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100 & 300 Area Risk Assessments

#	Project Title and Scope Statement	What Decision is this Risk Assessment Supporting	Geographical Scope	Study Resolution	Media Included	Specific Scope Included	Specific Scope Exclusions	Human Health Risk Scenarios Used	Risk Evaluation Methods, Models, and Standards of Protectiveness used in Risk Evaluation	Ecological Endpoints Evaluated	Links and Inputs Needed from Other Risk Assessments	Links and Outputs Relevant to Other Risk Assessments	Risk Evaluation Timeframe and Timeframe Links	Integration Issues
1	**300-FF-5 Groundwater OU - Hanford Site Groundwater Monitoring Project,** Focused Feasibility Studies Task for 5 Groundwater Operable Units **POC (alt.):** Tom Naymic (John Fruchter) **DOE:** Mike Thompson	To evaluate the progress of the existing ROD approach (monitored natural attenuation). To obtain a final ROD in 2007. 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk at the Columbia River?) 2. If there is an unacceptable risk then determine which remedial alternatives assessed in the FS are protective? 3. What add'l remediation is necessary? (Are add'l remedial actions needed?)	300-FF-5; 300 Area uranium plume (including other contaminants of concern in the same area) as it changes over time, including 618-10, 618-11 Burial Grounds, 316-4, 600-63 and 600-259 Source Waste Sites	*Update the existing RI/FS focused on the Human Health from exposure to groundwater, includes Eco-risk for near-shore environment from groundwater and surface water (seeps).*	Groundwater Near-shore environment, surface water, seeps, & biota.	*Groundwater.* For 300-FF-5 Area, includes near-shore environment, surface water, seeps, & biota.	*No vadose zone* *No soil* *(under negotiations)*	*In accordance with HSBRAM (DOE-RL 1993) and agreement by TPA unit managers, four exposure scenarios are evaluated – industrial, residential, recreational, and agricultural.* *No tribal scenarios were evaluated.* *Human Health has a complicated uncertainty analysis approach.*	*Eco conceptual model shows 2 Eco systems affected - riparian/terrestrial and aquatic.*	*300-FF-5 - The assessment end point is the health of selected receptor organisms and their populations.*	• *Baseline risk assessment has been done about 10 years ago. Updates are needed.* • *The update for the 300-FF-5 BRA, if required, will not require additional sampling.* • *618-10, 618-11 Burial Grounds, 316-4, 600-63 and 600-259 Source Waste Sites* • *Composite Analysis* • Hanford Site Wide Monitoring Program • 100 & 300 Area Risk Assessment	• History matching for Composite Analysis • RCBRA • Cumulative Risk Assessment	• *Current Conditions* • *Future impacts out to 1,000 years.* • Timeframe link – RA up to 1,000 years then CA thereafter	• Input link - 100 & 300 Area Risk Assessment • Output link to the RCBRA • Input link to 200 East GW and 200 W GW • Output into Cumulative Risk Assessment
2	**100-BC-5 Groundwater OU - Hanford Site Groundwater Monitoring Project,** Focused Feasibility Studies Task for 5 Groundwater Operable Units **POC (alt.):** Tom Naymic (John Fruchter) **DOE:** Arlene Tortoso	To obtain a CERCLA ROD in 2008. 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk at the Columbia River?) 2. If there is an unacceptable risk then determine which remedial alternatives assessed in the FS are protective? 3. What add'l remediation is necessary? (Are add'l remedial actions needed?)	100-BC-5 Groundwater OU as it changes over time Inside the fence of the 100 B/C Area	*The RI/FS focused on the Human Health from exposure to groundwater.* *For the 100-BC-5 Area, includes Eco-risk for near-shore environment from groundwater and surface water (seeps).*	Groundwater For 100-BC-5 Area, includes near-shore environment, surface water, seeps, & biota.	*Groundwater.* For 100-BC-5 Area, includes near-shore environment, surface water, seeps, & biota.	*No vadose zone* *No soil*	*In accordance with HSBRAM (DOE-RL 1993) and agreement by TPA unit managers, four exposure scenarios are evaluated – industrial, residential, recreational, and agricultural.* *No tribal scenarios were evaluated.*	*Human Health has a complicated uncertainty analysis approach.* *Eco conceptual model shows 2 Eco systems affected - riparian/terrestrial and aquatic.*	*The assessment end point is the health of selected receptor organisms and their populations.*	• *Baseline risk assessment has been done about 10 years ago. Updates are needed.* • Composite Analysis • Hanford Site Wide Monitoring Program • 100 B/C Pilot Risk assessment	• History matching for Composite Analysis • RCBRA • Cumulative Risk Assessment • Output link - 100 & 300 Area Risk Assessment	• *Current Conditions* • *Future impacts out to 1,000 years.* • Timeframe link – RA up to 1,000 years then CA thereafter	• Input link – 100 B/C Pilot Risk Assessment • Output link - 100 & 300 Area Risk Assessment • Output link to the RCBRA • Input link to 200 East GW and 200 W GW • Output into Cumulative Risk Assessment
3	**100-FR-3 Groundwater OU- Hanford Site Groundwater Monitoring Project,** Focused Feasibility Studies Task for 5 Groundwater Operable Units **POC (alt.):** Tom Naymic (John Fruchter)	To obtain a CERCLA ROD in 2009 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human	100-FR-3 Groundwater OU as it changes over time Just inside the fence of the 100 F Area	*The RI/FS focused on the Human Health from exposure to groundwater.* *For the 100-FR-3, includes Eco-risk for*	Groundwater For 100-FR-3 Area, includes near-shore environment, surface water, seeps, & biota.	*Groundwater.* For 100-FR-3 Area, includes near-shore environment, surface water, seeps, & biota.	*No vadose zone* *No soil*	*In accordance with HSBRAM (DOE-RL 1993) and agreement by TPA unit managers, four exposure scenarios are evaluated – industrial, residential, recreational, and agricultural.* *No tribal scenarios were evaluated.*	*Human Health has a complicated uncertainty analysis approach.* *Eco conceptual model shows 2 Eco systems affected - riparian/terrestrial and aquatic.*	*The assessment end point is the health of selected receptor organisms*	• *Baseline risk assessment has been done about 10 years ago. Updates are needed.* • Composite	• History matching for Composite Analysis • RCBRA	• *Current Conditions* • *Future impacts out to 1,000 years.*	• Input link - 100 & 300 Area Risk Assessment • Output

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Hanford Site CERCLA & RCRA Past Practice Risk Assessment Integration Working Group Project Summary

