouldn't have to remind you that this is an extremely high visibility issue with critical implications to the Tribes' interests, rights, and responsibilities, in addition to comprising an important symbol of DOE's fulfillment of its trust responsibility to tribes. Not only is this project on the fast track in terms of needing to meet a whole series of near-term Tri-Party Agreement (TPA) milestones, but its completion in a comprehensive and objective manner is of paramount importance to the CTUIR.

The purpose of this letter is to outline three principal concerns associated with the extremely limited progress being made in the Assessment, which is largely a result of confusion, misunderstanding, and inaction on the part of DOE and contractor staff now controlling the process. We also transmit copies of previous CTUIR documents that summarize our involvement and interests in the Columbia River Assessment process and outcome, of which some DOE staff are not aware. These documents provide a basic overview of the history of CTUIR involvement in Columbia River issues, and should comprise a useful summary of tribal issues and goals for the many new DOE and contractor staff now involved in the Assessment process--a process originally envisioned to be open and interactive. Please distribute these documents to those staff involved with the Columbia River Assessment as a reminder to your staff of CTUIR interests and efforts on the Assessment over the past year.

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The focus of our concerns centers on three principal considerations.

- First, consultation with Tribal representatives concerning progress on the Assessment has become less frequent and less effective throughout 1994.
- Second, some critical DOE representatives have an unrealistic and inaccurate perspective on the nature, scope, and intended purpose of the Assessment, as it was defined by tribes, regulators, stakeholders, and other interested parties following failure of the 1993 Columbia River Impact Evaluation Plan (CRIEP), almost exactly one year ago. EPA and Ecology have recently drafted an appropriately comprehensive scope and goals for the Assessment that further defines and clarifies each major and interim milestone, and includes a rigorous and specific schedule for completion of all phases of the Assessment by September 1996. The CTUIR believe that this proposed change package must be fully integrated into the TPA--and that the proposed project must be fully funded so that it can meet the proposed schedule.
- Third, sufficient funding to satisfactorily complete a comprehensive assessment within the designated time frame is being haphazardly juggled and diverted to other projects by middle-level DOE managers, or is not being managed efficiently and applied to the most direct issues at hand by contractors. This excessive discretion and misdirection of funding is thwarting a widely supported and agreed upon project and represents a direct violation of previous DOE commitments, TPA commitments, and commitments to tribes.

## CONSULTATION

The importance of cultural and natural resources of the Columbia River ecosystem to tribes cannot be overestimated. Our 1855 treaty preserves and protects our intimate historical and cultural relationships with this ecosystem, and imposes trustee responsibilities upon the U.S. government. In numerous meetings and comment documents over the past two years, CTUIR staff have consistently identified the integrity and health of the Columbia River system as of the utmost importance to tribes. *In fact, recall that the Columbia River Assessment was chosen as the issue that would serve as a yardstick to measure the effectiveness of government-to-government consultation between Secretary of Energy Hazel O'Leary, DOE-Richland, and the CTUIR Board of Trustees.*

The CTUIR recognized a considerable improvement in DOE's consultation efforts in late 1993 and early 1994, to the point that Chairman Sampson publicly commended DOE's efforts to Secretary O'Leary at the Hanford Summit II in June. *Since that high point, however, DOE has increasingly failed to coordinate and consult with the Tribes on any substantive issues associated with the Columbia River Assessment.* A contributing factor has been the high turnover and transfer rate within DOE, which has led directly to a loss of institutional

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memory, failure to follow through on previous commitments made by departing staff, and has created a continuing need to reeducate a steady flow of incoming DOE staff. Moreover, those DOE (and especially PNL) staff who have been around since last winter's reformulation of the Assessment have shown little receptivity to then-agreed upon tribal involvement in the process. In the interests of cost effectiveness and avoiding unnecessary duplication of efforts and backtracking, internal mechanisms must be devised to create the necessary outreach, memory, and tracking ability within DOE and its contractors.

The release of the Data Compendium (PNL-9785) in May, 1994, marks the last time DOE consulted with CTUIR technical staff on the progress being made in the Assessment. Has nothing else occurred since May?? DOE and its contractors engaged in the completion of the Assessment have an obligation to proactively consult with the Tribes on all issues of concern to the Tribes *throughout* the Assessment process. This includes issues such as the ongoing (is it?) evaluation of thousands of pertinent or potentially pertinent documents and the development of a list and screening criteria for contaminants and species of concern. It is simply not possible for CTUIR staff to ask for consultations if we are not informed about what activities are being conducted upon what schedule. CTUIR staff have repeatedly stated that it is inappropriate for DOE or its contractors to produce a document and then expect us simply to comment on it. From the beginning and in proactive fulfillment of the DOE Indian Policy, the Tribes' intent consistently has been that this Assessment be an *interactive process* that includes discussions and information exchange all along the way, not just at the end. 36131

A single example illustrates the seriousness of the increasing consultation problems that CTUIR staff have faced in recent months. In numerous documents (see Attachments), CTUIR staff repeatedly have expressed the desire to be closely involved in sediment and spring/seep sampling programs along the Reach, issues which may critically impact important tribal resources. Despite this ongoing effort, CTUIR staff were given only two days notice to "participate" in this past fall's sediment sampling program--and this invitation came from a representative of the Washington State Department of Health, not DOE or PNL.

Furthermore, even though a sediment sampling plan outlining protocol and sampling locations had been developed in advance and CTUIR staff had specifically requested input to this plan, we received only a few pages of the plan by fax just two days before the sampling was scheduled to begin--and that only after several requests. PNL staff eventually faxed us a map, but not until several days after the sampling began. The table describing proposed sampling locations was so generalized that it was of little use to us in assessing the technical merits and "representativeness" of the proposed sampling plan. But the point was already moot: CTUIR staff were told by a DOE representative that any comments we provided would not be incorporated into the plan given the impending start of sampling. Finally, and again in spite of repeated requests, CTUIR staff have yet to receive any of the results of this sampling, even though regulators already have received and are evaluating some results.

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#### PURPOSE AND SCOPE

The Columbia River Assessment must be truly "comprehensive" in both time and space in order to fulfill its intended purpose. It is emphatically *not*, as stated by some DOE representatives in a recent public meeting, only a "snapshot" of the current condition of the river alone, which could be summarized from only the most recent monitoring data. In fact, such an interpretation is in direct conflict with the stated goals and scope attached to the proposed draft (12-14-94) M-15-80 milestone change package (see Attachment). This list emphasizes the breadth, depth, and wide ranging scope and goals of the Assessment, which are fully consistent with tribal, stakeholder, and regulator direction and fully inconsistent with what is apparently DOE's much more narrow and limited interpretation. Because of DOE's critical role in coordinating completion of the Assessment, it is essential that DOE (and PNL) understanding of the scope, purpose, and goals of the Assessment be fully consistent and in synch with that of tribes, natural resource trustees, and regulators.

#### NECESSARY FUNDING COMMITMENT

Where has all the money gone and what does DOE have to show for it?? About \$600,000 was spent in FY93 to complete the totally flawed CRIEP. Another approximately \$500,000 was spent in FY94 and, so far as we can tell, the only real product was the Data Compendium. Now we're told that only about \$300,000 is available for FY95--the period when the bulk of the research, analysis, and synthesis will be completed--but that much of this has already been spent by PNL and little evaluation has been accomplished. It seems that a considerable amount of time--and money--will still be required to review the hundreds, if not thousands, of pertinent or potentially pertinent documents *in advance of* analysis and report preparation.

Hundreds of thousands of dollars already have been squandered with very little to show for it --a recurring theme at Hanford. A realistic budget must be developed as an integral part of the proposed change package, and then adequately funded so that the Assessment will be fully completed within the designated time frame. The available dollars must be efficiently spent, and project managers must take full responsibility and provide accountability for their decisions and actions.

CTUIR staff are concerned that a cursory overview of only a few or even a few hundred documents may now be all that is planned by DOE and PNL to comprise the basis of the Assessment. We wish to state at the outset that this is simply not acceptable, as it is just not possible to know if documents contain valuable or pertinent information from screening titles alone or without a careful review of the contents of reports. Moreover, the Assessment must be sufficiently comprehensive and technically defensible to stand up to wide ranging concerns

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from a broad spectrum of diverse interests. A careful review and forthright addressing of all comments received in response to last year's CRIEP would comprise a good starting point for issues that must be addressed in the CRCIA. CTUIR staff share the widely expressed reservations about the independence, objectivity, and credibility of PNL to accomplish the identified tasks, especially given their entrenched 30-year history at Hanford, consistent underestimation of the hazards and risks Hanford activities and environmental conditions pose, and vested interests in the process and the outcome.

