

Hanford Site Cleanup Completion Framework – Comment Response Summary

The *Hanford Site Cleanup Completion Framework* (DOE/RL-2009-10, Rev. 0) provides a comprehensive overview of Hanford cleanup. From October 1 - December 31, 2009, the document was released for public review and comment. The formal public comment period allowed individuals to send written comments through the mail or electronically. Members of the Hanford Advisory Board (HAB) were invited to comment. One hundred sixty-one (161) comments were received from the Oregon Department of Energy, Confederated Tribes of the Umatilla Indian Reservation, Yakama Nation, and 32 individuals covering a wide range of topics and varying perspectives. The following table organizes those comments into 19 categories to facilitate the U.S. Department of Energy’s (DOE’s) responses. In addition to the responses to the comments, the table describes the changes that were incorporated into Revision 0 of the *Completion Framework* that was released in July 2010. The DOE Richland Operations Office (DOE-RL) and DOE (DOE-ORP) appreciate the comments and feedback from all the members of the public, Tribal Nations, and Hanford Advisory Board.

Comment Summary	Response Summary and Change to <i>Framework</i>
<p>1. Budget</p> <p>The vision for completion of cleanup of the River Corridor in 2015 and expected final cleanup and long-term stewardship transition by 2050 leaves questions about the spending practices that need to be managed. With 450 billion gallons of nuclear waste discharged to the soil at Hanford, there is concern about the level of complexity and exorbitant amount of money needed to complete the work. The <i>Framework</i> document should also contain a breakdown as to how this money will be spent.</p> <p style="text-align: center;">*****</p> <p>The U.S. Department of Energy (DOE) needs to analyze the costs of leaving waste in place and the cost of monitoring should be included when long-term liabilities are evaluated</p> <p style="text-align: center;">*****</p> <p>Some people assume that 2 billion dollars is an exorbitant amount of money for this project. Showing an itemized list for administrative costs, personnel needed, chemicals and physical cleanup supplies, and research funds would generate more of a public understanding. The public’s basis of criticism is driven largely by fear. They are provided with numbers from various organizations that are difficult to put into perspective. Perhaps the <i>Framework</i> document could compare the numbers in such a way that would make them easier to understand.</p> <p style="text-align: center;">*****</p> <p>With stimulus money it seems like a perfect time to push ahead with this extra money and help contain the waste.</p>	<p>Response to the Comment. The <i>Framework</i> document is intended to be a high-level overview of Hanford cleanup. There is a separate public process associated with the budget. Each year the DOE Office of River Protection (DOE-ORP) and Richland Operations Office (DOE-RL) are required to prepare an annual budget submittal that is consistent with the Tri-Party Agreement (TPA) and meets regulatory requirements. The TPA is the regulatory framework between DOE, Washington State Department of Ecology (Ecology), and the U.S. Environmental Protection Agency (EPA) that guides cleanup at the Hanford Site.</p> <p>The DOE has a three-year budget process (the current year and the next two years). It includes briefings to and feedback from Ecology and EPA, the Tribal Nations, and the Hanford Advisory Board. A public budget workshop is held in the Tri-Cities and, in the past, regional public meetings on the budget have been held. Budget information made available to the public is very detailed covering breakdown of dollars by cleanup activities. For details of Hanford’s long-term funding requirements see <i>Hanford Lifecycle Scope, Schedule and Cost Report</i> (DOE/RL-2010-25) at http://www.hanford.gov/files.cfm/DOE-RL-2010-25 - %20Rev_00.DOE.pdf.</p> <p>Detailed budget information can be accessed from the following websites:</p> <p>http://www.hanford.gov/page.cfm/HanfordSiteBudget</p> <p>http://www.hanford.gov/?page=603</p> <p>The Hanford Site received over \$1.9B in <i>American Recovery and Reinvestment Act</i> (ARRA) funds. This funding enabled DOE-RL and DOE-ORP to accelerate numerous cleanup projects, e.g., accelerating cleanup along the River Corridor, shrinking the active area of cleanup to an even smaller area in the center of the site, containing contamination on the Central Plateau to keep from moving toward the Columbia River, and upgrading the tank farm and support facility infrastructure necessary to provide the tank waste feed from the tank farms to the Hanford Waste Treatment and Immobilization Plant (WTP) in 2019. For more detailed information on cleanup progress occurring at Hanford from ARRA funding, visit http://www.hanford.gov/recovery</p>

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	<p>Change to Framework Document. Based on comments, DOE revised the document. The revised document includes a discussion of the challenges associated with completing cleanup of the Hanford Site. The revised document also provides a brief overview of <i>Hanford Lifecycle Scope, Schedule and Cost Report</i> (DOE/RL-2010-25) (http://www.hanford.gov/files.cfm/DOE-RL-2010-25_-_%20Rev_00.DOE.pdf).</p>
<p>2. Goals</p> <p>The goals for cleanup in the <i>Framework</i> document do not correspond to <i>Comprehensive Environmental Response, Compensation, and Liability Act</i> (CERCLA) criteria nor do they comply with applicable or relevant and appropriate requirements.</p> <p style="text-align: center;">*****</p> <p>Changes in the language being used in the document suggested a potential downgrading of cleanup expectations. Goal 2 is to “Restore groundwater to its beneficial use....” rather than “Restore groundwater to its highest beneficial use....” Goal 3 and 4 are to clean up to “support anticipated future land uses” and cites the <i>Hanford Comprehensive Land Use Plan</i> (CLUP) as defining long-term land use decisions and cleanup levels which falls short of the intent of <i>National Environmental Policy Act</i> (NEPA). Goal 5 speaks about sending waste to a national repository; however, given that Yucca Mountain is no longer an option, alternate plans should be discussed. The <i>Framework</i> document should describe a backup plan if a national geologic repository is not found.</p> <p style="text-align: center;">*****</p> <p>The wording of the goals is too general and more quantitative goals should be articulated.</p>	<p>Response to the Comment. Groundwater cleanup terminology (beneficial use, highest beneficial use, intended use) was discussed at the December 2009 Hanford Advisory Board Base Assumptions Committee of the Whole Meeting (see Hanford Advisory Board Committee Meeting Information at www.hanford.gov). EPA (40 CFR 300.430(a)(1)(iii)(F) references beneficial uses while Ecology (WAC 173-340-720 (1)(a) refers to highest beneficial use.</p> <p>Federal policy related to CERCLA implementation requires that cleanup decisions support “reasonably anticipated future land use.” DOE is following the CERCLA process to establish and apply appropriate land-use assumptions (see Section 2.3 of the <i>Framework</i> document for the specifics of this policy and how DOE is implementing it at the Hanford Site).</p> <p>DOE remains committed to meeting its obligations to manage and ultimately dispose of spent nuclear fuel and high-level radioactive waste. The DOE-ORP plans to build modular and expandable storage for the immobilized high-level waste product from the WTP. This storage will be expanded as necessary to accommodate safe storage of the product pending shipment to a geologic repository.</p> <p>In response to the last commenter, cleanup goals are discussed in a general manner, because the <i>Framework</i> document provides a high-level overview of Hanford cleanup at a given point in time. Detailed technical data are available in other documents and sources.</p> <p>Change to Framework Document. DOE will comply with CERCLA requirements and implement remedies that are protective. The revised <i>Framework</i> document uses the terminology “beneficial use” that is consistent with groundwater remediation goals under CERCLA. Wording was added that explains beneficial use usually means use as a drinking water supply, but in some cases, for example hexavalent chromium along the river shore, a more stringent cleanup standard is applied to ensure protection of aquatic species</p> <p>The goals in the <i>Framework</i> document are not meant to be driven solely by technological feasibility, but rather, by the ability to achieve quality standards under applicable law. Specifically, the following wording was added to Section 1.4: “Because the Columbia River is central to tribal life, the Hanford Site is extraordinarily rich in a wide variety of natural and cultural resources – many of which do not exist in any other place – that are invaluable to the Tribal Nations.”</p>