#	Project Title and Scope Statement	What Decision is this Risk Assessment Supporting	Geographical Scope	Study Resolution	Media Included	Specific Scope Included	Specific Scope Exclusions	Human Health Risk Scenarios Used	Risk Evaluation Methods, Models, and Standards of Protectiveness used in Risk Evaluation	Ecological Endpoints Evaluated	Links and Inputs Needed from Other Risk Assessments	Links and Outputs Relevant to Other Risk Assessments	Risk Evaluation Timeframe and Timeframe Links	Integration Issues
	DOE: Arlene Tortoso	health/ecological risk at the Columbia River?) 2. If there is an unacceptable risk then determine which remedial alternatives assessed in the FS are protective? 3. What add'l remediation is necessary? (Are add'l remedial actions needed?)		***near-shore environment from groundwater and surface water (seeps).***						***and their populations.***	Analysis • Hanford Site Wide Monitoring Program • 100 & 300 Area Risk Assessment	• Cumulative Risk Assessment	• Timeframe link – RA up to 1,000 years then CA thereafter	link to the RCBRA • Input link to 200 East GW and 200 W GW • Output into Cumulative Risk Assessment
4	**100-NR-2 Groundwater OU-Aquatic and Riparian Eco-risk Assessment:** Current near-shore aquatic and riparian receptor impacts from contaminated groundwater originating from the 100-N Area, as defined in the interim ROD (as amended, April 2004). **POC (alt.):** Verne Johnson (Roy Bauer) **DOE:** Mike Thompson	To obtain CERCLA ROD in 2014. Risk assessment for Feasibility Study & Proposed Plan currently scheduled to begin in 2008. Purpose of the current Eco-Risk is to: 1. Is the current P&T system adequate to protect eco receptors or should alternatives remedial actions be considered?	The length of shoreline impacted by 100-NR-2 groundwater contaminant plumes (diesel, strontium-90 and metals) defines the spatial boundaries of the study.	Initial Eco-risk study is divided into two ecological zones for study and sampling purposes:, riparian, and near-shore.	Aquatic and riparian biota (e.g., vegetation, invertebrates, fish, birds, small mammals), soil, sediment, and water along the shoreline and within the near-shore river environment will be sampled.	The length of Columbia River shoreline matching the extent of groundwater plumes originating from 100-N, and a width defined by a river depth of approximately 6 ft and the steep bank along the 100-N shoreline. Thus the study zone is limited to a width of not more than 100 m from the shoreline.	No upland areas & no human health impacts for the deliverable in October 2005 (specified in the interim ROD, as amended in 2004). However, sampling consistent with human health assessment will be accommodated to the extent possible.	Not included.	1) Rad. Exposures to biotic receptors calculated using RESRAD-BIOTA methodology (DOE 2004); WAC 173-201A-260, and comparison with Table II in WAC246-221-290. 2) Non-rad : WAC 173-340-900, Table 749-3 screening values; WAC 173-340-7490 terrestrial ecological evaluation procedures including wildlife exposure model; and comparisons with reference sites. Comparisons with other relevant WAC water and sediment quality criteria and standards (e.g., Table 240(3) in WAC 173-201A). Current groundwater contaminant concentrations from the Hanford Site Groundwater Monitoring Project, ongoing laboratory uptake study results, operational data (e.g., NPDES effluent monitoring data, crib waste records, etc.), computer modeling and associated risk assessor capabilities.	Aquatic and terrestrial biota including: Periphytons, clams, sculpin, and resident riparian vegetation	• Hanford Site Wide Monitoring Program • 100 & 300 Area DQO	• History matching for Composite Analysis • RCBRA • Cumulative Risk Assessment • 100 & 300 area Risk Assessment • 100-NR-2 Remedial Investigation	*Current Conditions*	• Output into Cumulative Risk Assessment
4a				Secondary Eco-risk study addresses hyperheic zone	Near shore river substrate				Substrate grain size distribution, hyporheic invert counting	Determination of hyporheic invert presence/populations	None	• RCBRA • Cumulative Risk Assessment • 100 & 300 area Risk Assessment • 100-NR-2 Remedial Investigation	Current conditions	• Output into Cumulative Risk Assessment
5	**100-KR-4 Groundwater OU-POC (alt.):** Jane Borghese **DOE**: Arlene Tortoso	To obtain a CERCLA ROD in 2014 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk at the Columbia	100-KR-4 OU including shoreline	*Human health and ecological impacts from GW and seeps.*	***Groundwater, Seeps, and Shorelines***	Groundwater Shoreline and river aquatic receptors	Excludes Vadose zone	TBD	Ambient water quality standards, MCLs, and existing RAOs Plume size and concentrations and source terms to groundwater	Shoreline and river aquatic receptors	• Hanford Site Wide Monitoring Program • 100 & 300 area DQO & Risk Assessment	• History matching for Composite Analysis • Cumulative Risk Assessment	• *Current Conditions* • *Future impacts out to 1,000 years.* • Timeframe link – RA	• Output into Cumulative Risk Assessment • Input link – 100