CTUIR staff support the creation of an independent peer review panel to critically review the resulting Assessment and identify all the inherent assumptions, uncertainties, deficiencies, and limitations. Although supporting completion of such an independent outside review, the CTUIR will not, however, automatically support or rubber stamp the conclusions of any panel's review process. The CTUIR will continue to reserve the right, and in fact expect, to conduct an independent review of the resulting Assessment, including the process that leads to its completion. The CTUIR is uniquely fortunate to now possess staff with both multi-disciplinary analytical capabilities and a fundamental understanding of tribal treaty-reserved rights and the federal government's trust responsibility. This understanding is both largely missing and generally unappreciated outside of tribal organizations. This combination of abilities will be essential to fully protect CTUIR interests, rights, and responsibilities.

## CONCLUSION

CTUIR staff strongly support completion of an objective and *truly comprehensive* Columbia River Assessment that: 1) is based on an open, interactive process involving tribes at all stages of the process, 2) directly incorporates tribal issues, and 3) meaningfully addresses and resolves tribal concerns prior to making decisions.

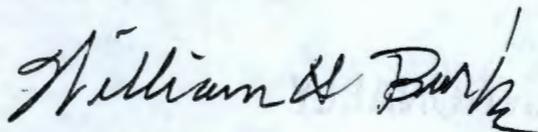
- First, such an accomplishment will require frequent consultation with tribal representatives and, at all stages along the way: 1) a free exchange of information, 2) cooperative development of analytical approaches and screening criteria, 3) cooperative development of risk scenarios that fully represent unique tribal lifestyles, exposure pathways, and tribally important food or cultural resources, and 4) upfront recognition and delineation of the inherent limitations, assumptions, and uncertainties that characterize any "risk assessment."
- Second, the Assessment must be truly comprehensive in scope and purpose, as outlined in the M-15 TPA milestone change package proposed by regulators, and must be fully embraced and proactively supported by DOE representatives, as well as tribes, regulators, and stakeholders, in order to succeed.

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• Finally, the mishandling of funding appropriated for completion of the Assessment, either by DOE managers desperate to balance budgets or by unfocused PNL researchers, must not be permitted to thwart milestones agreed to by the Tri-Parties and supported by the Tribes. Whether advertently or inadvertently, middle-level DOE managers are scuttling what the CTUIR believe were clearly defined direction and firm commitments by DOE-HQ and DOE-RL policy makers. Because this Assessment will play a critical role in both characterizing river conditions and developing Columbia River corridor remediation goals, adequate funding must be preserved for, or if necessary, restored to this project in order to ensure that the full range of agreed upon goals and objectives will be met.

Sincerely,



William H. Burke

Treasurer  
 CTUIR Board of Trustees

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cc: Donald Sampson, Chairman, CTUIR Board of Trustees  
 Michael Farrow, Director, CTUIR Department of Natural Resources  
 J.R. Wilkinson, CTUIR Hanford Projects/Program Manager  
 Rick George, CTUIR Environmental Planning/Rights Protection Program Manager  
 Jeff Van Pelt, CTUIR Cultural Resources Program Manager  
 CTUIR Hanford Projects Staff  
 Russell Jim, Yakama Nation  
 Donna Powauke, Nez Perce Tribe  
 Richard Buck, Wanapum People  
 Hazel O'Leary, DOE-HQ, Secretary of Energy  
 Steve Wisness, DOE-RL, Hanford Project Manager  
 Linda McLair, DOE-RL, ER Program Manager  
 Kevin Clarke, DOE-RL, Indian Programs Manager  
 Mike Thompson, DOE-RL  
 Randy Brich, DOE-RL  
 Paul Eslinger, PNL  
 Ralph Patt, Oregon Department of Water Resources  
 Doug Sherwood, EPA, Hanford Project Manager  
 Larry Gadbois, EPA  
 Roger Stanley, Ecology  
 Dave Holland, Ecology  
 Jerry Yokel, Ecology

RL Commitment Control  
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 Richland Operations Office

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ATTACHMENTS

- 1) Latest Draft M-15-80 Milestone Change Package--CRCIA
- 2) CTUIR Comments on 1993 Columbia River Impact Evaluation Plan
- 3) CTUIR Memorandum Identifying Subject Areas and Issues to be Addressed in CRCIA
- 4) CTUIR Letter Supporting Declassification of DOE Historical Records

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Goals and scope for the M-15-80 milestones:

### I. Goal

The primary goal for the CRCIA is to evaluate the human and ecological risks resulting from exposure to Columbia River contaminants attributable to past and present activities at the Hanford site to support cleanup decisions.

Secondary goals to assure completion of the primary goal for the assessment include:

- \* The evaluation of historical information and, where lacking, the performance of additional data collection and analyses. Data gaps should be identified as an ongoing process with the intent of fulfilling any needed additional data collection during calendar year 1995.
- \* All evaluation activities of a technical nature will be reviewed by a credible external review comprised of highly qualified individuals acceptable to the Tri-Parties and the ~~US~~ Tribes.
- \* To provide an acceptable assessment for the stake holders, tribes, and the general public. To that end public involvement and tribal consultation plans will be developed that involve the public and tribes at pre-decision stages in the assessment.
- \* Coordinate current and planned activities of other agencies related to the CRCIA (for example the Columbia River Inter-Tribal Fish Commission Study).
- \* Special attention will be given to identify risks posed by the presence of multiple chemicals and radionuclides (synergistic, antagonistic, potentiation, additive etc.)

### II. Scope

The assessment shall characterize the areas where there are present and potential future risks to Columbia River users. The assessment shall provide answers to identified concerns.

- \* The media scope includes the surface water, sediments, hyporheic zone (water spaces in river bottom gravels), springs, seeps, riparian zone, and irrigated crops.
- \* The temporal scope is a quantitative assessment of current risk and a qualitative assessment of future risk.
- \* The geographic scope will be determined by the risk associated with Hanford contaminants to human health and the environment. Higher risk localized areas will be addressed as well as broader geographic areas of exposure.
- \* An appropriate set of risk scenarios will be evaluated.

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DEPARTMENT of  
NATURAL RESOURCES

Administration

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CONFEDERATED TRIBES  
of the

*Umatilla Indian Reservation*

P.O. Box 638

PENDLETON, OREGON 97801

Area code 503 Phone 276-3447 FAX 276-3317

September 3, 1993

Mr. Larry Gadbois  
U.S. Environmental Protection Agency  
712 Swift Boulevard, Suite 5  
Richland, WA 99352

RE: Submission of Technical Comments on the Columbia River  
Impact Evaluation Plan

Dear Mr. Gadbois:

The Confederated Tribes of the Umatilla Indian Reservation  
(CTUIR) are pleased to submit the enclosed technical analysis of  
the Columbia River Impact Evaluation Plan, DOE/RL-92-28, Rev. 0. 28525

Our technical evaluation reveals that the document is  
insufficient in several areas. For instance, the document fails  
to integrate a substantial amount of historical data and does not  
provide a comprehensive overview of the environmental and health  
impacts caused by Hanford operations.

Several CTUIR policy issues associated with the approach taken by  
the DOE in development of the Columbia River Impact Evaluation  
Plan have been identified. These will be submitted under  
separate cover to the TPA signatories for use in the TPA revision  
and negotiation process.

If you have any questions on the CTUIR's technical evaluation,  
please feel free to call me or the Tribes' Hanford Projects  
Coordinator, J.R. Wilkinson, at (503) 276 - 0105.