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<p>3. Delays/Schedules/Urgency of Cleanup</p> <p>The continual delays in Hanford cleanup creates less confidence in the ability of DOE to actually get cleanup done. Also, continually pushing timeline dates far into the future creates a lack of confidence in the <i>Framework</i> document. This <i>Framework</i> document has an overall vagueness about delays, schedules, and timelines. If the delays are simply because the technology and funding are not available, it would be best to just say that rather than use vague wording like “technical impracticability.”</p> <p style="text-align: center;">*****</p> <p>Public confidence in cleanup schedules has been shaken because deadlines are never met. Timelines and schedules stated in the framework document continue to be vague and there seems to be no accountability.</p> <p style="text-align: center;">*****</p> <p>The <i>Framework</i> document conveys little sense of urgency to move forward quickly with cleanup. The cause of the contamination at Hanford happened before the birth of many of the people living today and the new generations cannot understand the inability to deal with the cleanup issues in a timely fashion.</p> <p style="text-align: center;">*****</p> <p>The language about the Consent Decree was ambiguous and would not allow anyone to hold DOE accountable for proposed deadlines. There is a desire to ban all types of waste from being imported to the Hanford Site and not limit it to certain classes of waste.</p>	<p>Response to the Comment. DOE and the regulatory agencies share a common goal – to clean up Hanford, a safe and effective cleanup that protects the Columbia River. Cleanup must be protective of the worker, the public, and the environment. It is a difficult decision whenever the Tri-Parties (DOE, Ecology, and EPA) need to extend milestone schedules and delay cleanup work and one that cannot be made without meeting Tri-Party Agreement procedural criteria. The Tri-Parties must acknowledge milestone delays and propose new milestones for public review and comment.</p> <p>The Hanford Site received over \$1.9B in ARRA funds. This funding enabled DOE-RL and DOE-ORP to accelerate numerous cleanup projects, e.g., accelerating cleanup along the River Corridor, shrinking the active area of cleanup to an even smaller area in the center of the site, containing contamination on the Central Plateau to keep from moving toward the Columbia River, and upgrading the tank farm and support facility infrastructure necessary to provide the tank waste feed from the tank farms to the Hanford Waste Treatment and Immobilization Plant in 2019. Cleanup work was significantly accelerated with the added ARRA funding. For more detailed information, visit http://www.hanford.gov/recovery.</p> <p>“Technical impracticability” refers to clean up of the groundwater. The national policy for groundwater remediation goals under CERCLA states:</p> <p style="padding-left: 40px;">“EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site. When restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction.”</p> <p>DOE plans to follow the CERCLA process. However, experience has shown that restoration to that standard may not always be achievable due to the limitations of available remediation technologies. In that situation, EPA must evaluate whether groundwater restoration is attainable from an engineering perspective. EPA has a defined approach to evaluate technical impracticability of attaining required groundwater cleanup levels and establishing alternative, protective remedial strategies where restoration is determined to be impracticable.</p> <p>The Consent Decree related to tank waste cleanup was not completed until October 25, 2010, several months after publication of the <i>Framework</i> document. For information on the specific commitments in the Consent Decree online at http://www.hanford.gov/files.cfm/TPA_Final_Entered_Consent_Decree.pdf. The draft <i>Framework</i> document provides a snapshot in time of the status of remediation and the cleanup at the Hanford Site. It did not discuss proposed changes to specific project schedules nor did it address the changes in tank treatment schedules that are subject to Consent Decree and settlement of the law suit in Washington v. DOE, Case No. 08-5085-FVS. Those issues were addressed in the Responsiveness Summary (http://www5.hanford.gov/arpir/?content=findpage&AKey=1010040009) that was issued when the Consent Decree and changes to the Tri-Party Agreement were finalized and signed.</p>
	<p>Change to Framework Document. The document now includes a “key challenges” section for the River Corridor, Central Plateau and Tank Waste to convey the importance and urgency associated with the cleanup of each.</p> <p>The <i>Framework</i> document is intended to be a high-level overview of Hanford cleanup. There is a separate public process associated with the budget.</p>

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<p>4. River Corridor</p> <p>There is no discussion of the long timeline for risks that may remain after cleanup. Soil remediation in the upper 15 ft of soil would also protect groundwater from residual contamination.</p> <p style="text-align: center;">*****</p> <p>Language in the <i>Framework</i> document assumes that remedies chosen for cleanup will remain effective; rather, the chosen remediation must be monitored to ensure that it remains effective. Also, while the <i>Framework</i> document talks about restoring groundwater and protecting the Columbia River, plans also need to be made to deal with contaminant sources far from the Columbia River that could have consequences far into the future.</p> <p style="text-align: center;">*****</p> <p>Simply having DOE retain ownership of contaminated areas is not a remedy. As long as institutional controls are necessary, there is the potential for harm to natural resources.</p> <p style="text-align: center;">*****</p> <p>Long-term stewardship may potentially be inconsistent with CERCLA and the <i>Model Toxics Control Act (MTCA)</i>.</p>	<p>Response to the Comment. DOE is committed to clean up the River Corridor to the point it is protective of future unrestricted surface users and the environment. This requirement impacts the amount of residual contamination allowed to remain and be protective of groundwater. Current cleanup in the River Corridor must meet two protectiveness criteria – one for soil and another for groundwater. Interim Action Records of Decision define removal (of soil) up to 15 feet as protective for surface use. Any residual contamination remaining below 15 ft will be addressed in the record of decision with the requirement to protect groundwater. If after excavating to 15 ft the remaining contamination could impact the groundwater, excavation of the soil will continue until it is determined that the remaining contamination will not negatively impact the groundwater. Final cleanup decisions will ensure cleanup is protective of anticipated future uses, i.e. unrestricted surface use.</p> <p>The final records of decision in the River Corridor will make cleanup decisions that are protective of human uses and the environment. The current remedial investigations will ensure that enough information is available to make final decisions and ensure protectiveness. These final CERCLA cleanup decisions are due to be in place by the end of 2012.</p> <p>DOE agrees that sources from the Central Plateau, if left unchecked, have the potential to migrate to the river under certain conditions. This has been demonstrated with some of the more mobile constituents, e.g., tritium. Other contaminants, which are not as mobile, if left unchecked could eventually reach the river via groundwater. As described in the <i>Framework</i> document, DOE is dealing with these plumes through groundwater remedy decisions for four groundwater operable units on the Central Plateau. The first of these decisions for groundwater in 200 West Area has led to the development of a very large pump-and-treat system with a network of injection wells that will mitigate contaminant migration from the 200 West Area. Final groundwater decisions in 200 East Area will provide similar protection.</p> <p>DOE agrees that ownership is not a remedy; however; future land use is an important consideration when evaluating protectiveness of human health. Institutional controls can play an important role in CERCLA cleanup to prevent exposure to contaminants. Current cleanup under interim action records of decision protect for the hypothetical resident and groundwater. Institutional controls are required by the interim action records of decision for any residual contamination left below 15 ft that is protective of groundwater, but may not be protective if brought to the surface.</p> <p>Change to Framework Document. In the revised document the five-year review process is discussed in a single place in Section 6.4 and the language has been clarified.</p>