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		River?) 2. If there is an unacceptable risk then determine which remedial alternatives assessed in the FS are protective? 3. What add'l remediation is necessary? (Are add'l remedial actions needed?)									• RCBRA		up to 1,000 years then CA thereafter	& 300 Area Risk Assessment • Input link - RCBRA
6	**100-HR-3 Groundwater OU-POC (alt.):** Jane Borghese DOE: **Arlene Tortoso**	To obtain a CERCLA ROD in 2012 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk at the Columbia River?) 2. If there is an unacceptable risk then determine which remedial alternatives assessed in the FS are protective? 3. What add'l remediation is necessary? (Are add'l remedial actions needed?)	100-HR-3 OU including shoreline	*Human health and ecological impacts from GW and seeps.*	***Groundwater, Seeps, and Shorelines***	Groundwater Shoreline and river aquatic receptors	Excludes Vadose zone	TBD	Ambient water quality standards, MCLs, and existing RAOs Plume size and concentrations and source terms to groundwater	Shoreline and river aquatic receptors	• Hanford Site Wide Monitoring Program • 100 & 300 area DQO & Risk Assessment • Columbia River Risk Assessment	• History matching for Composite Analysis • Cumulative Risk Assessment	• *Current Conditions* • *Future impacts out to 1,000 years.* • Timeframe link – RA up to 1,000 years then CA thereafter	• Output into Cumulative Risk Assessment • Input link – 100 & 300 Area Risk Assessment
7	**100-B/C Pilot Project Risk Assessment:** This project addresses residual risks to human health and the environment from remediated CERCLA liquid waste sites near the Columbia River edge of the 100-B/C Area of the Hanford Site. It evaluates protectiveness of interim remedial actions and establishes concentrations of contaminants of potential concern (COPCs) in media that are protective of human and ecological receptors. **POC (alt.):** Ken Gano (Jenifer Linville) **DOE:** John Sands	To obtain a CERCLA ROD in 2008. 1. Are current remedial actions adequate for protection of eco receptors?	The geographic boundaries for this component are limited to remediated liquid waste sites in the upland areas of the 100-B/C Area, the riparian zone, and the near-shore environment extending into the Columbia River to a depth of six feet. There is also an upriver reference area (above Vernita Bridge) and a downstream sample location (between the 100-B/C and 100-K Areas) from which comparative soil and biota samples have been collected.	The resolution of study is divided into three ecological zones for study and sampling purposes: upland, riparian, and near-shore. Risks resulting from human and ecological exposures are being evaluated across all three defined zones within the 100-B/C Area. Groundwater use within the geographical scope that is consistent with identified exposure scenarios is also being evaluated.	Biota (e.g., vegetation, invertebrates, vertebrates, birds), soil, sediment, and emergent groundwater at Columbia River springs along the 100-B/C shoreline and within the near-shore river environment	Upland, riparian, and near-shore river environments of the 100-B/C Area, and associated Columbia River shorelines along this area to a depth of approximately 6 ft.	Columbia River depths greater than 6 ft., upland areas beyond remediated liquid waste sites within the 100-B/C Area, and use of groundwater in areas outside of the geographical scope of this study.	Rural resident, Hanford Reach National Monument ranger worker, avid recreationalist, and Tribal subsistence (specific to each Tribe)	Human Health: RESRAD Version 6.2 (ANL 2001), EPA 1989a, 1991c, EPA 1994e and 1994f, EPA 1996c, EPA 1997g, EPA 2001f, EPA 2002a, EPA 2002b,EPA 2004,WAC 173-340; Ecological: EPA 1992a, 1997a, 1997b, and 1998, WAC 173-340-7490, 40 USC 300 et seq., 33 USC 1251 et seq., 42 USC 7401 et seq., WAC 173-340 et seq., 40 CFR 141, *A Graded Approach for Evaluating Radiation Doses to Aquatic and Terrestrial Biota* (DOE 2002), *Effects of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards* (IAEA 1992).	Aquatic and terrestrial biota	• Hanford Site Wide Monitoring Program • 200-BP-5 Groundwater	• History matching for Composite Analysis • Cumulative Risk Assessment • RCBRA • 100-BC-5 Groundwater OU	• *Current Conditions*	• Output into Cumulative Risk Assessment • Output link from 100-BC-5 Groundwater OU • Input link from 200-BP-5 Groundwater
8	**100 Area and 300 Area Component of the Columbia River Baseline Risk Assessment:** This project addresses residual risks to human health and the environment from remediated CERCLA waste sites in the 100	To obtain a CERCLA ROD in 2008. 1. Are current remedial actions adequate for protection of eco receptors?	Geographical scope includes the 100 Area Reactor Areas, the White Bluffs Townsite (100-IU-2), the Hanford Townsite (100-IU-6), and the 300 Area. The Columbia River along the reactor	The resolution of study is divided into three ecological zones for study and sampling purposes: upland, riparian, and near-shore. Risks resulting from human and ecological	Biota (e.g., vegetation, invertebrates, vertebrates, birds), soil, sediment, and emergent groundwater at Columbia River	Upland, riparian, and near-shore river environments of the 100 and 300 Areas, White Bluffs Townsite (100-IU-2), Hanford Townsite (100-IU-	Columbia River depths greater than 6 ft., river shoreline areas away from where known contaminant plumes reach	Rural resident, Hanford Reach National Monument ranger worker, avid recreationalist, tribal subsistence (specific to each Tribe), industrial worker (for 300 Area)	Human Health: RESRAD Version 6.2 (ANL 2001), EPA 1989a, 1991c, EPA 1994e and 1994f, EPA 1996c, EPA 1997g, EPA 2001f, EPA 2002a, EPA 2002b, EPA 2004, WAC 173-340; Ecological: EPA 1992a, 1997a, 1997b, and 1998, WAC	TBD in DQO	• Composite Analysis • Hanford Site Wide Monitoring Program • 100 B/C Pilot Risk	• History matching for Composite Analysis • Cumulative Risk Assessment	• *Current Conditions*	• Output into Cumulative Risk Assessment • Output link to