Sincerely,

Michael J. Farrow  
Director, Department of Natural Resources  
Confederated Tribes of the Umatilla Indian Reservation

Enclosure

cc: Kevin Clark

**COMMENTS ON THE**  
**COLUMBIA RIVER IMPACT EVALUATION PLAN**

**(DOE/RL-92-28)**

Confederated Tribes of the Umatilla Indian Reservation  
Department of Natural Resources  
Environmental Planning and Rights Protection Program  
Hanford Environmental Restoration Project

## CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

## Introduction

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) has reviewed the Columbia River Impact Evaluation Plan (CRIEP) and provides the following comments. Our comments are organized into the following sections:

- The Tribal Context
- Need For a Comprehensive Review of Impacts to the Columbia River Environment
- The CTUIR's Concerns Regarding the CRIEP
- Review of the Technical Completeness of the CRIEP
- Proposed Data Collection Activities
- Conclusions

## I. The Tribal Context

## A. Historical Context

The Umatilla Indian Reservation is located near Pendleton, Oregon. It is occupied by descendants of three Columbia Plateau tribes: the Cayuse, Umatilla and Walla Walla. Together, the three tribes comprise the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). In historical times, the Wallulapum band, part of the Walla Walla Tribe, occupied a large area centered on the confluence of the Yakima, Snake and Columbia rivers. In addition, descendants of the Wanapum band, a band that resided along the Columbia River in the area now referred to as the Hanford Reach, are also members of the CTUIR. The eastern portion of the Hanford Nuclear Reservation, including the Hanford Reach, is located on these Tribes' traditional lands.

In 1855, the Cayuse, Umatilla and Walla Walla tribes entered into a treaty with the United States. As part of this treaty, the Tribes ceded 6.4 million acres to the United States in return for concessions by the United States. In particular, the Tribes retained the right to perform certain activities in their traditional lands. These rights include the rights to fish, hunt, pasture livestock and gather plants.

CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

B. CTUIR Hanford Context

Because of its strong governmental interest in Hanford, the CTUIR is actively participating in Hanford clean-up planning processes. These planning activities range from participation as a Trustee for Natural Resources<sup>1</sup> to participation on forums such as the Hanford Future Site Uses Working Group and the Tank Waste Task Force. The CTUIR is also providing comments on planning documents released for public review.

The CTUIR recently released a document that expresses the CTUIR's general concerns about Hanford cleanup activities. This document, Criteria for Evaluation of Proposed Changes to the Hanford Federal Facility Agreement and Consent Order, was developed for use in the TPA revision process. As a reference tool, it can be used by any party interested in learning the nature of the CTUIR's concerns at Hanford.

The Criteria provides the general framework for CTUIR's participation in Hanford cleanup under various environmental laws and regulations (CERCLA<sup>2</sup>, RCRA<sup>3</sup> and NEPA<sup>4</sup>).

Following is one of the key topics discussed in the CTUIR's Criteria document:

"Protection and restoration of the environment, both on the Hanford site and in areas affected by Hanford over which the CTUIR exercises off-reservation treaty rights. Protection of the environment guards the natural resources upon which treaty rights are based, including Columbia River fisheries and related resources."

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<sup>1</sup>See CERCLA, Section 107(f); 40 CFR § 300.5; 40 CFR § 300.610.

<sup>2</sup>The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 42 U.S.C § 9601 - § 9675.

<sup>3</sup>The Resource Conservation and Recovery Act (RCRA) 42 U.S.C § 6901 - § 6992K.

<sup>4</sup>The National Environmental Policy Act (NEPA) 42 U.S.C § 4321 - 4370b.

## CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

## C. Environmental Context, Importance of the Columbia River to the CTUIR

From salmon and sturgeon to tule reeds and eagle feathers, the ecosystem provides the very fabric of tribal culture. Any impact evaluation that considers the Columbia River environment should assist the CTUIR in understanding and evaluating the magnitude and future consequences of adverse impacts on natural resources.

The Columbia River and associated aquatic and terrestrial ecosystems are of great significance to the CTUIR. The meaningful exercise of tribal treaty rights within usual and accustomed areas is entirely dependent on the health of the ecosystem and its natural resources. A treaty right to fish, take wildlife or gather plants is hardly useful if individuals or populations of fish, wildlife or plants have been reduced in their abundance, become threatened with extinction or themselves become human health risks.

Natural resources are significant to the CTUIR for a variety of reasons. Tribal members are subsistence hunters and gatherers. Wild game and fish form a major part of the diet of many tribal members.<sup>5</sup> Likewise, plants collected from a healthy environment form an important feature of many tribal members' diets. Besides consumption as food, these resources are collected for religious ceremonies, cultural uses such as medicines, clothing, decoration and traditional crafts and recreational purposes.

All indigenous plants and animals have religious significance to CTUIR members who practice traditional Indian religion. In addition, these resources, such as chinook salmon, can be of great economic importance to the CTUIR.

The CTUIR's overall land management philosophy for Hanford is that environmental restoration must be considered the primary focus of activities. This ensures that timely and effective "clean-up" of contamination is conducted in a manner that optimizes sustained net flow of tribal benefit through the conservation, management and utilization of fish, wildlife, plant and cultural resources, while protecting the integrity, sustainability and diversity of the natural ecosystem.

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<sup>5</sup>CTUIR dietary data collected during the preliminary phase of the Hanford health studies confirm this conclusion.

## II. Need for a Comprehensive Review of Impacts to the Columbia River Environment

It is our understanding that the TPA M-30 milestones narrowly focus studies on impacts created by 100 Area activities. However, a true cumulative impact evaluations cannot be completed without a broader consideration of the collective effects of all contaminant-contributing Hanford operations on the river environment.

The CTUIR supports the development of a thorough environmental and human impact evaluation that considers the magnitude and effect of Hanford contamination and the fate and transport of contaminants throughout the natural ecosystem. An analysis such as this would culminate in a cumulative impact assessment documenting Hanford-induced effects on Tribal treaty-rights, natural resources and Tribal members. An assessment of the cumulative environmental effects both within the Hanford Reach and in downriver areas are critical components of remediation and environmental restoration at the Hanford Nuclear Facility.

A complete summary of the known information pertaining to contamination of the Columbia River environment should be provided. This summary would provide the framework for identifying data gaps, additional research needs, future remediation and environmental clean-up strategies and ecological and human dangers. The net result should broaden the understanding of historical, current and foreseeable impacts caused by Hanford to the Columbia River environment. This baseline information would assist the CTUIR in quantifying impacts to Treaty-reserved rights, natural resources and the health and welfare of the tribal community.

The analysis should provide pathway analysis, deposition rates, uptake rates and consumption factors in assessing human health impacts. These data would allow the CTUIR to assess the magnitude and extent of impacts on the tribal community.

As a baseline, this analysis should identify damages to natural resources and attendant Treaty rights and provide information for future use in the Natural Resource Damage Assessment process. The CTUIR, as a Trustee for Natural Resources affected by Hanford operations, is profoundly interested in the development of future activities at Hanford related to the Columbia River.

## CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

## III. The CTUIR's Concerns Regarding the CRIEP

## A. THE CRIEP FAILS TO PROVIDE A CUMULATIVE HEALTH AND ENVIRONMENTAL IMPACT EVALUATION

The CTUIR believes that any assessment of cumulative health and environmental impacts should include a complete overview of impacts resulting from historical, current and foreseeable sitewide Hanford operations. This type of assessment should provide a comprehensive view of the collective effects of Hanford activities as opposed to considering only portions of the impacts. The CTUIR contends that such an approach represents both the letter and spirit of the TPA M-30 milestones.

The following discussion points out the major shortfalls of the CRIEP in disclosing information on cumulative health and environmental impacts and in failing to meet the overall intent of the TPA M-30 milestones.

## 1. Human Health Impact Evaluation

The CTUIR believes the CRIEP is inadequate. The CTUIR questions its validity in thoroughly evaluating human health impacts. This conclusion is based on the CRIEP's exclusion of ongoing Technical Steering Panel (TSP) and the Native American Working Group (NAWG) activities, dependance on incomplete data sets or analyses, uncertainties associated with the conclusions contained in the CRIEP and the failure of the CRIEP to review and integrate other research.

The TSP oversees the Hanford Environmental Dose Reconstruction Project (HEDRP) that is researching the amount, dispersion paths, deposition and health affects associated with past operations at Hanford. Two pathways are under review by the TSP, the air pathway and the water pathway. This panel is also associated with the Hanford Thyroid Disease Study (HTDS).

The CTUIR is involved with TSP through NAWG. On a regular basis, representatives of eight Columbia Plateau tribes convene to discuss impacts to tribal communities from the two pathways. This aspect is critical to note: *tribal communities have increased exposure to environmental contamination because the use of fish, wildlife and plants for subsistence and cultural activities is at a much higher rate than the general population.*

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One particular TSP document that considered the River pathway<sup>6</sup> notes that "Preliminary dose estimates were calculated to demonstrate the feasibility of reconstructing doses" [emphasis added]. The CRIEP however states that "In general, radionuclides are only evaluated with respect to the carcinogenic potential associated with ionizing radiation."<sup>7</sup>

The CTUIR concurs with the statement in the CRIEP that "Uncertainty with respect to the toxicity assessment is related to uncertainty in the toxicity values used and uncertainty in the overall toxicity assessment."<sup>8</sup> Research being conducted by the TSP is focused on identifying the correlation between human health impacts and Hanford-induced environmental contamination. Until this study and the model are completed, conclusions about health effects contained in the CRIEP are unsubstantiated and should be removed from the document.