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<p>5. Central Plateau</p> <p>Cleanup goals for the Central Plateau should include achieving drinking water standards for groundwater. Contamination in groundwater, vadose zone, and surface soil should all be remediated.</p> <p style="text-align: center;">*****</p> <p>Future plumes from the Central Plateau would always have the possibility of affecting the River Corridor. Therefore, the statement in the <i>Framework</i> document (e.g., “future plumes from the Central Plateau do not need to be considered in River Corridor decisions”) should be changed.</p> <p style="text-align: center;">*****</p> <p>The <i>Framework</i> document needs to include more discussion about contamination in the deep vadose zone.</p> <p style="text-align: center;">*****</p> <p>The <i>Framework</i> document fails to mention the cesium and strontium capsules and there is no discussion of final plans for waste stored at the Canister Storage Building.</p> <p style="text-align: center;">*****</p> <p>There seem to be inconsistencies among three DOE documents: the <i>Central Plateau Cleanup Completion Strategy</i> (http://www5.hanford.gov/arpir/?content=findpage&AKey=1002180676) document, the <i>Framework</i> document, and the <i>Tank Closure and Waste Management Environmental Impact Statement</i> (TC&WM EIS) (http://www.ecy.wa.gov/programs/nwp/tcwmEIS.htm). Maps in the various documents are also inconsistent.</p> <p style="text-align: center;">*****</p> <p>The issue of whether surface barriers should be used and</p>	<p>Response to the Comment. Regarding groundwater, the <i>Framework</i> is consistent with federal groundwater remediation policy. National policy for groundwater remediation goals under CERCLA is defined by 40 CFR 300.430(a)(1)(iii)(F). That policy states:</p> <p style="padding-left: 40px;">“EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a time frame that is reasonable given the particular circumstances of the site. When restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction.”</p> <p>DOE intends to conduct groundwater remediation consistent with this guidance and in compliance with remediation objectives defined in CERCLA records of decision. The CERCLA <i>Record of Decision for 200-ZP-1 Operable Unit</i> sets cleanup levels that meet drinking water standards. This record of decision also results in a very large-scale groundwater treatment system designed to contain contaminants within the 200 West Area and to remediate groundwater to drinking water standards. The groundwater remediation decision for the 200 East Area is forthcoming but a similar level of protection against migration is reasonable to anticipate.</p> <p>The agencies agree that focus on the deep vadose zone is a high priority because of potential impact to the groundwater. In October 2010, the agencies agreed to changes to the Tri-Party Agreement regarding Central Plateau cleanup. One of the changes added milestones for deep vadose zone treatment technology and remedy decisions. The agencies agreed to develop a remedial investigation/feasibility study for deep vadose zone to include technology screening and recommendations for additional pilot and field testing. This will be followed by the development of a feasibility study and proposed plan that will go out for public review and comment.</p> <p>In July 2010, DOE held a Hanford Site Deep Vadose Zone Technical Forum. This technical forum focused on identifying and prioritizing the critical challenges associated with characterization, modeling, remediating, and monitoring the deep vadose zone in Hanford’s Central Plateau. Accumulations of hazardous chemicals, metals, and radionuclides from past liquid waste releases in this area present complex technical challenges for remediation. The technical forum helped guide near- and long-term research needs for deep vadose zone remediation. The technical forum also helped to set the direction for a new integrated field research program at Hanford that will focus on the deep vadose zone starting in 2011. Information and publications can be found online pertaining to Hanford’s Deep Vadose Zone Initiative (http://www.hanford.gov/page.cfm/DeepVadoseZone).</p> <p>Cesium and strontium capsules and the Canister Storage Building are discussed in Section 4.7 of the <i>Framework</i> document.</p> <p>DOE is aware there are some inconsistencies between the three documents. The revision to the <i>Framework</i> document includes maps that are consistent with the Central Plateau Strategy document. The TC&WM EIS discusses the possible development of treatment, storage, and disposal facilities that could be located outside of the Inner Area of the Central Plateau. Final decisions on whether these facilities are needed and their eventual locations will be made after a record of decision is issued for the TC&WM EIS.</p> <p>Detailed information on barriers including long-term performance, biological intrusion performance monitoring, etc. will be addressed in the CERCLA and <i>Resource Conservation and Recovery Act</i> (RCRA) decision-making processes. The <i>Framework</i> and <i>Strategy</i> documents provide high-level overviews of Hanford cleanup approaches not the details of specific issues, such as barrier performance.</p>

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<p>whether they are an acceptable option for cleanup was raised. Final decisions about surface barriers should not be based on information that may be incomplete.</p>	<p>Change to Framework Document. The draft <i>Framework</i> document did not address cesium and strontium capsules, spent fuel or other waste stored at the Canister Storage Building. They are discussed in the revised document in Section 4.7.</p> <p>The revised <i>Framework</i> document now includes a more in-depth discussion on the deep vadose zone under Key Challenges to Central Plateau Cleanup.</p> <p>The revised <i>Framework</i> document contains a more detailed discussion of the <i>Central Plateau Cleanup Completion Strategy</i>, which was issued after the <i>Framework</i> document. The draft <i>Strategy</i> document identified DOE's approach for cleaning up the Central Plateau and shrinking the size of the final footprint required for long-term management of waste and residual contamination. Neither the <i>Framework</i> nor the <i>Strategy</i> document is a cleanup decision document. Cleanup decisions will be made through the CERCLA and RCRA decision-making process. Neither document promotes a bias to cap. The use of surface barriers will be one of the alternatives evaluated against the nine CERCLA criteria. DOE knows the concerns expressed by the Tribal Nations, State of Oregon and stakeholders on the use of barriers and plans with the regulatory agencies to engage them in a series of discussions on the use of surface barriers.</p>
<p>6. Regulatory Issues</p> <p>The regulatory landscape is very confusing. Cleanup plans seem to be using different closure standards for various sites at Hanford. DOE and the regulatory agencies need to clearly define what standards will be used for cleanup, clearly state the standards, and then adhere to them throughout the cleanup process.</p> <p style="text-align: center;">*****</p> <p>The language in the <i>Framework</i> document lacks enough detail to truly understand the regulatory process that is being followed, thus, making it difficult to understand when and how cleanup will be completed.</p>	<p>Response to the Comment. DOE agrees. One objective of the <i>Framework</i> and <i>Strategy</i> (http://www5.hanford.gov/arpir/?content=findpage&AKey=1002180676) documents is to clarify the regulatory landscape. DOE and the regulatory agencies are in the process of establishing consistent requirements and clarifying guidance that will be reflected in new Central Plateau operable unit work plans. The <i>Framework</i> document is a high-level overview of Hanford cleanup at a given point in time. It is one informational tool to help communicate to stakeholders and the public about Hanford cleanup progress achieved, how future decisions will be made, and the technical challenges that need to be addressed.</p> <p>The <i>Framework</i> document does not make cleanup decisions. Those decisions are made through the CERCLA and RCRA regulatory processes. There will be opportunities for more detailed dialogue and input through the NEPA, CERCLA, and RCRA decision document processes.</p> <p>Change to Framework Document. DOE considered these comments in the revision of this document, including how to foster a better understanding of cleanup completion. DOE and the regulatory agencies are in the process of establishing consistent requirements and clarifying guidance that will be reflected in new Central Plateau operable unit work plans. The agencies are developing/establishing one set of agreed upon exposure scenarios, applicable or relevant and appropriate requirements, and remedial action objectives.</p>