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	and 300 Areas of the Hanford Site. It evaluates protectiveness of interim remedial actions and establishes concentrations of contaminants of potential concern (COPCs) in media that are protective of human and ecological receptors. **POC (alt):** Steve Weiss (Jenifer Linville) **DOE:** John Sands		areas to a depth of approx. 6 ft. and matching the known groundwater contaminant plumes where they reach the river, and groundwater use within the 100 and 300 Areas that is consistent with identified exposure scenarios.	uses will be evaluated across all three zones on a reactor-area basis.	springs along the shoreline and within the near-shore river environment are being evaluated.	6), and associated Columbia River shorelines along these areas and matching the extent of groundwater plumes where they reach the river to a depth of approximately 6 ft.	the river, north bank of the river, use of groundwater in areas outside of the geographical scope of this study.		173-340-7490, 40 USC 300 et seq., 33 USC 1251 et seq., 42 USC 7401 et seq., WAC 173-340 et seq., 40 CFR 141, *A Graded Approach for Evaluating Radiation Doses to Aquatic and Terrestrial Biota* (DOE 2002), *Effects of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards* (IAEA 1992).		Assessment • 100-NR-2 Eco-Risk • Collection of soil and biota data. • 200 East Groundwater	• RCBRA • 100-FR-3 Groundwater OU • 300-FF-5 Groundwater OU • 100-HR-3 & 100-KR-4 Groundwater OU		100-FR-3 Groundwater OU • Output link to 300-FF-5 Groundwater OU
9	**Columbia River Component of the Columbia River Baseline Risk Assessment:** This project addresses potential risks to human health and the environment from Hanford Site-related contaminants released to the Columbia River. It will identify concentrations of contaminants of potential concern (COPCs) and evaluate these against established standards of protectiveness. **POC (alt.):** Tom Marceau (Donna Morgans) **DOE:** John Sands	What is the baseline risk of impacts to the Columbia River?	Evaluate and summarize existing data from the upstream jurisdictional boundary of the Hanford Site (west of Vernita Bridge) downstream to Astoria, OR, near the mouth of the Columbia River. The downstream boundary of the characterization area will be set at the farthest point at which Hanford Site contaminants exceed regulatory standards (e.g., ambient water quality criteria) and other benchmarks (e.g., sediment screening values).	Data from locations above the Hanford Site boundary (e.g., sediments behind the Priest Rapids Dam) as well as other potential sources to the Columbia (e.g., lower portions of the Yakima and Snake Rivers) will be evaluated to determine reference conditions. The width of the study area will be determined by the terrace system defining the geological history and flow of the Columbia River and will extend along both banks of the Columbia River. It will include the near-shore and riparian zones not included within the 100 Area and 300 Area Component, and shore-attached and mid-channel islands. Hanford Site contaminant concentrations and associated risks from media at points where contaminants are most likely to be present, including groundwater interfaces within the river, sediments in slower-moving portions of the river channel (e.g., sloughs, island point bars), and the McNary Dam reservoir pool.	Biota (e.g., vegetation, invertebrates, vertebrates), soil and sediment from both the shoreline and riverbed, and river water and emergent groundwater at springs along the shoreline and within the river.	Hanford Site contaminant data will be reviewed and evaluated to identify potential for exposure that may affect human health and the environment, as defined by CERCLA. Efforts will be made to identify contaminant sources through use of appropriate analytical methods for fingerprinting or identifying isotope markers. A baseline/background of water quality and sediment contaminant levels will be established above the upstream boundary of the study area at known point source locations of irrigation returns on the Hanford Site, and at the junctions of the Yakima and Snake Rivers with the Columbia. Only risks corresponding to Hanford Site contaminants will be evaluated..	Removal/treatment of river pipelines extending from the reactor areas into the Columbia River (100 Area and 300 Area Component scope); non-Hanford facilities (e.g., Energy Northwest, Vernita rest area, public boat ramps); non-Hanford developed areas that may be immediately adjacent to or on the H-3 river terrace (e.g., portions of the City of Richland); all NPDES-permitted facilities (except that some applicable discharge data may be reviewed); cumulative effects from non-Hanford Site sources (e.g., offsite mining, pulp mill, and agricultural impacts); White Bluff landslide assessments; land transfers; Natural Resource	Rural resident; Native American subsistence (specific to each Tribe); recreational users (e.g., hunters, fishers); National Monument/Refuge personnel; research scientists; and workers (e.g., agricultural, fish hatchery, tour boat drivers, dredge operators).	Human Health: RESRAD Version 6.2 (ANL 2001), EPA 1989a, 1991c, EPA 1994e and 1994f, EPA 1996c, EPA 1997g, EPA 2001f, EPA 2002a, EPA 2002b, EPA 2004, WAC 173-340; Ecological: EPA 1992a, 1997a, 1997b, and 1998, WAC 173-340-7490, 40 USC 300 et seq., 33 USC 1251 et seq., 42 USC 7401 et seq., WAC 173-340 et seq., 40 CFR 141, *A Graded Approach for Evaluating Radiation Doses to Aquatic and Terrestrial Biota* (DOE 2002), *Effects of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards* (IAEA 1992).	TDB in DQO	• Composite Analysis • Hanford Site Wide Monitoring Program • 100 B/C Pilot Risk Assessment • 100-NR-2 Eco-Risk • 100 & 300 Area Risk Assessment • 200 Area Groundwater • 100 & 300 Area Groundwater	• History matching for Composite Analysis • Cumulative Risk Assessment	• *Current Conditions*	• Input links from 200 Area Groundwater • Input links from 100 & 300 Area Groundwater • Output links into Cumulative Risk assessment

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							Damage Assessments; and physical hazards/trash.							
10	Orphan Sites Project **POC (alt.):** Linda Dietz (Mike Schwaub) **DOE:** Jamie Zeisloft	Are all waste sites identified and addressed after remedial actions? **Not currently defined as a risk assessment scope.**	100, 300, and 600 (100-IU-2 and 100-IU-6) Areas	The first area to be evaluated and completed (in FY 2004) was the 100-B/C Area. The evaluation process included a historical document review (reports, photographs, drawings) and a field walkdown in 900-square-meter increments. New sites are entered into the WIDS database for further evaluation and disposition.	• Surface soils • man-made features • 'anomalies,' such as disturbed soil or distressed vegetation. • Ground-penetrating radar (GPR) is completed for selected sites.	Historical document reviews and field walkdowns.	No digging or intrusive sampling. If anomoly is identified, it is entered into WIDS for further evaluation and disposition.	Excluded	None	None	None	All Risk Assessments	Current Conditions	None
11	**D&D - Reactor Cores & Remedial Actions** **POC (alt.):** ? **DOE:**													
12	**Energy NW** **POC (alt.):** Jim Chasse/ENW **DOE:**													
13	**LIGO** **POC (alt.):** ? **DOE:**													
14	**FFTF** **POC (alt.):** Doug Chapin **DOE:**													
15	**Rad Release (ALE/North Slope/River Ranch)** **POC (alt.):** Wayne Glines/PNL **DOE:**													