## 2. Environmental Impact Evaluation

The DOE describes the CRIEP as a document that will provide the framework for determining cumulative health and environmental impacts to the Columbia River. It also states that the CRIEP will provide a characterization of river resources and valuable information for the 100 Area risk assessment<sup>9</sup>.

The CTUIR question the legitimacy of the CRIEP for use as the baseline for future natural resource and ecosystem risk assessments because the cumulative effects from all Hanford operations on the Columbia River environment are not integrated into a single assessment. Only 100 Area contamination is discussed; significant contributions and impacts from other contamination sources are disregarded.

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<sup>6</sup>Columbia River Pathway Report: Phase I of the Environmental Dose Reconstruction Project. HEDR Rev. 1, UC-707, Pacific Northwest Laboratory. July 1991, PNL-7411 .

<sup>7</sup>Columbia River Impact Evaluation Plan, DOE/RL-92-28, Revision 0, Page 68.

<sup>8</sup>Ibid., Page 72.

<sup>9</sup>Ibid., Pages 1 and 2

CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

The CRIEP should integrate all relevant data and contain a summary of environmental monitoring information from the beginning of Hanford operations in 1943 through the present in order to allow an analysis of environmental impacts from Hanford activities. Transport of chemical and isotopic compounds throughout the Lower Columbia River system should also be discussed rather than focusing the analysis only on the Hanford Reach of the Columbia River.

The analysis needs to view the Columbia River as not only water, but as an interdependent ecological unit (including wetlands, riparian and upland components) where no one part can be separated from the other. The CRIEP fails to integrate these fundamental concepts.

B. THE CRIEP IS AN EXAMPLE OF THE MANAGEMENT AND POLICY PROBLEMS PLAGUING HANFORD SITE RESTORATION

The recently released Schedule Optimization Study (SOS)<sup>10</sup> contains 57 recommendations regarding problems with management and policy at Hanford. These findings "indicate the most serious impediments to environmental cleanup of the Hanford Site are related to a series of management and policy issues that are within the control of the three parties managing and monitoring Hanford."<sup>11</sup>

Recommendation twenty-two of the SOS states that "Hanford should develop a comprehensive sampling and analysis strategy for the site, including providing appropriate staff training." The issue statement for this recommendation is the "Failure of DOE to generate necessary supporting data." The CRIEP is a clear example of this issue because it does not contain a comprehensive review of existing data.

The CTUIR's goal in participating in clean-up activities at Hanford is to ensure that cost effective, efficient and timely clean-up efforts protect Treaty rights and natural resources.

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<sup>10</sup>Schedule Optimization Study, Hanford RI/FS Program, Volume 2: Final Report, December 1992, EMO 1080 Vol. 2, AD-902A.

<sup>11</sup>SOS, Page xiii.

CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

C. THE DOCUMENT FAILS TO ADDRESS EXISTING INFORMATION PERTAINING TO CONTAMINATION OF THE COLUMBIA RIVER CORRIDOR

A specific example of the CRIEP's failure to provide an overall view of the impacts resulting from Hanford operation is found on page 12 of the document, where it is noted that "groundwater is the primary pathway for environmental contamination and impact on the Columbia River." The CRIEP also acknowledges the concept of "skyshine" as an additional potential pathway of contamination. However, the plan fails to fully recognize the impacts caused from numerous other contaminant sources such as<sup>12</sup>:

1. Miscellaneous Radioactive liquid wastes.
2. Radioactive sludge/radioactive solid waste.
3. Sanitary liquid waste.
4. Nonradioactive liquid waste.
5. Nonradioactive sludge/nonradioactive solid waste.
6. Leaking underground storage tanks.

The CRIEP discounts historical contamination of the 100 areas and focuses only on groundwater plumes currently releasing contaminants to the Columbia River, ie., upgradient groundwater contamination. No information is provided that discusses the amount of contamination (chemical and radioactive) that has been deposited as liquids to ground nor is there any discussion disclosing information pertaining to contaminants stored as solids in the upland soil column. A large portion of this contamination has yet to leach into the groundwater but will eventually reach the Columbia River in the near future.

An additional example of the CRIEP's failure to fully consider all contaminants and existing information is illustrated by a recent presentation to the TSP by Battelle researchers. During the presentation, "Integrated River Pathway Activities/Scoping Studies,"<sup>13</sup> several technical approaches were identified that would be applied or included in their studies. One of these topics acknowledged the task of evaluating river effluents and the release of approximately two thousand fuel failures into the river environment.

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<sup>12</sup>DOE-RL, 9/92, Remedial Investigation/Feasibility Study Work Plan for the 100-KR-1 Operable Unit, Hanford Site, Richland, Washington; Revision 0, DOE/RL 90-21, U.S. Department of Energy, Richland Operations, Richland, Washington.

<sup>13</sup>Integrated River Pathway Activities/Scoping Studies. Bruce Napier, Presentation to the TSP, April 2, 1993.

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These topics were also reported in a document<sup>14</sup> prepared by UNC Nuclear for DOE in 1986 that discusses significant radiation sources found along the D-Island shoreline, across from the D-Reactor.

The CRIEP fails to account for these fuel failures and contamination of islands and shorelines. Therefore, the cumulative impacts resulting from Hanford operations have not been comprehensively integrated. Any preliminary findings of the CRIEP are unsubstantiated without this information and there is no basis for judging the cumulative impacts, let alone concluding that no adverse impacts have occurred.

D. THE DOCUMENT CONTAINS INADEQUATE TECHNICAL DATA AND PROTOCOL

Throughout the CRIEP, it is stated that only "readily available" data is used in this assessment. It is unclear what this term means. A complete review of over 50 years of information should be summarized in order to provide an overall view of the distribution and magnitude of past and present pollution of the Columbia River as a result of Hanford operations.

In addition, for purposes of assessing water quality and cumulative effects in the Hanford Reach and downstream areas on the Columbia system, other point and non-point source pollutants from sources other than Hanford operations should be fully considered.

Sampling and analysis at Hanford has been described as inadequate in the Schedule Optimization Study for the Hanford Site as previously described. An example supporting these findings is illustrated by the DOE's failure to incorporate EPA's comments on the document entitled "Sampling and Analysis of 100 Area Springs."<sup>15</sup> EPA's comment questions whether a one-time synoptic sampling of springs along the shore of the 100 Areas is adequate to characterize and evaluate the impact to the Columbia River.

This is a significant issue because it is unclear in the CRIEP whether additional sampling was completed as requested by the EPA. Information in the 100 Springs document (Milestone 30-01)

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<sup>14</sup>UNC Nuclear Industries, River Discharge Lines Characterization Report, Radiological Survey of "D" Island, Beckstrom, Steffes, 1986

<sup>15</sup>Sampling and Analysis of 100 Area Springs, February 1992, US DOE, DOE/RL-92-12.

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was incorporated into the CRIEP as baseline information and it appears that this single data set was used to formulate the preliminary impact assessment for the CRIEP.

Furthermore, the CTUIR understands that the DOE is relying on water quality data collected from groundwater monitoring wells to predict water quality parameters from 100 Area shoreline seeps and springs. The data from groundwater monitoring wells is, in effect, being extrapolated to predict contaminant concentrations in seeps and springs in place of collecting water samples from these areas. In addition, offshore seeps and springs discharging to the Columbia River, which are potentially affecting the river system, have not been sampled.

The CTUIR believes that the monitoring well data used to predict contaminants in seeps and spring are inadequate for evaluating impacts to the Columbia River. The CRIEP should be designed with the most thorough set of data available and if conclusive data is not available, additional water quality sampling needs to be conducted. No conclusions should be made until the data gaps are filled and conclusive information gathered. The CRIEP should make it clear that the statements presented on environmental impacts are considered preliminary and inconclusive.