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<p>7. Strategies</p> <p>The <i>Framework</i> document uses wording such as “reasonable time frame” and “technically impracticable” many times in describing remediation plans. However, there is no discussion of alternative plans if the current strategies do not work out as expected.</p>	<p>Response to the Comment. The terms “reasonable time frame” and “technical impracticable” were established by CERCLA cleanup policies and guidance. These terms apply primarily to groundwater cleanup. CERCLA policy states the following:</p> <p>“EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the sites. When restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction.” [From 40 CFR 300.430(a)(1)(iii)(F), see also EPA OSWER Directive 9283.1-33, June 2009]</p> <p>This policy guidance clearly describes the expectations if restoration is not practical.</p> <p>For example, in September 2008, the 200-ZP-1 Operable Unit record of decision was signed. That decision put in place a groundwater pump-and-treat system that will be used to capture, treat and reduce Central Plateau groundwater contaminants. The record of decision anticipates 25 years of operation of the treatment system followed by a 100-year period of monitored natural attenuation will be sufficient to meet treatment standards for all contaminants of concern. This is considered a reasonable timeframe due to the specific nature and uses of the Hanford Site. As cleanup of this plume proceeds, the contaminants will continue to be contained within the 200-West Area. The groundwater will not be used for drinking water during its restoration and because of its depth, is not accessible to plants or animals.</p> <p>Treatment of the strontium-90 groundwater plume along the river (100-N Area) is an example of how the agencies responded when an initial cleanup remedy did not work. Groundwater contamination in this area exceeds drinking water standards by as much as three orders of magnitude (a factor of 1,000). In the mid-1990s, the Tri-Parties began treatment of the plume. After nearly 10 years of operation it was determined that the pump-and-treat system was not removing the strontium-90. Strontium-90 binds tightly to soil and the pump-and-treat system removed only one-tenth of the contaminant mass when compared to mass lost due to natural radioactive decay. It was determined through the CERCLA five-year review, which evaluates the effectiveness of remedies, that the pump-and-treat system was not working, should be stopped and other cleanup remedies pursued. Today, DOE has installed a permeable subsurface barrier that captures strontium-90 as it migrates through the subsurface and plans to extract and isolate (phytoextraction) waterborne contaminants.</p> <p>The CERCLA five-year review is one of the key regulatory processes used to ensure cleanup efforts are successful. The five-year review is designed to answer the following questions:</p> <ol style="list-style-type: none"> 1. Is the selected remedy performing as intended and protecting of the worker, public and environment? 2. Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy still valid? 3. Has any other information come to light that could call into question the protectiveness of the remedy? <p>The Tri-Parties have used findings from this review to abandon cleanup remedies that are not working as intended and find new, more effective remedies.</p> <p>Change to Framework Document. The revised <i>Framework</i> document includes an expanded discussion of the CERCLA five-year review process and how this is implemented at the Hanford Site.</p>

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<p>8. Comprehensive Land-Use Plan</p> <p>The <i>Framework</i> document uses the <i>Hanford Comprehensive Land-Use Plan (CLUP)</i> as a standard for anticipated land uses. However, this falls short of the intent of NEPA and constrains future land-use options.</p> <p style="text-align: center;">*****</p> <p>Using the Hanford CLUP to determine the intended land use is not appropriate because the use of land may change over time.</p> <p style="text-align: center;">*****</p> <p>The <i>Framework</i> document seems to identify cooperating agencies and the language implies concurrence by these cooperating agencies to decisions presented in the CLUP. This is not necessarily the case. In addition, the EIS language contains language that indicates that DOE was trying to abrogate Treaty rights through the NEPA process, which it cannot legally do.</p> <p style="text-align: center;">*****</p> <p>The Hanford CLUP has no legal standing and land-use decisions cannot be based on it.</p>	<p>Response to the Comment. The development of a comprehensive land-use plan was legally required by Congressional direction in the <i>National Defense Authorization Act for Fiscal Year 1997</i>. The NEPA process and congressional act makes the Hanford CLUP legally enforceable. The <i>Final Comprehensive Land Use Plan Environmental Impact Statement HCP EIS</i> (DOE/EIS-0222-F) (http://www.doe.gov/nepa/downloads/eis-0222-final-environmental-impact-statement) was developed under NEPA following applicable laws and regulations. A record of decision was issued on November 1999 that established the Hanford CLUP to address future land-uses. The CLUP is used to manage land on a day-to-day basis in consideration of future land uses. The policies set forth in the Hanford CLUP guide the use of Hanford property, such as management of site resources in accordance with Federal laws, executive orders, Tribal Nations’ treaty rights, DOE directives, and Hanford Site procedures.</p> <p><i>Final Hanford Comprehensive Land Use Plan Environmental Impact Statement</i> (HCP EIS) was a DOE decision that was informed by public and tribal input. The HCP EIS was the product of the Revised Draft Hanford Remedial Action Environmental Impact Statement and Comprehensive Land-Use Plan. The HCP EIS (which took several years to develop beginning in 1992), provided numerous opportunities for public input and was modified based on comments received. Several cooperating agencies (Benton, Franklin, Grant and Adams Counties; Nez Perce Tribe, and Confederate Tribes of the Umatilla Indian Reservation) were involved in identifying the alternatives analyzed in the revised draft. DOE considered over 400 comments before issuing the final environmental impact statement and record of decision. DOE recognizes that cooperating agencies do not necessarily concur with the Hanford CLUP.</p> <p>The Hanford CLUP defines the intended uses of the Hanford Site. In September 1999, DOE issued the <i>Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement</i> (HCP EIS). It analyzed alternatives in terms of their impact to implement a land-use plan for the Hanford Site for at least the next 50-year planning period and lasting for as long as DOE retains legal control of some portion of the land. In November 1999 DOE issued its record of decision, establishing the CLUP, which identified four key elements:</p> <ul style="list-style-type: none"> • A land-use map that addressed the Hanford Site as five geographic areas • A set of nine land-use designations that define the permissible uses for each area of the site • The land-use policies • The implementing procedures that would govern the review and approval of future land uses. <p>Implementation of the Hanford CLUP is considered an ongoing program that should be reviewed (based on recommendations in the HCP EIS, as well as, Council on Environmental Quality guidance) every five years. Per NEPA guidance, this review would be in the form of a supplement analysis, prepared under DOE’s NEPA regulations (10 CFR 1021). The supplemental analysis is used to determine if the existing HCP EIS remains adequate, or whether a new EIS, or a supplement to the existing EIS, should be prepared. The supplemental analysis is used to determine if additional NEPA review is needed due to potential changes to the four key CLUP elements.</p> <p>In June 2008, a supplemental analysis was done on the Hanford CLUP. It found no significant changes in circumstances or substantial new information since 1999 and required no additional NEPA action. However, DOE did publish an amended record of decision in September 2008 (73 FR 55824) to clarify that other regulatory processes, additional implementation controls, and stakeholder involvement processes are acceptable methods to address whether proposed activities at the Hanford Site are consistent with the CLUP designation, map, and policies. The amended record of decision reset the timeline for the Hanford CLUP to be applicable for the next 50 years. DOE will continue to review and evaluate the CLUP as required.</p> <p>DOE manages the Hanford Site lands consistent with the HCP EIS, its associated record of decision, and in accordance with federal laws, executive orders, Tribal Nations’ treaties, DOE directives, and Hanford Site procedures. DOE recognizes its federal trust relationship and has committed to a government-to-government relationship. DOE recognizes the need to fulfill Treaty and Trustee obligations.</p> <p>Change to Framework Document. Section 2.3.2 discusses the role of land use in CERCLA Remedy Selection Process. Section 6.0 in the revised document was expanded and includes a section on the challenges for long-term stewardship and legacy management.</p>