Hanford Site-Wide Assessments

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16	**Composite Analysis:** The Composite Analysis is a site-wide evaluation of the potential long-term human health impacts to a hypothetical future member of the public resulting from combined radionuclide releases to groundwater, surface water, and air from multiple sources during the 1000-year period following closure of the Hanford Site. A Composite Analysis is required under DOE M435.1-1 for active and planned low-level radioactive waste disposal facilities to ensure public safety from the management of these facilities. A Composite Analysis is defined as "a reasonably conservative assessment of the cumulative impacts from active and planned low-level waste disposal facilities, and all other sources from radioactive contamination that could interact with the low-level waste disposal facility to affect the dose to future members of the public." **POC (alt.):** Bob Bryce (Charlie Kincaid) **DOE:** Doug Hildebrand	Can low level radioactive waste continue to be disposed of at Hanford? Fundamental question that supports all clean-up decisions.	The Hanford Site from Rattlesnake Mountain to the Columbia River, and the Columbia River from Vernita Bridge to the confluence of the Yakima River.	Each of approximately 1000 waste sites are represented individually in the cumulative assessment. The model used will simulate Hanford waste disposal and contaminant transport from 1944 to 10,000 years after site closure. Risk assessment will examine impact of all waste sites from the Central Plateau boundary to the margins of the study area. Risks resulting from human uses of the air, water, land surface and ecological resources will be evaluated.	Biota (e.g., vegetation, invertebrates, vertebrates, birds), soil, sediment, groundwater, springs, seeps, shoreline, near-shore river water, surface water, air.	The Hanford Site from Rattlesnake Mountain to the Columbia River, and the Columbia River from Vernita Bridge to the City of Richland.	Hazardous chemicals, ecological impacts	Rural farmer, Ranger, avid recreationalist, casual recreationalist, tribal subsistence (Harper and Harris and Harris)	Human Health: HUMAN code	None	• Hanford Site Wide Monitoring Program • 200 West GW OU • 200 East GW • RCBRA • 100 & 300 Area Risk Assessment • 100 B/C Pilot Risk Assessment • 100-NR-2 Eco-Risk • WIDS • HEIS • Tank waste inventory information from ORP including HTWOS and secondary waste stream split factors • Inventory estimates for liquid waste streams from Soil Inventory Model • Solid waste inventories from Waste Management Program. • IDF PA • SST PA • TF PA	• 200 West GW OU • 200 East GW • RCBRA • 100 & 300 Area Risk Assessment • IDF PA • SST PA • TF PA • 100 B/C Pilot Risk Assessment	• Past conditions from 1944 • *Current Conditions* • *Future impacts* Until 10,000 years after site closure. • *1,000 year regulatory period*	• Input links from RCBRA • Input links from 100 & 300 Area Risk Assessment
17	**Cumulative Analysis of Chemical Impacts:** This is an assessment of the cumulative impacts of chemical inventories that will remain at Hanford at the time of Site closure to complement the Composite Analysis of radionuclide impact. This analysis will also estimate ecological impact from the radionuclide distribution predicted by the Composite Analysis so that the combination of this analysis and the CA will provide a look at human and ecological impacts of radionuclides and hazardous chemicals left at Hanford at the time of Site closure. **POC (alt.):** Bob Bryce (Charlie	What is the cumulative impact on the environment and human health of hazardous chemicals that will remain at the site? Fundamental question that supports all clean-up decisions.	The Hanford Site from Rattlesnake Mountain to the Columbia River, and the Columbia River from Vernita Bridge to the confluence of the Yakima River.	Each of approximately 1000 waste sites are represented individually in the assessment. The model used will simulate Hanford waste disposal and contaminant transport from 1944 to 10,000 years after site closure. Risk assessment will examine impact of all waste sites from the Central Plateau boundary to the margins of the study area. Risks resulting from human and ecological uses of the air, water, land surface and ecological resources will be evaluated.	Biota (e.g., vegetation, invertebrates, vertebrates, birds), soil, sediment, groundwater, springs, seeps, shoreline, near-shore river water, surface water, air.	The Hanford Site from Rattlesnake Mountain to the Columbia River, and the Columbia River from Vernita Bridge to the City of Richland.	None	Rural farmer, Ranger, avid recreationalist, casual recreationalist, tribal subsistence (Harper and Harris, and Harris)	Human Health: HUMAN code Ecological Impacts: ECEM code calculates dose for radionuclides and impacts for chemicals; food-web based architecture allows evaluation to site-specific species as well as for endpoints used for human consumption in HUMAN code. ECEM evaluation of radiological dose equivalent to Tier 3 evaluation in RESRAD Biota. ECEM code history matched to Hanford/Columbia River data sets (173-340 WAC; Becker et al., 1998; Brandt et al., 2004; Bryce et al., 2002; DOE 1995, 1998, 2002, 2004; Eslinger et al., 2004; EPA 1998, 2001a, 2001b; ISCORS 2004; Patton et	173-340 WAC; Becker et al, 1998; DOE 1995; DOE 1998; EPA 1998	• Hanford Site Wide Monitoring Program • 200 West GW OU • 200 East GW • RCBRA • 100 & 300 Area Risk Assessment • 100 B/C Pilot Risk Assessment • 100-NR-2 Eco-Risk • WIDS • HEIS • Tank waste inventory	• Regulatory Decisions	• Past conditions from 1944 • *Current Conditions* • *Future impacts* Until 10,000 years after site closure. • *1,000 year regulatory period*	• Input links from all other Risk Assessments

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Hanford Site CERCLA & RCRA Past Practice Risk Assessment Integration Working Group Project Summary

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	Kincaid) **DOE:** Doug Hildebrand								al., 2003; Soldat et al., 1974; Van Verst et al., 1998).		information from ORP including HTWOS and secondary waste stream split factors • Inventory estimates for liquid waste streams from Soil Inventory Model • Solid waste inventories from Waste Management Program. • IDF PA • SST PA • TF PA			
18a	**Hanford Site-Wide Monitoring Program,** *Sampling, analysis and reporting of groundwater, vadose zone, Seeps, and Shoreline* **POC (alt.):** PNNL **DOE:**	Provides data for risk assessments, studies, and decisions. Monitors for unknown or unaccounted impacts on the environment and human health at the site. **Not currently defined as a risk assessment scope.**	Entire Hanford Site	Ambient water quality standards, MCLs, and existing RAOs	Groundwater Shoreline and river aquatic receptors	Plume size and concentrations and source terms to groundwater	Remedial actions to support final groundwater RODs	None	Ambient water quality standards, MCLs, and existing RAOs		None **Orphan sites discovery process**	All Risk Assessments	• Historical • Current conditions	
18b	**Hanford Site-Wide Monitoring Program** Ecological Risk Assessment for lands outside the Central Plateau and the River Corridor baseline risk assessment scope **POC (alt.):** PNNL **DOE:**	Do the risks to eco receptors in the habitat outside the Core Zone and River Corridor require remedial actions? **Not currently defined as a risk assessment scope.**	Land north of HWY 240 outside of the Central Plateau and the River Corridor	*These studies would focus on areas outside of known waste sites. This would include eco impacts from Orphan Sites and airborne deposition outside the Core Zone and River Corridor baseline risk assessments.*	Surface soils and terrestrial biota	Terrestrial ecological receptors	***Human health and groundwater***	***Excluded***	1) Rad. Exposures to biotic receptors calculated using RESRAD-BIOTA methodology (DOE 2004); WAC 173-201A-260, and comparison with Table II in WAC 246-221-290. 2) Non-rad : WAC 173-340-900, Table 749-3 screening values; WAC 173-340-7490 terrestrial ecological evaluation procedures including wildlife exposure model; and comparisons with reference sites.	Terrestrial biota including vegetation, inverts, mice	None **Orphan sites discovery process**	All Risk Assessments	• Historical • Current conditions	
18c	**Hanford Site-Wide Monitoring Program** Ecological Risk Assessment for lands west and south of HWY 240 **POC (alt.):** PNNL **DOE:**	Do the risks to eco receptors in the habitat outside the Core Zone and River Corridor require remedial actions? **Not currently defined as a risk assessment scope.**	Lands west and south of HWY 240	*These studies would focus on areas outside of known waste sites. This would include eco impacts from Orphan Sites and airborne deposition outside the Core Zone and River Corridor baseline risk assessments.*	Surface soils and terrestrial biota	Terrestrial ecological receptors	***Human health and groundwater***	***Excluded***	1) Rad. Exposures to biotic receptors calculated using RESRAD-BIOTA methodology (DOE 2004); WAC 173-201A-260, and comparison with Table II in WAC 246-221-290. 2) Non-rad : WAC 173-340-900, Table 749-3 screening values; WAC 173-340-7490 terrestrial ecological evaluation procedures including wildlife exposure model; and comparisons with reference sites.	Terrestrial biota including vegetation, inverts, mice	None **Orphan sites discovery process**	All Risk Assessments	• Historical • Current conditions	