### E. THE CRIEP MAKES PREMATURE STATEMENTS ON ENVIRONMENTAL IMPACTS IN THE ABSENCE OF DEFENSIBLE EVIDENCE

The CRIEP contains numerous statements that no adverse impacts on the Columbia River environment have resulted from 100 Area operations. The TSP has convened a subcommittee that is reviewing historical reactor operating records to accurately determine the "source term."<sup>16</sup> Until the TSP has completed its activities, assumptions concerning environmental impacts from reactor operations are premature.

The CRIEP discounts adverse impacts on the Hanford Reach from spring discharges due to dilution with Columbia River water. However, the mixing process has not been evaluated and some contaminant releases may travel as a plume or slug for some distance before being dispersed. The CTUIR believes that localized impacts on natural resources must also be addressed and not simply dismissed based on DOE's questionable assumption that biological organisms will move away from these areas.

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<sup>16</sup>Source Term is defined by the TSP as the amount, type and location of radioactive materials released to the environment.

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In addition, in the conclusion presented on page 24 of the CRIEP it is stated that contaminants of concern in surface water are not significantly different between upstream and downstream collection points. In fact, measured upriver and downriver Tritium concentrations differ by a factor of two in each of the six years between 1986 and 1991<sup>17</sup>. This conclusion is also inappropriate because there is no evidence in the report that the data were statistically evaluated to compare differences and variability between monthly sampling periods, nor is there any reference to conclusive evidence supporting these findings.

F. THE CRIEP PROVIDES NO EXPLANATION ON HOW IT FITS INTO THE OVERALL HANFORD ENVIRONMENTAL "CLEAN-UP" PROCESS

A 1990 Tiger Team report<sup>18</sup> stated that "A single, cohesive plan for management of past practice activities performed under the TPA is necessary to ensure efficient planning, organization, coordination, budgeting, management, review and control of those activities."

This issue, identified by the Tiger Team, is clearly illustrated in the haphazard and piecemeal approach taken in the CRIEP. As such, this document falls substantially short of providing a comprehensive, integrated analysis that the CTUIR perceives to be the intent of TPA M-30.

Because the information summarized in the CRIEP will be used in the RI/FS process for establishing baseline information and in the subsequent development of remedial actions, the CRIEP should be rejected because it does not contain comprehensive and/or accurate information.

In terms of TPA language, the CRIEP is a "primary document representing final documentation of key data and reflects decisions on how to proceed."<sup>19</sup> The CRIEP will become a

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<sup>17</sup>Woodruff, R.H., and Hanf, R.W., 1992, Hanford Site Environmental Report for CY 1991, PNL-8148, p.91.

<sup>18</sup>Assessment Finding Number IWS/BMPF-1, Ambiguous Roles and Responsibilities for Management and Quality Assurance of Past Practice Activities Under the Tri-Party Agreement. Tiger Team Assessment Report of the Hanford Site. U.S. Department of Energy, Environment, Safety and Health. DOE/EH-0139, July 1990. Page 3-207.

<sup>19</sup>Hanford Federal Facility Agreement and Consent Order, Volume 1 of 2, Second and Third Amendments, September 1992, 89-10 Rev.2, Section 9.0.

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reference document in the administrative record for 100 Area decisions and be incorporated by reference into CERCLA/RCRA decision making processes at face value as a representative description of 100 Area existing environmental conditions. The CRIEP is inadequate in fulfilling this important role.

Therefore, the CTUIR is deeply concerned with the CRIEP because missing and inaccurate information and erroneous or unwarranted conclusions in this analysis will carry through the CERCLA process, falling short of meeting the CTUIR's needs in adequately describing Hanford-induced cumulative effects.

The DOE has acknowledged its responsibilities in bringing management of the Hanford Nuclear Reservation into compliance with applicable environmental laws and regulations. In Section 4 of the CRIEP on page 4, it is stated that restoration activities are being conducted pursuant to multiple federal and state statues, regulations and guidelines.

However, the National Environmental Policy Act (NEPA) is completely ignored in the CRIEP. It should be clearly stated in the document how it will be used for future reference in the CERCLA/RCRA and NEPA processes. As a primary document, the CRIEP should provide an overall view of how it will be used in future decision making processes.

In addition, numerous other laws and regulations that should be integrated into the CERCLA/RCRA process are omitted. For example, the entire Hanford Reach of the Columbia River has been found eligible for Wild and Scenic River designation under the Wild and Scenic Rivers Act<sup>20</sup>. However, no mention of the River's outstandingly remarkable resource values or river classification is mentioned.

In the purpose and objectives section of the CRIEP on pages 1 and 2, it is mentioned that M-30 milestones were developed to initiate a rescoping of the 100 operable unit work plans. The CTUIR requests that the Tribes be involved early in the scoping process which would begin the commitment of government-to-government relations. This would lead to the development of resolutions involving complex environmental issues surrounding Hanford clean-up in a facilitated manner.

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<sup>20</sup>Hanford Reach of the Columbia River, Comprehensive River Conservation Study and Environmental Impact Statement, Draft, June 1992.

## CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

## IV. Review of the Technical Completeness of the CRIEP

## A. Introduction

The following section provides detailed comments on specific deficiencies of the CRIEP. These comments relate to technical aspects of Chapters 2 and 3, "Characteristics and Nature of Contamination" and "Contaminant Fate and Transport" respectively. The following comments are organized consistent with the organization of the CRIEP. Although every issue is not explored in detail, the following remarks are representative of the major problems the CTUIR finds with the current CRIEP.

## B. Chapter 2 Review

## Section 2.1.3, Hydrological Characteristics

-- This section provides general information on the Columbia River, but fails to adequately define basic known Hanford Site hydrology. Site hydrology is an important component in evaluating contaminant interaction with the river environment.

-- The information provided is poorly summarized and overgeneralized. For example, the long term average annual flow rate at Priest Rapids Dam is stated to be 3,400 m<sup>3</sup>/s. This figure is an overall average from 68 years of record. However, the dam was constructed in 1959 and the hydrological regime of the river was substantially altered thereafter. It would be helpful to have a comparison of the flow rates prior to and following dam construction, rather than combining 68 years of record into one "averaged" measure. In addition, peak or maximum expectable flow rates from storm runoff, snowmelt or 100-year flood events should be reported.

-- The document fails to mention substantial daily fluctuations in flow rate caused by Priest Rapids Dam management. Water levels at islands and shorelines along the Hanford Reach can fluctuate as much as 2 meters in a day.<sup>21</sup> These fluctuations will have potential impacts on groundwater and sediment pathways, as well as contaminant fate and transport. The importance of these variations should be fully considered in this evaluation to adequately describe contaminant transport, deposition and bioaccumulation.

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<sup>21</sup>Sauer, Ronald H. and J. E. Leder. 1985. The Status of Persistentsepal Yellowcress in Washington. Northwest Science 59 (3): 198-203.

## CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

-- Appendix B provides additional background on hydrologic and hydrogeological characteristics for the Hanford Site; this material should be referenced in the subject section.

### Section 2.1.4, Ecological Characteristics

-- This section fails to take an integrated ecosystem-level approach; the material presented is limited to the riverine and riparian zones along the Hanford Reach. At a minimum, the discussion should take into account all 100 Area habitats, adjacent upland sagebrush, steppe and bunch grass communities, as well as discussing the important wildlife areas north of the river.

-- The text or appendix should provide a complete listing of all State and Federal endangered, threatened and sensitive plant, fish and wildlife species found on-site. There are 24 listed plant species of special concern found at Hanford<sup>22</sup>; the report, however, lists only five. There are 57 wildlife species with endangered, threatened, sensitive or candidate status listed for Hanford<sup>23</sup>; the report lists only four species.

### Section 2.2, Nature and Extent of Contamination

-- Table 2-1 is described in the CRIEP as containing the mean, standard deviation and range for all determined contaminants of potential concern in groundwater plumes identified in Appendix B of the CRIEP. However, the table does not provide this information. This data forms the basis for all later discussion regarding contaminants of potential concern; its absence from the document makes a meaningful review of the CRIEP infeasible.

-- The methodology used for selecting the contaminants of potential concern in the evaluation is highly selective and therefore suspect. First, identification of contaminants of concern is based on selective sampling of wells during only one year, 1989, in spite of the existence of more than 50 years of analytical data. Second, the results reported in Table 2-1 are

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<sup>22</sup>Vascular Plants of the Hanford Site, Sackschewsky, Landeen, Baird, et al., 1992.