Comment Summary	Response Summary and Change to <i>Framework</i>
<p>9. Groundwater and Columbia River</p> <p>The <i>Framework</i> document outlined a groundwater cleanup plan, but there were no specifics in the document about how the cleanup could be achieved.</p> <p>*****</p> <p>Perhaps a record of decision should be proposed for the impact to the Columbia River. Specifically, concerns were expressed about controlling the groundwater plumes from the 200 Areas and how any future plumes would be dealt with. Concerns were expressed about the statement in the document that the groundwater plumes can be successfully contained within the Central Plateau when monitoring has already shown plumes have escaped the Central Plateau and run east as far as the Columbia River. The groundwater contamination in the Central Plateau will pose a long-term threat to water migrating toward the river corridor and the framework document must explain how the Columbia River will be protected.</p> <p>*****</p> <p>The <i>Framework</i> document is unclear about how interim actions will prevent exposure to contaminated groundwater and how removal actions compare to the 15-ft cleanup depth. The longer remediation is required, the more likely it is to fail and that it is incorrect to indicate in the document that the groundwater contaminant situation is under control.</p> <p>*****</p> <p>Cleaning up the groundwater to drinking level standards is simply not feasible. The TC&WM EIS indicates it will be more than 5,000 years to reach drinking level standards. The <i>Framework</i> document may be in disagreement with the EIS.</p>	<p>Response to the Comment. DOE’s goal is safe and effective cleanup that protects the Columbia River. Groundwater cleanup and protection of the Columbia River are major cleanup priorities for the agencies, the Tribal Nations, the stakeholders and the public. The <i>Framework</i> document defines general goals and objectives. Specific cleanup actions are determined through the CERCLA process. The <i>Hanford Federal Facility Agreement and Consent Order</i> (Tri-Party Agreement - TPA) sets the schedule for achieving CERCLA decisions and RCRA compliance. The public has an opportunity to comment on CERCLA proposed plans and engineering evaluation/cost analyses and proposed changes to the TPA. Also, the protectiveness of the cleanup actions performed under CERCLA records of decision is reviewed every five years.</p> <p>In 2009 the Tri-Party Agreement agencies made changes to the Tri-Party Agreement that are intended to accelerate groundwater cleanup in the River Corridor and protect the river from contamination. DOE and the regulatory agencies are deploying a number of ongoing integrated actions to address groundwater contamination. These include cleaning up waste sites that are sources of the contamination, using treatment technologies (such as bioremediation and the mineral apatite) to immobilize contamination, and expanding pump-and-treat systems to clean up contamination in the groundwater. In addition, September 2008, the <i>200-ZP-1 Operable Unit Record of Decision</i> was signed (http://yosemite.epa.gov/r10/CLEANUP.NSF/sites/hanford2/\$FILE/Hanford-200-ZP-1-ROD.pdf). Based on that decision, work is underway to put in place the largest groundwater pump-and-treat system at the Hanford site that will capture, treat and reduce Central Plateau groundwater contaminants. It is expected to reduce the primary contaminant, carbon tetrachloride, by approximately 95% over 25 years and is expected to meet state standards for all contaminants of concern. These are complex and widespread cleanup actions that will require time to coordinate and implement.</p> <p>The <i>Framework</i> document is consistent with federal groundwater remediation policy. National policy for groundwater remediation goals under CERCLA is defined by 40 CFR 300.430(a)(1)(iii)(F). That policy states:</p> <p>“EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a time frame that is reasonable given the particular circumstances of the site. When restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction.”</p> <p>DOE intends to conduct groundwater remediation consistent with this guidance and in compliance with remediation objectives defined in CERCLA records of decision. In September 2008, the CERCLA record of decision for 200-ZP-1 Operable Unit was signed. Based on that decision, work is underway in the 200 West Area to put in place a large groundwater pump-and-treat systems that will be used to capture, treat, and reduce Central Plateau groundwater contaminants. It is expected to reduce the primary contaminant, carbon tetrachloride, by approximately 95% over 25 years and is expected to meet state and federal standards for all contaminants of concern.</p> <p>The groundwater remediation decision for the 200 East Area is forthcoming. Groundwater contaminant plumes containing principally tritium, nitrate and iodine-129 have migrated from disposal facilities associated with the Plutonium Uranium Extraction (PUREX) Plant in 200 East Area (Central Plateau) to the River Corridor. Remedial decisions for these plumes will be made in future CERCLA records of decision. Remedial investigation/feasibility work plans for the river corridor operable units recognize the presence of these plumes. Future impact to groundwater will be addressed in source operable unit records of decision.</p> <p>The draft TC&WM EIS did not evaluate remediation of groundwater and did not analyzed CERCLA groundwater remedial actions that are in place or planned.</p> <p>Timelines for remediation depend on technical feasibility of remedial technologies that may be selected to address the problem and the realities of the physical system (e.g., geohydrology, chemistry). CERCLA records of decision reflect remediation goals for groundwater and river resource protection. DOE recognizes that there are some contaminant plumes that, due to their extent, may prove to be problematic and may be candidates for technical impracticability determinations. They may also be suitable for monitored natural attenuation remedial approaches under current remedial guidelines. These decisions have not been made. They will be made through the CERCLA process that will include public review and comment before a record of decision is issued.</p> <p>Groundwater remediation and river protection goals are reflected in Tri-Party Agreement milestones/target dates, specifically M-016 series of milestones that set dates to achieve river and groundwater resource protection criteria. Remedial action objectives set forth in CERCLA records of decision also reflect this policy.</p>

Comment Summary	Response Summary and Change to <i>Framework</i>
	<p>Change to Framework Document. No changes are anticipated at this time. The <i>Framework</i> document is consistent with federal groundwater remediation policy. National policy for groundwater remediation goals under CERCLA is defined by 40 CFR 300.430(a)(1)(iii)(F). That policy states:</p> <p>“EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a time frame that is reasonable given the particular circumstances of the site. When restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction.”</p>
<p>10. Technical Impracticability</p> <p>The definition of technically impracticable seems unclear. Because the goal is to obtain the most cleanup with the least amount of money, there must be a cutoff line for cost and potential hazard cleanup and DOE needs to define that line.</p>	<p>Response to the Comment. “Technical impracticability’ refers to clean up of the groundwater. The national policy for groundwater remediation goals under CERCLA states:</p> <p>“EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a time frame that is reasonable given the particular circumstances of the site. When restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction.”</p> <p>DOE plans to follow the CERCLA process. Experience has shown that restoration to that standard may not always be achievable due to the limitations of available remediation technologies. In that situation, EPA must evaluate whether groundwater restoration is attainable from an engineering perspective. EPA has a defined approach to evaluate technical impracticability of attaining required groundwater cleanup levels and establishing alternative, protective remedial strategies where restoration is determined to be impracticable.</p> <p>Change to Framework Document. Clarification of the terminology for groundwater cleanup was provided in the revised document.</p>

Comment Summary	Response Summary and Change to <i>Framework</i>
<p>11. Long-Term Stewardship and Institutional Controls</p> <p>There should be concrete plans and timelines for long-term stewardship. There is concern about what is going to happen to the Hanford Site after the cleanup work is completed.</p> <p style="text-align: center;">*****</p> <p>Perhaps Hanford should be developed as an energy site for wind and solar power development.</p> <p style="text-align: center;">*****</p> <p>Cleanup decisions should have a bias toward greatly reducing the need for institutional controls and long-term stewardship activities. The <i>Framework</i> document should be revised to more clearly identify ways to minimize the need for long-term stewardship and institutional controls. Long-term stewardship and institutional controls cannot be a substitute for good cleanup.</p> <p style="text-align: center;">*****</p> <p>Relying on institutional controls and long-term stewardship rather than well planned and active remediation of highly toxic waste will fail at some point and stronger and more rigorous cleanup needs to be instituted.</p>	<p>Response to the Comment. Long-term stewardship and institutional controls will not be the basis for addressing long-lived contamination on the Hanford Site. Institutional controls and the cleanup remedy work together. Looking at one without the other provides an incomplete cleanup picture. Institutional controls provide added layers of protectiveness to the cleanup remedy. This multi-layered approach is used by DOE and other agencies to deal with contamination across the United States. Institutional controls (DOE long-term stewardship responsibilities) are defined and managed in accordance with the post-cleanup, requirements specified in the associated decision documents. These decision documents include, but are not limited to, CERCLA records of decision, RCRA corrective action decisions and RCRA post-closure plans. The Long-Term Stewardship Program has responsibility to oversee and ensure long-term protectiveness requirements are met as defined by the cleanup decision documents (i.e., records of decision). A <i>Draft Long-Term Stewardship Program Plan</i> (http://www.hanford.gov/pageaction.cfm/calendar?IndEventId=7343&indEventDate=2010-03-16%2007:05:00.0) was released and made available for public feedback (February 26 – April 9, 2010).</p> <p>DOE manages the Hanford Site lands consistent with the HCP-EIS record of decision. The HCP-EIS record of decision established the CLUP for the Hanford Site, which included a land-use map, land-use designations, land-use policies, and implementing procedures that govern the review and approval of future land uses. The CLUP is used to manage land on a day-to-day basis and also in consideration of future land uses. The policies set forth in the CLUP guide the use of Hanford property, such as management of site resources in accordance with federal laws, executive orders, Tribal Nations’ treaty rights, DOE directives, and Hanford Site procedures.</p> <p>One reuse option is energy parks (see Appendix B in the revised <i>Framework</i> document). DOE-RL is in the process of implementing the DOE-HQ Office of Environmental Management Energy Park Initiative. This initiative is designed to leverage DOE resources, in partnership with industry and local stakeholders, to establish energy parks that meet the nation’s demand for safe, secure, and affordable energy. Solar and wind along with other energy sources would be evaluated as part of this effort.</p> <p>DOE’s intent is to minimize the area requiring long-term institutional controls to protect human health and the environment. Institutional controls (DOE long-term stewardship responsibilities) are defined and managed in accordance with the post-cleanup, requirements specified in the associated decision documents. These decision documents include, but are not limited to, CERCLA records of decision, RCRA corrective action decisions and RCRA post-closure plans.</p> <p>Change to Framework Document. The document was revised to clarify the goals and processes in place for institutional controls and long-term stewardship.</p>