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200 Area Risk Assessments

#	Project Title and Scope Statement	What Decision is this Risk Assessment Supporting	Geographical Scope	Study Resolution	Media Included	Specific Scope Included	Specific Scope Exclusions	Human Health Risk Scenarios Used	Risk Evaluation Methods, Models, and Standards of Protectiveness used in Risk Evaluation	Ecological Endpoints Evaluated	Links and Inputs Needed from Other Risk Assessments	Links and Outputs Relevant to Other Risk Assessments	Risk Evaluation Timeframe and Timeframe Links	Integration Issues
19	**200-UP-1 Groundwater OU Baseline Risk Assessment Supporting CERCLA RI/FS Process:** This project will be assessing the baseline risk that groundwater contamination will pose to human health if no action were taken. This baseline risk assessment will take into consideration the contamination that is currently in the groundwater as well as the contamination that vadose zone models predict will eventually reach the groundwater (includes CERCLA Source Units and tank farms as sources of contamination). **POC:** Mark Byrnes **DOE:** Arlene Tortoso	To obtain a CERCLA ROD in 2010 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk at the Columbia River?) 2. If there is an unacceptable risk then determine which remedial alternatives assessed in the FS are protective? 3. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-UP-1 including the 200-West Area. However, the model will predict the movement of contamination to the boundaries of the Core Zone, boundaries of the Central Plateau, as well as to the Columbia River. The scope predominantly addresses movement and changes in the plume over time in the upper unconfined aquifer.	These studies will evaluate human health impacts from use of groundwater between the down gradient of the OU boundary in vicinity of the 200 West Area to the Columbia River.	These studies will only evaluate human health impacts resulting from use of groundwater.	This study will predict baseline risks associated with SAC modeled groundwater contamination at one worst case location (e.g., PFP), Core Zone boundary, and Central Plateau boundary, as well as to the Columbia River. The scope predominantly addresses movement in the upper unconfined aquifer.	No ecological receptors impacted by groundwater contamination prior to it reaching the Columbia River. However if groundwater contamination does reach Columbia River, what is the impact? Not certain if ecological risk assessment is required (currently under negotiations)	Exposure scenarios as defined in HSRAM (DOE/RL 1996) Scenarios. For risk estimated within the core zone, will consider the Industrial and Recreational scenarios. Outside of the core zone, evaluate Agricultural and Residential scenarios. Scenarios are described further in the September 1999 Letter Report (BHI 1999). Other references for the scenarios include the *Hanford Site Risk Assessment Methodology* (DOE-RL 1995) and CRCIA, Part II (DOE-RL 1998a). All scenarios referred to above are part and have been parameterized for the majority of the COC's (that is, *Tc-99, U, I-129*, H3, CCL4, Cr, and Nitrate) within the current SAC risk framework. However, some specific risk data/information will need to developed for others such as TCE and others that may need to be evaluated	Human heath impacts will be based on risk assessment methods embodied in System Assessment Capability. The SAC makes use of the Human Health Risk Assessment Module (Human Code Version 3.0 (Eslinger 2004)) to estimate cancer and non-cancer risks to humans from contaminants in the study region. Water Quality Standards/Metrics: 40 CFR 141 Depth-discrete groundwater sample results to define 3-dimensional distribution of COCs; Kd analyses on key COCs; Aquifer testing (e.g., slug testing) to define aquifer hydraulic characteristics; Other hydraulic and transport inputs (effective porosity, bulk density, total porosity); Particle size distribution data; STOMP and CFEST modeling results using Systems Assessment Capability	Eco risk is under negotiations. Future potential link to the Columbia River RA.	• Composite Analysis (risk assessment and modeling is a subset of the CA) • Central Plateau waste sites • Hanford Site Wide Monitoring Program	• Composite Analysis (risk assessment and modeling is a subset of the CA) • 200 East GW • Cumulative Risk Assessment	• *Current Conditions* • *Future impacts out to 1,000 years.* • Timeframe link – RA up to 1,000 years then CA thereafter • Timeframe link to 100 & 300 Area Risk Assessment and RCBRA (current conditions vs. future plume emergence into river)	• Output link to the River = TBD • Input link to 200 East GW • Output into Cumulative Risk Assessment
20	**200-ZP-1 Groundwater OU Baseline Risk Assessment Supporting CERCLA RI/FS Process:** This project will be assessing the baseline risk that groundwater contamination will pose to human health if no action were taken. This baseline risk assessment will take into consideration the contamination that is currently in the groundwater as well as the contamination that vadose zone models predict will eventually reach the groundwater (includes CERCLA Source Units and tank farms as sources of contamination). **POC:** Mark Byrnes **DOE:** Arlene Tortoso	To obtain a CERCLA ROD in 2010 4. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk at the Columbia River?) 5. If there is an unacceptable risk then determine which remedial alternatives assessed in the FS are protective? 6. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-ZP-1 including the 200-West Area. However, the model will predict the movement of contamination to the boundaries of the Core Zone, boundaries of the Central Plateau, as well as to the Columbia River. The scope predominantly addresses movement and changes in the plume over time in the upper unconfined aquifer.	These studies will evaluate human health impacts from use of groundwater between the down gradient of the OU boundary in vicinity of the 200 West Area to the Columbia River.	These studies will only evaluate human health impacts resulting from use of groundwater.	This study will predict baseline risks associated with SAC modeled groundwater contamination at one worst case location (e.g., PFP), Core Zone boundary, Central Plateau boundary, as well as to the Columbia River. The scope predominantly addresses movement in the upper unconfined aquifer.	No ecological receptors impacted by groundwater contamination prior to it reaching the Columbia River. However if groundwater contamination does reach Columbia River, what is the impact?	Exposure scenarios as defined in HSRAM (DOE/RL 1996) Scenarios. For risk estimated within the core zone, will consider the Industrial and Recreational scenarios. Outside of the core zone, evaluate Agricultural and Residential scenarios. Scenarios are described further in the September 1999 Letter Report (BHI 1999). Other references for the scenarios include the *Hanford Site Risk Assessment Methodology* (DOE-RL 1995) and CRCIA, Part II (DOE-RL 1998a). All scenarios referred to above are part and have been parameterized for the majority of the COC's (that is, *Tc-99, U, I-129*, H3, CCL4, Cr, and Nitrate) within the current SAC risk framework. However, some specific risk data/information will need to developed for others such as TCE and others that may need to be evaluated	Human heath impacts will be based on risk assessment methods embodied in System Assessment Capability. The SAC makes use of the Human Health Risk Assessment Module (Human Code Version 3.0 (Eslinger 2004)) to estimate cancer and non-cancer risks to humans from contaminants in the study region. Water Quality Standards/Metrics: 40 CFR 141 Depth-discrete groundwater sample results to define 3-dimensional distribution of COCs; Kd analyses on key COCs; Aquifer testing (e.g., slug testing) to define aquifer hydraulic characteristics; Other hydraulic and transport inputs (effective porosity, bulk density, total porosity); Particle size distribution data; STOMP and CFEST modeling results using Systems Assessment Capability	Eco risk will be evaluated if contamination reaches the river. (under negogations)	• Composite Analysis (risk assessment and modelling is a subset of the CA) • Central Plateau waste sites • Hanford Site Wide Monitoring Program	• Composite Analysis (risk assessment and modeling is a subset of the CA) • 200 East Groundwater • Cumulative Risk Assessment	• *Current Conditions* • *Future impacts out to 1,000 years.* • Timeframe link – RA up to 1,000 years then CA thereafter • Timeframe link to 100 & 300 Area Risk Assessment and RCBRA (current conditions vs. future plume emergence into river)	• Output link to the River = TBD • Input link to 200 East GW • Output into Cumulative Risk Assessment
21	**200-PO-1 Groundwater OU-Hanford Site Groundwater Monitoring Project,** Focused Feasibility Studies Task for 5 Groundwater Operable Units **POC (alt.):** Tom Naymic (John Fruchter) **DOE:** Mike Thompson for 300 Area, Arlene Tortoso for remainder of scope	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk at the Columbia River?) 2. If there is an unacceptable risk	**200-PO-1 Groundwater OU** as it changes over time 200-PO-1 OU and all areas to the east between it and the Columbia River	***The RI/FS focused on the Human Health from exposure to groundwater.*** ***For the*** 200-PO-1 ***Area, includes Eco-risk for near-shore environment from groundwater and surface water (seeps).***	Groundwater For 200-PO-1 Area, includes near-shore environment, surface water, seeps, & biota.	***Groundwater.*** For 200-PO-1 Area, includes near-shore environment, surface water, seeps, & biota.	***No vadose zone No soil***	***In accordance with HSBRAM (DOE-RL 1993) and agreement by TPA unit managers, four exposure scenarios are evaluated – industrial, residential, recreational, and agricultural.*** ***No tribal scenarios were evaluated.***	***Human Health has a complicated uncertainty analysis approach.*** ***Eco conceptual model shows 2 Eco systems affected - riparian/terrestrial and aquatic.***	***The assessment end point is the health of selected receptor organisms and their populations.***	• ***Baseline risk assessment has been done about 10 years ago. Updates are needed.*** • Composite Analysis • Hanford Site Wide Monitoring Program	• History matching for Composite Analysis • RCBRA • Cumulative Risk Assessment • 100 & 300 Area Risk	• *Current Conditions* • *Future impacts out to 1,000 years.* • Timeframe link – RA up to 1,000 years then CA thereafter	• Output link - 100 & 300 Area Risk Assessment • Output link to the RCBRA • Output link from 200 West