<sup>23</sup>Hanford Site National Environmental Policy Act (NEPA) Characterization, Cushing, C. E., December, 1991. Pacific Northwest Laboratory, Battelle Memorial Institute.

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only singular values that cannot be assumed to be necessarily representative of the full range of concentrations found in migrating contaminant plumes. In the absence of a more detailed sampling program, it is unlikely that the reported values represent meaningful data. There is no presentation of how this data compares to historical or TSP source term data.

-- In addition, no discussion of the rationale for the selection of "representative" wells to be used for such characterization is provided. The wide and irregular spacing of the selected wells (Figure 2-2 in the CRIEP) effectively precludes a systematic characterization of the nature, areal extent and concentration levels of constituents of interest and results in what are random measurements whose significance cannot be understood in the larger context. Nor is there any discussion in the CRIEP describing whether the monitoring wells used for data collection are in compliance with RCRA regulations.

-- Figure 2-5, showing "conceptual" flow directions from 100 Area facilities to the river, is so oversimplified that it is useless; it should be replaced with a more detailed, real-world representation based on measured water-levels and known historical plume migration pathways.

-- As stated on page 12 of the CRIEP, the contaminants selected for consideration were identified for groundwater plumes only, but are then applied, without further discussion or qualification, to other (ie., surface water and ecological) potential contaminant pathways. Such an approach not only ignores differences in transport mechanisms, but also differences in chemical interactions between contaminants and soil, water and biological systems and the much longer residence time expected in subsurface soils and groundwater.

#### 2.2.2.1. Hanford Reach Surface Water Contamination

-- The text suggests that several radiological and chemical contaminants are discharged to the River under NPDES permits, but will not be considered in this document. These contaminants should be identified and included in this analysis.

-- The large amount of missing data provided in Table 2-5 makes the historical summary of Hanford Reach water quality unacceptable. Over 50% of the data are indicated as "Not Reported." This table does not include a review and comparison of TSP data nor does it account for PNL's Environmental Monitoring Program.

## CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

-- Missing data are used to support the conclusion, "Except for <sup>3</sup>H and nitrate in 1987, levels of contaminants of potential concern measured downstream ... are not significantly different ... from levels measured upstream of the Hanford Site."<sup>24</sup>

-- Emphasis placed on conclusions from a 1954 study<sup>25</sup> are unfounded and totally disregard data and conclusions from more modern, current studies. Rather than providing quantitative data, only general statements are cited, e.g., "these isotopes accumulated in aquatic organisms" [which, how much?] and "measurable quantities of radioisotopes were entering the public drinking-water supply" [which, how much?].

### 2.2.2.2. Riverbank Springs

-- Geologic mapping of the seeps and springs on-site has not been carried out. This task was included in the preliminary agreement on scope for the M-30-01 milestone because of the inadequacy of available data, but was not completed.<sup>26</sup> As a result, we have no reliable data regarding the location and flow rates for the springs that have been sampled, and no assurance that samples currently available are representative of the overall hydrological regime for the Hanford Reach area.

-- Consequently, the CTUIR staff strongly disagree with the comment provided on pg. 33, "groundwater discharges to the river cause localized impacts on a small scale." No evidence regarding the type or size of the localized area or scale of the impact has been presented.

### Section 2.2.3, Ecological Contamination

-- The document states that environmental monitoring and scientific studies have been carried out for over 45 years, yet fails to provide an adequate summary of these data.<sup>27</sup> The Plan fails to provide summary information on ecological contamination in shellfish, benthic organisms, amphibians, reptiles, waterfowl or terrestrial organisms. Nor is there an analysis comparing the reported data with available historical data.

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<sup>24</sup>Ibid., Page 24.

<sup>25</sup>Ibid., Page 32.

<sup>26</sup>EPA correspondence, "Technical Review of DOE/RL-92-12", 4/2/92.

<sup>27</sup>Columbia River Impact Evaluation Plan, DOE/RL-92-28, Revision 0, Page 68.

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-- This section needs to present a more thorough and complete review in order to support the conclusion: "Environmental studies and monitoring to date have not shown, however, that the observed contaminant concentrations have resulted in any significant adverse impact to the Hanford Reach ecosystem."<sup>28</sup> This conclusion is unwarranted and cannot be substantiated on the basis of the information provided.

-- The CTUIR agrees with the following statement, "... it should be noted that fish are mobile within the Hanford Reach and the opportunistic sampling methods used by the Environmental Monitoring Program may be insufficient to detect impacts."<sup>29</sup>

## C. Chapter 3 Review

This chapter provides a cursory analysis of fate and transport for the "contaminants of potential concern" identified in Chapter 2. As noted above, the CTUIR disagrees with the selection process used to determine contaminants of potential concern. The following additional deficiencies are noted for Chapter 3.

-- The computational model developed in the CRIEP fails to consider all potential contaminant pathways. As noted earlier there is no justification for not including the "skyshine"<sup>30</sup> exposure pathway.

-- The computational model fails to consider potential contaminant uptake and transport mechanisms by amphibians and reptiles.

-- The Plan needs to clearly state what criteria were used to assess the significance of the various pathways.<sup>31</sup> Of the 30 pathways presented in this model, only three are considered in the analysis.

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<sup>28</sup>Ibid., Page 38.

<sup>29</sup>Ibid., Page 37.

<sup>30</sup>Ibid., Page 12.

<sup>31</sup>There are a number of additional "direct exposure pathways" of importance to the CTUIR that are not discussed in the document. These include, but are not limited to, ingestion of contaminants via foraging and hunting activities, as well as the harvesting of food crops. If activities are assessed by the number of intermediate steps between contaminant and environmental receptor, these pathways are no less "direct" than those selected for discussion.

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-- The CTUIR staff disagree with the statement, "Potential impacts [from contaminated seeps and springs] would be limited to environmental receptors since human access to the 100 Area is limited by institutional controls. In addition, the seeps and springs are not always accessible, evident, or conducive to water collection."<sup>32</sup> River areas adjacent to 100 Area seeps and springs are easily accessible by boat. Although the springs and seeps may not always be "evident", this would seemingly increase future potential impact, rather than limit it. The conclusion regarding potential impact is unsubstantiated by the information presented.

-- The CTUIR disagrees with the conclusion, "it is not likely that any significant adverse downstream environmental or health impact associated with the river-water column would be extensive."<sup>33</sup> Statistical problems with the data used to support this conclusion are discussed in Chapter 2, above. Note also that the use of the term "extensive" is inappropriate, as no information relating to the extent of any significant adverse impact has been presented. Finally, the conclusion completely discounts localized effects associated with potential contamination from seeps and springs discharging contaminants to the surface-water pathway.

-- The document states, "potential environmental impacts were evaluated by considering contaminant uptake by fish and by comparing derived contaminant concentrations in the river to ambient water quality criteria."<sup>34</sup> It is unclear what data were used for the biotic pathway evaluation and there are no conclusions indicated as to the results of the research.

-- Regarding the white pelican study, it is stated in the CRIEP that because "recent environmental surveillance reports show no measurable influence on fish from radionuclides released to the Hanford Reach . . . . Thus, it is unlikely that white pelicans are . . . adversely impacted."<sup>35</sup> What data support this conclusion?

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<sup>32</sup>Columbia River Impact Evaluation Plan, DOE/RL-92-28, Revision 0, Page 68.

<sup>33</sup>Ibid., Page 68

<sup>34</sup>Ibid., Page 42.

<sup>35</sup>Ibid., Page 42.

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-- There are a number of additional threatened, endangered and sensitive species that should be taken into account in evaluation of biotic pathways. These should include both animal and plant species of concern; the complete omission of terrestrial and aquatic plants as potential biotic pathways is not acceptable. Studies should be conducted on less mobile organisms such as those more likely to be permanent residents of the Hanford Reach and on those that live, feed or burrow in the bottom sediments.

-- Section 3.3 states, "Contaminant transport is addressed below by subsurface, surface-water, and biological considerations."<sup>36</sup> What follows, however, discusses subsurface transport only. The entire sections on surface-water and biological considerations are missing from the document.

-- Section 3.3.1 states "Table 2-3 shows the estimated groundwater flow rates and source concentrations derived from information in Appendix B."<sup>37</sup> This is incorrect; the referenced table appears as Table 2-2.