Comment Summary	Response Summary and Change to <i>Framework</i>
<p>12. Natural Resource Damages and the Cleanup Process DOE needs to explain how the responsibility for resource and damage assessment is allotted to the Tribal Nations.</p> <p>*****</p> <p>A critical goal of cleanup must be to minimize NRDA liability; a decision to leave waste in place constitutes continuing injury and incurs ongoing liability for losses as long as the waste remains harmful. NRDA will define the restoration necessary and not “desired” as indicated in the text. In addition, the timeline in the <i>Framework</i> document is not quite right because Phase I of the injury assessment plan has been completed.</p> <p>*****</p> <p>DOE should explain how funding will be provided for injury studies to assess the damages to natural resources resulting from releases from hazardous substances including radionuclides. The industrialized 300 Area represents a substantial natural resource damage liability because resources could be permanently lost.</p> <p>*****</p> <p>The Natural Resource Trustee’s role is misstated in the <i>Framework</i> document; it is not limited to CERCLA-regulated releases.</p> <p>*****</p> <p>The <i>Framework</i> document indicates long-term stewardship activities will ensure protection of human health and the environment. However, as long as institutional controls are necessary, natural resource injury may remain.</p>	<p>Response to the Comment. As stated in Section 2.4, the Tribal Nations (Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation, and Nez Perce Tribe) along with DOE, U.S. Department of Interior (DOI), U.S. Department of Commerce, and the states of Oregon and Washington are designated Natural Resource Trustees at Hanford. The Tribal Nations’ role in the Natural Resource Damage Assessment (NRDA) process is determined by their trust responsibilities. The Trustees are responsible for completing the CERCLA NRDA process and have formed the Hanford Natural Resource Trustee Council (HNRTC) to perform this effort in a cooperative manner. The HNRTC is governed by a memorandum of agreement and set of by-laws approved by designated Trustees. The HNRTC decides how work is to be performed. In some cases, work is assigned to a sub-group of the HNRTC or one of six Technical Work Groups. For larger efforts, such as the Injury Assessment Plan, the HNRTC uses the services of a contractor who specializes in that line of work. All key decisions made by the HNRTC are by consensus. The Injury Assessment Plan is being prepared in accordance with DOI regulations for a NRDA Type B assessment. This assessment planning process will be designed to address all natural resources, injury categories, and services listed in the DOI NRDA regulations or identified by the Trustees. The effort will ultimately define those efforts necessary for restoration of natural resources injured by hazardous substances released from Hanford operations and subsequent impacts to services the resources provided over time.</p> <p>You can learn more about Trustee responsibilities on the HNRTC website (http://www.hanford.gov/page.cfm/HNRTC). The Trustees have initiated the NRDA process and are involved in response action activities. DOE recognizes the value of integrating cleanup decisions with the NRDA process to address both injury to natural resources and any service losses to baseline conditions.</p> <p>DOE, in collaboration with the other Trustees, is currently in the process of injury assessment. Any decision to fund injury studies will be determined upon completion of the injury assessment plan. No analysis has been completed to determine whether the 300 Area represents a large natural resource damage liability. The natural resource injury assessment process is underway and is in the early stages of that process. DOE agrees with the comment that the purpose of NRDA is restoring to baseline levels and has modified the document accordingly.</p> <p>DOE is committed to clean up the River Corridor to be protective of unrestricted surface uses and the environment. DOE is coordinating with the other Trustees in its CERCLA risk assessments and will consider outputs from the injury assessment activities as final River Corridor records of decision are developed.</p> <p>The Hanford Long-Term Stewardship Program (http://www.hanford.gov/pageaction.cfm/calendar?IndEventId=7343&indEventDate=2010-03-16%2007:05:00.0), managed by the Department of Energy Richland Operations Office Assistant Manager for Mission Support, is not responsible for the development or implementation of restoration activities. Restoration activities and timelines are part of the NRDA process. HNRTC, a collaborative working group, is chartered to address natural resources impacted by Hanford Site releases of hazardous substances. The Trustees are responsible for completing the CERCLA NRDA process.</p>
	<p>Change to Framework Document. DOE has modified the document to clarify that the document speaks to the Trustee’s role under CERCLA.</p> <p>DOE has modified the <i>Framework</i> document to clarify the NRDA process. DOE recognizes the value of integrating cleanup decisions with the NRDA process to address both injury to natural resources and any service losses to baseline conditions. DOE’s Environmental Management policy on integration of natural resources concerns into response actions states: “The objectives of this policy are to promote more complete consideration of the risks associated with cleanup alternatives, lower the total life-cycle costs of the program, and minimize potential claims against the Department”.</p> <p>DOE agrees that the discussion about natural resource injury assessment benefits from a separate heading and discussion. In the document, see the section titled “Background for Cleanup Decision Making, Natural Resource Injury Assessment.”</p> <p>DOE agrees that NRDA is about restoration and protection of natural resources and has modified the document accordingly.</p>

Comment Summary	Response Summary and Change to <i>Framework</i>
<p>13. Public Education/Involvement</p> <p>One of the most important things is to keep the public educated about what is going on at Hanford and how cleanup is progressing. Although the <i>Framework</i> document is an attempt to provide information, it is not widely publicized.</p> <p style="text-align: center;">*****</p> <p>The legacy of nuclear waste at Hanford will ultimately be solved by future generations and suggested that keeping younger generations informed and educated about Hanford is important.</p>	<p>Response to the Comment. DOE agrees. We have developed a number of tools to inform and reach out to audiences of all ages. For example, the <i>Hanford Story</i> and <i>A Journey through Hanford</i> videos (both available on www.hanford.gov/ under News Room – Video Gallery) provide two informational perspectives on Hanford past and present. In fiscal year 2011, over 1,700 individuals toured the Hanford site through DOE’s Hanford Public Tour program and over 8,000 individuals toured the Hanford B reactor, a National Historic Landmark. In addition, we provided several tours to college classes focused on Hanford issues. This year, through the Hanford Speakers Bureau, DOE and contractor staff spoke on Hanford-related issues to over 2,200 individuals in community forums (e.g., Rotary, Kiwanis, and Chambers of Commerce) and high-school classes. We are using Twitter, Facebook, YouTube, and the Hanford website to provide information on Hanford and identify when, where, and how the public can become involved in Hanford’s cleanup decision-making process, e.g., public meetings, workshops and webinars. The <i>Framework</i> document was developed as another tool to give the overall approach for cleanup and to provide context for individual cleanup decisions to be made, as well as challenges that remain.</p> <p>DOE values its ongoing dialogue with stakeholders and the public on Hanford cleanup issues and challenges. For almost eighteen years the Hanford Advisory Board – a non-partisan and broadly representative group of diverse interests affected by Hanford – has provided DOE, Ecology, and EPA advice on Hanford cleanup policy issues.</p> <p>Hanford cleanup cannot be accomplished without the support and involvement of the stakeholders and citizens of the Northwest and our nation. We are committed to continuing to make improvements to the ways that we reach out to inform and involve them.</p> <p>Change to Framework Document. No specific changes were made to the document. Future updates to the <i>Framework</i> will reflect the latest information about, and opportunities for, public education and involvement.</p>