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		then determine which remedial alternatives assessed in the FS are protective? 3. What add'l remediation is necessary? (Are add'l remedial actions needed?)									• 200 West Groundwater	Assessment • 200-PO-1 Groundwater • BC Cribs	• Timeframe link to 100 & 300 Area Risk Assessment and RCBRA (current conditions vs. future plume emergence into river)	Groundwater • Output into Cumulative Risk Assessment • Input link from 200-TW-1 & TW-2
22	**200-BP-5 Groundwater OU-Hanford Site Groundwater Monitoring Project,** Focused Feasibility Studies Task for 5 Groundwater Operable Units **POC (alt.):** Tom Naymic (John Fruchter) **DOE:** Mike Thompson for 300 Area, Arlene Tortoso for remainder of scope	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk at the Columbia River?) 2. If there is an unacceptable risk then determine which remedial alternatives assessed in the FS are protective? 3. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-BP-5 **Groundwater OU** as it changes over time 200-BP-5 OU and North through the Gable Gap to the Columbia River	***The RI/FS focused on the Human Health from exposure to groundwater.*** ***For the 200-BP-5 Area, includes Eco-risk for near-shore environment from groundwater and surface water (seeps).***	Groundwater For 200-BP-5 Area, includes near-shore environment, surface water, seeps, & biota.	*Groundwater.* For 200-BP-5 Area, includes near-shore environment, surface water, seeps, & biota.	*No vadose zone* *No soil*	***In accordance with HSBRAM (DOE-RL 1993) and agreement by TPA unit managers, four exposure scenarios are evaluated – industrial, residential, recreational, and agricultural.*** ***No tribal scenarios were evaluated.***	***Human Health has a complicated uncertainty analysis approach.*** ***Eco conceptual model shows 2 Eco systems affected - riparian/terrestrial and aquatic.***	***The assessment end point is the health of selected receptor organisms and their populations.***	• ***Baseline risk assessment has been done about 10 years ago. Updates are needed.*** • Composite Analysis • Hanford Site Wide Monitoring Program • 200 West Groundwater	• History matching for Composite Analysis • RCBRA • Cumulative Risk Assessment • 100 & 300 Area Risk Assessment	• *This Groundwater OU may dry out* • *Current Conditions* • *Future impacts out to 1,000 years.* • Timeframe link – RA up to 1,000 years then CA thereafter • Timeframe link to 100 & 300 Area Risk Assessment and RCBRA (current conditions vs. future plume emergence into river)	• Output link - 100 & 300 Area Risk Assessment • Output link to the RCBRA • Output link from 200 West Groundwater • Output into Cumulative Risk Assessment
23	**Central Plateau Ecological Risk Assessment:** **POC (alt.):** Roy Bauer (Randy Ryti, Neptune and Company) **DOE:** Bryan Foley	To support a CERCLA ROD by TBD 1. Do the risks to eco receptors require remedial actions on the waste sites? 2. Do the risks to eco receptors in the habitat outside the Core Zone require remedial actions?	All Central Plateau shallow zone soils.	*Ecological risk assessment used to evaluate remedial action at the 200 Area Waste Sites, to assess Eco systems health in Central Plateau*	***Eco-risk to Shallow Soil (0-15 feet) and biota.***	Includes terrestrial ecological receptors	Excludes human health and groundwater evaluation	Excluded. See Central Plateau Human Health risk assessment.	1) Rad. Exposures to biotic receptors calculated using RESRAD-BIOTA methodology (DOE 2004); WAC 173-201A-260, and comparison with Table II in WAC 246-221-290. 2) Non-rad : WAC 173-340-900, Table 749-3 screening values; WAC 173-340-7490 terrestrial ecological evaluation procedures including wildlife exposure model; and comparisons with reference sites.	Terrestrial biota including vegetation, inverts, mice, and lizards	• No other Risk Assessments • Recent reconnaissance • Hanford Site Wide Monitoring Program • tank farms	• 200 Area Waste Sites RI/FS • TC EIS • History matching for Composite Analysis • Cumulative Risk Assessment • 200 Area Groundwater	• Current conditions	• Output link to TC EIS • Output link to Composite Analysis • Output link to Cumulative Risk Assessment • Output link to 200 Area Groundwater