## V. Proposed Data Collection Activities

On page 82 of the CRIEP, it is stated that "the consideration of spatial, ecological, temporal and administrative factors for any investigation points to an eventual need for characterizing the river on a programmatic basis." The CTUIR agrees that a collective and comprehensive environmental impact evaluation cannot be completed without such an approach. However, the CRIEP fails to meet this need.

Although Chapter 5 contained in the CRIEP attempts to provide guidance for future studies, the background information reported in the CRIEP is incomplete and the conclusions are selective at best. Therefore, the future study designs are suspect.

The tasks and activities planned for data collection should be designed to include an in-depth study into the impacts of historical Hanford operations on an ecosystem basis. As described earlier, additional indicator species such as amphibians need to be evaluated to better represent species and habitats that may be the most ecologically sensitive.

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<sup>36</sup>Ibid., Page 43.

<sup>37</sup>Ibid., Page 21.

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Amphibians are excellent candidates for bioassay because, due to their biphasic life history (ie., aquatic larvae and terrestrial adults), are exposed to contaminants in more than one media.

Additional studies are needed to fully understand implications of pathways other than those described in the CRIEP. It is insufficient to assess only the impact to fish. These studies would include human ingestion of waterfowl, venison, plants, irrigated crops, domestic livestock and other animal products.

Other studies need to be completed on the radiobiology of important fisheries resources. An understanding of interactions between contaminated sediments and the effects on both spawning and rearing juvenile fall chinook salmon, for example, is crucial in protecting and enhancing this tremendous natural resource.

The CTUIR recommends that the following studies be incorporated into or added to the tasks contained in the CRIEP to further define biological impacts of Hanford on the Columbia River environment:

1. Activity 1A-3 - Studies should include an assessment of sediment partitioning to determine impacts of ambient sediment conditions. Studies should be completed on whole sediment and interstitial water in conjunction with chemical/radiological analysis.

Bioassays should include a variety of plant and animal indicator species to determine lethal and non-lethal end points and to define the link between contaminant uptake and concentration factors. These studies should also determine human exposure risk.

Long-term studies on the effects of nuclear waste materials that migrate from present storage sites and enter the Columbia River on fall chinook salmon and other salmonid species as well as sturgeon, whitefish, bass etc., need to be thoroughly studied.

Potential exposure scenarios need to be evaluated and data collected to determine effects of contamination on embryonic development, egg to fry survival and effects on juvenile fish species.

Evaluations need to be completed to determine the potential for contaminants to intersect and impact key fall chinook spawning areas in the Hanford Reach and downriver areas on

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the Columbia River. An example for the need of these studies is the previously described fuel rod failures and the rod fragments located in the Columbia River.

2. Activity 4-1 - data needs to be collected on the uptake, elimination and bioaccumulation in resident as well as migratory species. These types of assessments should include shorebirds, neotropical migrants, raptors and waterfowl such as the Canada goose as well as plant species.
3. Activity 4-2 - these activities should include studies to determine impacts on benthic communities as well as on organisms such as amphibians and reptiles.
4. Activity 4-3 - The CTUIR request that riparian species as well as upland and other terrestrial organisms be included in this activity.

## VI. Conclusions

The CTUIR has a direct governmental interest in the environmental health of the Hanford Nuclear Reservation and in off-site resources affected by Hanford as well as Tribal community health and safety. Environmental restoration at Hanford and in downriver areas of the Columbia River is CTUIR's top priority for protecting treaty rights and in protecting and restoring the natural resources upon which the CTUIR's treaty-rights are based.

Concern exists with the CRIEP because it does not adequately provide a comprehensive overview of the impacts on the natural environment. Concerning the contaminant pathway analysis, the CTUIR believes that DOE's assessment of the environmental impacts contained in the CRIEP are incomplete. The CRIEP falls short of evaluating the ecological data gaps because the study fails to integrate other research activities and focuses on only the surface water pathway. The CRIEP presents a narrowly defined human receptor pathway and does not adequately evaluate other pathways.

The exclusion of other pathways does not fulfill the requirements of a comprehensive cumulative impact evaluation nor does it set the stage for future impact evaluations.

Chinook salmon are used as the primary indicator in evaluating human exposure to contamination in the CRIEP. Tribal members of the CTUIR utilize a variety of aquatic and upland terrestrial

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organisms and numerous vascular plants for subsistence. These resources represent pathways of potential contamination and should be considered in any cumulative impact assessment.

Many organisms indigenous to the Hanford area that are extremely sensitive to contaminants are ignored. For example, amphibians, macroinvertebrates and vascular plants associated with wetlands and backwater sloughs may be subject to higher concentrations of contaminants due to deposition of contaminated river sediments. Organisms residing in these areas may be more representative of the impact caused by Hanford than more mobile organisms and are generally considered more appropriate biological indicator species. These species would more accurately represent the magnitude and extent of contamination from Hanford operations, yet they receive only a cursory examination in the CRIEP.

In summary, simply evaluating the surface water of the Columbia River and predicting environmental impacts based solely on this information is inappropriate. The TPA itself states that a comprehensive evaluation of the Columbia River is the intent of this CRIEP. Clearly, this CRIEP does not fulfill these goals.

Facsimile

February 11, 1994

**To:** Mike Thompson (DOE)  
cc: Larry Gadbois (EPA)  
Dave Holland (Ecology)

**From:** Allen Childs, CTUIR Hanford Environmental Restoration Project,  
Aquatic Biologist

**Subject:** M-13, Comprehensive Columbia River Evaluation - Data Compendium, CTUIR  
Staff Outline

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Following are several areas of concern that CTUIR technical staff have identified for use as an outline for development of the data compendium included in the Comprehensive Columbia River Impact Evaluation (CCRIE) Milestone 13. The compendium of data and development of a bibliography should include searches from all sources/institutions, in addition to Hanford and DOE contractors. This will ensure that the broadest and most comprehensive overview of all available data related to the Hanford Reach of the Columbia River is possible and will be utilized in this effort.

We appreciate this opportunity and believe the list below represents a good starting point. I am sure, however, that the list is incomplete and will be expanded. I look forward to hearing from you following your February 14, 1994 meeting with the regulatory agencies concerning development of a strategy for implementing the CCRIE. I would like to schedule a time that our lead staff on the CCRIE can meet with you and your staff to discuss the strategy and identify areas where our staff can be of assistance. Please feel free to call if you have any questions concerning this list.

Subject Areas for Inclusion into Data Compendium:

Inventory of Effluents to Ground/River/Air

- total reactor output volumes
- atmospheric releases
- physical locations/quantities outfall structures
- specific references on nature, amounts, and timing of wastewater discharges to ground

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**CTUIR****Data Compendium (TPA Milestone 13)****Page2****Fuel Failures, Speck Contamination**

- locations/disposition
- quantities

**Thermal Effluent Releases**

- water quality data
- biological effects analysis
- plume dispersal mapping

**Groundwater**

- groundwater well monitoring data, unconfined and confined aquifers
- groundwater seeps and springs, discharge mechanisms,
- groundwater chemistry, radionuclide/heavy metal sediment partitioning/solute studies
- discharge partitioning between riverbank and riverbottom
- contaminant plume dispersal/deposition data
- bank storage studies/phenomenon descriptions

**River/Groundwater Models**

- groundwater flow rates
- groundwater/river mixing
- contaminant plume dispersal/deposition
- model(s) validation data

**Sediment Sampling and Evaluations**

- river substrate analysis
- wetlands, backwater sloughs, mapping of historical and current locations
- core sampling data for downriver reservoirs/ocean

**Water Quality Data and Monitoring**

- physical and chemical
- hydrological data,
- Priest rapids operations/hydrographical data

**NPDES/CWA**

- permitted effluents and discharges, conditions, volumes, rates
- applications for permits
- water quality standards

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**CTUIR****Data Compendium (TPA Milestone 13)****Page3****Aquatic/Riverine Radioecology**

- bioaccumulation in riverine organisms (aquatic and terrestrial organisms)
- bioaccumulation in riverine/wetland plants
- biological indicator species studies
- population trend data (fish and wildlife)
- native plant communities (presence/occurrence)
- toxicity data/studies

**Ecological and human health risk assessments**

- HEDR data/research
- technical steering panel analyses/findings
- quantification/validation data

**Background Environmental Radiation Data**

- nuclear testing, atmospheric fallout
  - river water
  - soils
  - vegetation
  - flora/fauna