Comment Summary	Response Summary and Change to <i>Framework</i>
<p>14. Risk</p> <p>Hanford Site-related contaminants should not only be analyzed, but DOE should strive to eliminate any risk that is present on the site. While the <i>Framework</i> document identifies the goal of ensuring protection of human health and the environment after cleanup, the language in the document goes on to say that completion of cleanup will not result in total elimination of all contamination.</p> <p>*****</p> <p>It appears cleanup decisions will be made before final risk assessments are completed. DOE is urged to remember that risk assessments should not be too abstract; what might seem to be low risk on paper might be devastating in people's lives.</p> <p>*****</p> <p>It is time for DOE to prepare a risk assessment for the combined ERDF-US Ecology landfill.</p> <p>*****</p> <p>DOE should hold a workshop to help describe the methods that will be used in risk assessments. Some recent risk assessments and environmental impact statements have contained a Native American scenario that bears no resemblance to the scenario submitted by the Tribal Nations.</p> <p>*****</p> <p>A risk assessment has not been done on closeout of the 100 and 300 Areas. Although 5-year reviews are promised, the 5-year reviews do not take the place of a risk assessment.</p>	<p>Response to the Comment. Elimination of <u>all</u> risk is not possible and striving to do so is not a reasonable use of public resources. Typically, CERCLA cleanup actions strive to reduce the additional cancer risk posed to an individual to no more than 1 in 10,000 or 1 in 1,000,000. Those standards, by law, are considered protective of human health. Our environment consists of natural and manmade chemicals and compounds that we often refer to as contaminants. The natural chemicals are often metals, including some radionuclides, which naturally occur in the soil and water. Many metals, such as copper, zinc, iron, and selenium are essential in small quantities but are toxic at high concentrations. Natural radionuclides, including potassium-40, radium, radon, and thorium, are often found at elevated concentrations. Some areas in the United States contain much higher concentrations than other areas. For example, the Spokane, Washington, area has higher natural radionuclide concentrations than the Tri-Cities; Denver, Colorado, has much higher concentrations than Spokane. Risk assessments try to determine what concentrations of contaminants are from site operations and what concentrations of contaminants are from natural or widespread sources. This is done through an analysis of background concentrations of contaminants. Cleanup operations are responsible to clean up to low risk levels or to background concentrations. Environmental regulations define cleanup standards required to protect human health and the environment. To protect human health, cleanup goals define cleanup concentrations that would lead to very low chances of adverse effects. These goals are based on activities that could lead to humans being exposed to contaminants.</p> <p>Cleanup decisions must include information from risk assessments. First and foremost, a risk assessment evaluates the risk posed by site contamination to allow development of cleanup requirements that must be achieved to protect human health and the environment.</p> <p>Risk assessments will present information about the current risks to human health and the environment and identify concentrations that will result in low risk to humans, other animals, and plants. Risk managers will consider uncertainty in those risk assessment conclusions and will evaluate reasonable human activities at the site in order to make risk management decisions to protect human health. Those decisions will include consideration of what to clean up, how extensive the cleanup will be, and what restrictions on human activities are reasonable. A baseline risk assessment is being completed for the River Corridor and these assessments feed directly into the final remedy decisions for all River Corridor operable units. This is due to be in place by the end of 2012. Consistent with EPA guidance, this baseline risk assessment is evaluating current conditions without institutional controls. Risk assessments will also evaluate potential risks posed by reasonably foreseeable future land uses. Baseline risk assessments in the River Corridor will be evaluated using multiple exposure scenarios encompassing multiple land uses. The risk assessments will provide an evaluation of both non-remediated and remediated waste sites and will present preliminary remediation goals based on several human health risk scenarios and several ecological receptors.</p> <p>In developing the River Corridor Baseline Risk Assessment, DOE held a series of workshops with representatives of the Tribal Nations, stakeholders, and other interest groups to better communicate risk assessment methods and to ensure that the risk assessment included information of interest to all parties. In addition, DOE analyzed several Native American exposure scenarios in other risk assessments, such as the River Corridor Baseline Risk Assessment and the remedial investigation reports for operable units. The Native American exposure scenarios include scenarios provided by both the Yakama Nation and the Confederated Tribes of the Umatilla Indian Reservation.</p> <p>Change to Framework Document. No specific changes were made to the <i>Framework</i> document; however, these comments and concerns have been incorporated into other processes that are developing risk assessments that support decision making.</p>

Comment Summary	Response Summary and Change to <i>Framework</i>
<p>15. Tanks/Tank Waste Treatment</p> <p>The proposal in the <i>Framework</i> document to extend current deadlines fails to recognize the danger of waste reaching the groundwater system.</p> <p style="text-align: center;">*****</p> <p>The discussion of tank waste in the <i>Framework</i> document does not present a clear idea of what final cleanup looks like. In addition, the section on tank waste is inconsistent with the TC&WM EIS and there is no mention of NRDA in the tank discussion.</p>	<p>Response to the Comment. The draft <i>Framework</i> document provided a snapshot in time of the status of remediation and the cleanup at the Hanford Site. The draft <i>Framework</i> document did not discuss the changes in tank treatment schedules that are subject to Consent Decree and settlement of the law suit (Washington v. DOE, Case No. 08-5085-FVS). Those issues are discussed in the Responsiveness Summary (http://www5.hanford.gov/arpir/?content=findpage&AKey=1010040009) that was issued when the Consent Decree (http://www.hanford.gov/files.cfm/TPA_Final_Entered_Consent_Decree.pdf) and changes to the Tri-Party Agreement were finalized (10/25/2010).</p> <p>Achieving the long-term mission of DOE-ORP project is an undertaking involving highly technical, operational, and regulatory issues. The mission remains unchanged – to safely retrieve, immobilize, treat, and dispose of the 53 million gallons of radioactive and chemical tank waste stored in 177 underground tanks, and close the tank farms. As the project moves forward, we will continue to look for ways to accelerate that mission and reduce the overall cost and project risks.</p> <p>NRDA is discussed Chapter 2 of the <i>Framework</i> document. NRDA applies to cleanup activities for the Hanford Site as a whole and is not applied separately to parts of the cleanup mission</p> <p>Change to Framework Document. The revised <i>Framework</i> document does include sections that discuss the urgency for cleanup and describe in greater detail the major technical challenges facing cleanup completion.</p> <p>The <i>Framework</i> document is not intended to select remedial actions for past releases from tank farms or other areas. It defines the suite of decisions that need to be made to achieve final cleanup. Additional details regarding the tank waste cleanup section of the Hanford cleanup mission were added to the revised <i>Framework</i> document.</p> <p>The revised <i>Framework</i> document describes the range of tank closure alternatives evaluated by the TC&WM EIS (http://www.ecy.wa.gov/programs/nwp/tcwmEIS.htm).</p>
<p>16. Tribal Nations</p> <p>The <i>Framework</i> document says certain tribal uses may be allowed by DOE in the future, but it does not identify how or who will determine those uses.</p> <p style="text-align: center;">*****</p> <p>The <i>Framework</i> document makes no mention of treaty rights. The document seems to emphasize DOE’s intent to control cleanup at the expense of the interested of other parties. In addition, DOE cannot use NEPA to exclude the exercise of Treaty Rights.</p>	<p>Response to the Comment. DOE has consulted with the Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe, and the Wanapum for many years. Over that time, the desires of the tribal representatives to use the Hanford Site to carry on activities protected by their treaties or traditional practices has often been expressed. To date, there have not been any definitive plans developed or agreed to on how that would occur. DOE will continue to consult with the Tribal Nations on their interest in future uses of the Hanford Site.</p> <p>Change to Framework Document This document is not focused on taking any position on legal rights. DOE will continue to follow the DOE American Indian and Alaskan Native Tribal Government Policy (2002) that recognizes its federal trust relationship and responsibilities to tribes.</p>

Comment Summary	Response Summary and Change to <i>Framework</i>
<p>17. Worker Safety</p> <p>In the past, the Occupational Safety and Health Administration (OSHA) and Nuclear Regulatory Commission (NRC) have not been allowed on the Hanford Site due to its status as a military facility. The safety of workers should mean that OSHA and NRC are allowed on the site immediately.</p> <p style="text-align: center;">*****</p> <p>The <i>Framework</i> document should identify how DOE compensates their workers for exposure to highly radioactive contaminant waste.</p>	<p>Response to the Comment. DOE’s number one priority is worker safety. Every worker has the right to do work safely in a safe environment. Every worker has the right to stop work if he/she believes it is not being done safely. The <i>Atomic Energy Act</i> identifies DOE as the agency responsible to protect the health and safety of its workers. DOE must follow the requirements identified in the Occupational Radiation Protection Program (10 CFR 835) and the Worker Safety and Health Program (10 CFR 851). The Occupational Radiation Protection Program (10 CFR 835) requirements are comparable to NRC regulations for radiological protection of workers and the Worker Safety and Health Program (10 CFR 851) requires compliance with all applicable OSHA regulations.</p> <p>The Department of Labor manages a program in which the government compensates DOE and its contractors’ employees in the event they have illnesses relating to their employment. Claimants can file for compensation whether they are a current employee, former worker, or survivor of that employee.</p> <p>Former workers are eligible also to participate in the Former Workers Program that will provide medical screening (including beryllium testing) to assist those employees in monitoring their health and focusing on potential occupational illnesses. The website describing that program is located at http://www.hss.energy.gov/HealthSafety/FWSP/formerworkermed</p> <p>Change to Framework Document. The <i>Framework</i> document is a high-level overview of Hanford cleanup at a given point in time. It is one informational tool to help communicate to stakeholders and the public about Hanford cleanup progress achieved, how future decisions will be made and the technical challenges that need to be addressed. As such, it does not directly discuss workers safety. However, DOE’s number one priority is worker safety and is implicit in all activities on the Hanford Site. Every worker has the right to do work safely in a safe environment. Every worker has the right to stop work if he/she believes it is not being done safely.</p>
<p>18. General Comments</p> <p>DOE can be thanked for the opportunity to review the <i>Framework</i> document. Immense strides have been achieved, but everyone must be diligent to be sure this progress continues.</p> <p style="text-align: center;">*****</p> <p>The spraying of herbicides to prevent growth of deep-rooted vegetation relies on the assumption that spraying in perpetuity is a viable treatment option. This assumption should be revisited.</p> <p style="text-align: center;">*****</p> <p>The Framework document contains blank pages that are confusing and gives the impression that something has been deleted or that something has been deleted.</p>	<p>Response to the Comment. The <i>Framework</i> document is a high-level overview of Hanford cleanup at a given point in time. It is one informational tool to help communicate to stakeholders and the public about Hanford cleanup progress achieved, how future decisions will be made, and the technical challenges that need to be addressed.</p> <p>For the past twenty years, the Tri-Parties have worked with the Tribal Nations, stakeholders, and the public to identify Hanford cleanup priorities and address the highest risks. Protection of the Columbia River is the shared goal that guides Hanford cleanup. Today, there is a strategy being implemented to clean up the River Corridor. The Tri-Parties have a shared vision and are finalizing changes to the Tri-Party Agreement that will set schedules for cleaning up the Central Plateau. Because Hanford has a cleanup strategy along with a record of progress and a regulatory framework to support cleanup work, it was able to receive a substantial amount of the ARRA funding allocated for environmental cleanup. DOE is using those funds to clean up Hanford and provide the basis for continued funding.</p> <p>Change to Framework Document. The document was revised based on the comments received. For example, a key challenges section was added to River Corridor, Central Plateau, Tank Waste, and Long-Term Stewardship sections. The over-arching cleanup goals are used to help set priorities, but do not reflect an order of importance.</p> <p>The blank pages in the draft reflect an older format style where blank pages were used to divide the document. Blank pages will be eliminated in the revised document.</p>

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<p>19. Level of Detail/Purpose</p> <p>The <i>Framework</i> document seems vague and over simplified. There is a lack of detail and facts to support the objectives defined in the document.</p> <p style="text-align: center;">*****</p> <p>There is too much use of jargon throughout the regulatory discussion and the text should be written to benefit the lay reader.</p> <p style="text-align: center;">*****</p> <p>While some portions of the document are reader-friendly, other portions are very technical and less easily understood. Plus, while the statement is made that the <i>Framework</i> document is not a decision document, in many instances the language suggests likely decisions that will be made.</p>	<p>Response to the Comment. The <i>Framework</i> document is meant to be a snapshot in time of the status of remediation and cleanup of the Hanford site and describes what will be needed to complete the cleanup mission. It is an informational tool to help make the lengthy and complex cleanup of Hanford more understandable and support a more informed dialogue with Hanford stakeholders and the public. It is not intended to answer every question, discuss how budgets are developed (go to http://www.hanford.gov/?page=603 for information about Hanford’s budget), describe how resources are allocated, or provide detailed information on cleanup activities.</p> <p>The <i>Framework</i> document does not make cleanup decisions. Those decisions are made through the CERCLA and RCRA regulatory processes.</p> <p>CERCLA and RCRA require that the public have an opportunity to comment on cleanup remedies being proposed. Also, before finalizing any changes to the Tri-Party Agreement, the agencies must consider comments received from the public. People are encouraged to get involved in the public cleanup decision processes by calling the Hanford Cleanup Line (1-800-321-2008) or sending an email to Hanford@ecy.wa.gov to add name, address, and/or email address to the TPA mailing list. The mailing list is used to send out information about upcoming public comment periods and public meetings. DOE maintains the Hanford Events Calendar to view upcoming public forums and documents currently out for public review. For more information, visit Hanford on Youtube (www.youtube.com/HanfordSite), Facebook (www.facebook.com/hanfordsite) and Twitter (www.twittercom/hanfordsite)</p> <p>DOE’s 2015 vision is to complete cleanup along the Columbia River and shrink the active cleanup area to 75-square miles (center of Hanford) that would reduce long-term costs by 2015. After 2015, the goal is to shift cleanup emphasis and resources to the Central Plateau. To prepare for that transition, DOE drafted the <i>Central Plateau Cleanup Completion Strategy</i> (http://www5.hanford.gov/arpir/?content=findpage&AKey=1002180676) and for the past year has had numerous discussions with the regulatory agencies, Tribal Nations, and stakeholders. The draft <i>Strategy</i> provided the basis for the TPA agencies to negotiate and propose a series of changes to the TPA on cleaning up the Central Plateau (public comment period ran from May 3-June 30, 2010). Those changes to the TPA were completed in October 2010.</p> <p>Change to Framework Document. Based on the comments received, the document was revised. Some of the revisions include a clearer purpose statement, recognition that the <i>Natural Resource Damages Act</i> is an element of cleanup, a discussion on challenges that DOE faces in completing clean up of Hanford, the urgency associated with that cleanup, and an incorporation of some of the commitments from recent changes to the Tri-Party Agreement and other regulatory decisions. The revised document also identifies other sources where information about cleanup may be found.</p>