**Agricultural Practices and Contamination**

- contaminant sources, assessments of current and historical pesticide/herbicide use and production of industry pollution/contaminants
- white bluffs sloughing, mapping, volumes
- water quality analyses
- deposition data
- bioaccumulation data

cc: Rick George  
Hanford Projects Staff

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DEPARTMENT of  
NATURAL RESOURCES

Administration

008806



CONFEDERATED TRIBES

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August 9, 1994

Mr. Richard Meserve  
National Academy of Sciences Committee on Declassification  
c/o Convington and Burling  
1201 Pennsylvania Ave. NW  
P.O. Box 7566  
Washington, DC 20044

Subject: DECLASSIFICATION OF DEPARTMENT OF ENERGY RECORDS

Dear Mr. Meserve:

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR), as a sovereign government, are involved in a variety of Department of Energy (DOE) activities at the Hanford Nuclear Reservation including waste management, environmental remediation and restoration planning and implementation, transportation of hazardous and radiologic materials across the Umatilla Indian Reservation, and human health studies including the Hanford Environmental Dose Reconstruction Project (HEDRP). Ongoing and future waste characterization, assessment, environmental monitoring, human health studies, and design and implementation of remediation activities at Hanford all require an understanding of the historical information that has been produced by the DOE, contractors, other governments and agencies, and private individuals regarding facility operations and chemical and radiologic releases to the environment. Much of this information can be used to provide the basis for evaluating both current and foreseeable potential threats to the Columbia River and for identifying the need to conduct additional or different monitoring activities or studies to further characterize and quantify these threats.

The CTUIR recognize the critical importance of the work your committee is undertaking regarding declassification of DOE records as these efforts are directly related to the above critical activities. The CTUIR wish to communicate to you our support for these efforts, particularly in regard to declassification of information about past and ongoing Hanford Nuclear Reservation operations. The CTUIR believe the Hanford Openness Initiative contained in the Hanford Summit II, Steering Committee Proposal, April 27, 1994 (enclosed), provides an appropriate framework of both the breadth and depth required to accelerate,

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streamline, and fully accomplish declassification of important information concerning environmental contamination and potential human health effects resulting from nuclear material production in our homelands.

The Openness Initiative proposes that DOE revise existing classification guidelines, accelerate declassification of documents not involving national security or weapons issues (i.e., DOE experimentation on human subjects and use/dispersal of contaminants in the environment), and perform a blanket declassification of certain categories of DOE records. The Initiative calls for focusing these efforts on facility operating records and histories and hazardous chemical and radiologic contaminant releases to the environment. The initiative also calls for DOE to group Hanford records by degree of classified information and for development of a prioritization system that will address issues associated with the magnitude, complexity, and time-consuming nature of declassifying the thousands of currently classified or otherwise tribally and publicly inaccessible DOE records.

These efforts will positively augment ongoing activities being conducted by the Technical Steering Panel (TSP) for the HEDRP. However, we have recently become aware that efforts of the National Academy of Sciences Committee on Declassification (NASCD) has been delayed over internal disagreements that contribute little to moving aggressively forward with declassification of DOE records. The Committee appears to be losing the sense of purpose for which it was created. Understanding the effects nuclear material production at Hanford has had on our people and environment is not an academic issue of little interest, we live here. At the heart of this matter is the question that each person, and each government in the region, must ask about whether Hanford has been, or currently is, a risk to the environment and human health. Are the foods and natural resources that tribal members utilize for subsistence safe and uncontaminated? Tribal governments need access to all the relevant information available in order to answer these very questions so as to protect their members from, and inform them about, potential risks to tribal member's health and to the health of the natural systems that they depend upon.

There is a sense of urgency about potential health effects and environmental contamination among those people who have lived near nuclear production facilities such as Hanford that needs to become more widely appreciated and understood by the NASCD. It is important that your committee change direction from one of *limiting* declassification to one of *increasing* declassification of DOE records in order to expedite the processes involved in making these records available to the Tribes, other governments, and the public. This change is a critical component for accomplishing meaningful and comprehensive remediation and restoration of the Hanford site and the Columbia River ecosystem. This enormous accumulation of records could contain important information that will contribute to a better understanding of Hanford's history, which, in turn, could lead to a more comprehensive and credible assessment of the current condition of the Columbia River. But we cannot know unless this information is made readily available.

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In November 1993, the CTUIR governing body, the Board of Trustees, agreed with Secretary of Energy Hazel O'Leary that the Columbia River Comprehensive Impact Assessment (CRCIA)<sup>1</sup> would be used as an issue to track government-to-government relations between DOE and CTUIR. This commitment was made in consultation with the Secretary and represents, in part, the CTUIR's determination to protect and restore treaty reserved resources of the Columbia Basin.

Your Committee's efforts have the unique ability to significantly influence several issues identified by the CTUIR that are directly related to the CRCIA. For example, the results of the April 1994 Data Compendium for the CRCIA (contract number DE-AC06-76RLO 1830) indicated that a substantial number of unpublished and currently unavailable documents were under the control of a variety of DOE contractors. The data compendium effort also discovered that approximately 2,000 DOE documents concerning Columbia River contamination were not readily available to the CTUIR, other governments, or members of the public. In addition, more than 650 declassified titles of classified documents were made available by DOE, but the documents themselves currently remain classified and unavailable for examination. The CTUIR expect that many more records regarding Hanford exist that are currently classified or otherwise inaccessible. These documents must be made available.

The activities of your committee will have a great impact on the usefulness of the Data Compendium for the CRCIA and on the ability of Hanford decision-makers to conduct a comprehensive assessment of current conditions. Because the CRCIA is in the early formative stages, it is very important, and timely, to declassify Hanford-related records to support these efforts. Current activities of the CRCIA process include prioritization of records for use in the assessment and initiation of ecological and human health risk assessments. Records not identified in the initial data compendium efforts may exist that would greatly broaden and strengthen the starting point of the assessment. Throughout this process, the CTUIR have insisted that the data compendium include classified or otherwise inaccessible documents as well as non-classified documents concerning Hanford related contamination. We believe that the assessment would be incomplete and without credibility unless ALL existing records that contain information on environmental contamination caused by Hanford are readily available for reference.

We recognize the sheer magnitude of documentation that has been produced at Hanford, and that completing the declassification process and making these records available to the variety of interested parties will not be an easy task. Nonetheless, these documents form the essential starting point for thoroughly assessing known information and for identification of data gaps concerning Columbia River ecosystem contamination and biological effects. A

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<sup>1</sup>Established under the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement or TPA), Fourth Amendment, M-13 Milestones (Ecology et. al.), January 1994.

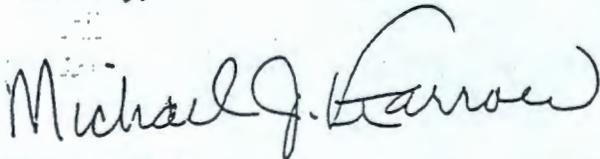
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comprehensive understanding of the content and quality of existing DOE records and an initial assessment of existing environmental conditions will assist in identifying whether existing information is sufficient to conduct the human health and ecological risk assessment. This understanding also will assist in determining if there is a need for any additional assessments, data collection, or sampling in order to quantify the potential threats to the Columbia River, its resources, and the culture and economy of the CTUIR. Making these records available for Tribal and public review at the front end of the CRCIA would likely reduce the number of data gaps regarding human health and ecological contamination and the subsequent need for costly and time consuming data collection and assessment activities later in the process.

The CTUIR appreciate the opportunity to express our support for the recommendations contained in the Compliance Working Group Report on the Hanford Openness Initiative to accelerate declassification of historical records associated with Hanford operations. We also appreciate your support in moving this essential process forward. It is highly likely that the CTUIR will assign representatives to participate on the proposed Hanford Openness Panel to revise classification guidelines and establish a priority system to facilitate the declassification process. The ultimate goal is to broaden our understanding of Hanford past practices in order to assess existing environmental conditions. That knowledge will guide development and implementation of remediation and restoration activities at Hanford. That knowledge also will increase the credibility of dose estimates generated in the HEDRP.

We look forward to working with you on these issues in the near future. If you have any questions or need further clarification on any issues identified above, please contact JR Wilkinson, CTUIR Department of Natural Resources, Hanford Program Manager at (509) 276-0105.

Sincerely,



Michael J. Farrow  
Director, CTUIR Department of Natural Resources

Enclosure

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cc: Honorable Hazel O'Leary, Secretary, U.S. Department of Energy  
CTUIR Board of Trustees, Members  
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