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24a	**200-CW-1: Central Plateau Waste Sites (completed)** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-CW-1 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.*** ***Intruder driller*** ***Gardener in cuttings*** ***Intruder trenches*** ***Recreational*** ***Native American (Harper & Harris).*** ***Secondary scenarios for information include rural resident farmer outside the Core Zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
24b	**200-TW-1: Central Plateau Waste Sites (completed)** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-CW-1 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.*** ***Intruder driller*** ***Gardener in cuttings*** ***Intruder trenches*** ***Recreational*** ***Native American (Harper & Harris).*** ***Secondary scenarios for information include rural resident farmer outside the Core Zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200-PO-1 Groundwater OU • 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	• Output link to 200-PO-1 Groundwater OU
24c	**200-CW-5: Central Plateau Waste Sites (completed)** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-CW-5 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.*** ***Intruder driller*** ***Gardener in cuttings*** ***Intruder trenches*** ***Recreational*** ***Native American (Harper & Harris).*** ***Secondary scenarios for information include rural resident farmer outside the Core Zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
24d	**200-CS-1: Central Plateau Waste Sites (completed)** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-CS-1 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.*** ***Intruder driller*** ***Gardener in cuttings*** ***Intruder trenches*** ***Recreational*** ***Native American (Harper & Harris).*** ***Secondary scenarios for information include rural resident farmer outside the Core Zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	

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24e	**200-PW-2: Central Plateau Waste Sites (completed)** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-PW-2 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.*** ***Intruder driller*** ***Gardener in cuttings*** ***Intruder trenches*** ***Recreational*** ***Native American (Harper & Harris).*** ***Secondary scenarios for information include rural resident farmer outside the Core Zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
24f	**U Plant: Central Plateau Waste Sites (completed)** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	U Plant soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.*** ***Intruder driller*** ***Gardener in cuttings*** ***Intruder trenches*** ***Recreational*** ***Native American (Harper & Harris).*** ***Secondary scenarios for information include rural resident farmer outside the Core Zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
24g	**BC Cribs: Central Plateau Waste Sites** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	BC Cribs soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.*** ***Intruder driller*** ***Gardener in cuttings*** ***Intruder trenches*** ***Recreational*** ***Native American (Harper & Harris).*** ***Secondary scenarios for information include rural resident farmer outside the Core Zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
24h	**200-LW-1: Central Plateau Waste Sites** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in 2008 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-LW-1 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.*** ***Intruder driller*** ***Gardener in cuttings*** ***Intruder trenches*** ***Recreational*** ***Native American (Harper & Harris).*** ***Secondary scenarios for information include rural resident farmer outside the Core Zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
24I	**200-MW-1: Central Plateau Waste Sites** **POC (alt.):** Mary Todd (Roy Bauer)	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact?	200-MW-1 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste*	These studies will only evaluate human health impacts resulting	Risk to Human Health of impacts to soil from 15 feet deep down to	*Excludes Eco-risk.* *No GW* *No Riparian*	***Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.***	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program	• 200 Area Groundwater	• *Current Conditions* • *Future impacts out*	

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Hanford Site CERCLA & RCRA Past Practice Risk Assessment Integration Working Group Project Summary

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	DOE: Bryan Foley	(go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)		*Sites.*	from use of *Soil only.*	groundwater interface.	*No Biota* *No upland soil (River Corridor)*	*Intruder driller* *Gardener in cuttings* *Intruder trenches* *Recreational* *Native American (Harper & Harris).* *Secondary scenarios for information include rural resident farmer outside the Core Zone.*			• Remedial Investigation Sampling	• Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	*to 1,000 years*	
24j	**200-IS-1: Central Plateau Waste Sites** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in 2008 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-IS-1 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	*Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.* *Intruder driller* *Gardener in cuttings* *Intruder trenches* *Recreational* *Native American (Harper & Harris).* *Secondary scenarios for information include rural resident farmer outside the Core Zone.*	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
24k	**200-UR-1: Central Plateau Waste Sites** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in 2008 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-UR-1 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	*Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.* *Intruder driller* *Gardener in cuttings* *Intruder trenches* *Recreational* *Native American (Harper & Harris).* *Secondary scenarios for information include rural resident farmer outside the Core Zone.*	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
24l	**200-SW-2: Central Plateau Waste Sites** **POC (alt.):** Mary Todd (Roy Bauer) **DOE:** Bryan Foley	To obtain a CERCLA ROD in TBD 1. If we do nothing what is the impact? (go or no go) (e.g., is there an unacceptable human health/ecological risk?) 2. What add'l remediation is necessary? (Are add'l remedial actions needed?)	200-SW-2 waste site soil from 15 feet to the groundwater interface.	*Human Health risk assessment used to evaluate remedial action at the 200 Area Waste Sites.*	These studies will only evaluate human health impacts resulting from use of *Soil only.*	Risk to Human Health of impacts to soil from 15 feet deep down to groundwater interface.	*Excludes Eco-risk.* *No GW* *No Riparian* *No Biota* *No upland soil (River Corridor)*	*Primary scenarios include industrial only inside core zone with industrial unrestricted surface outside core zone.* *Intruder driller* *Gardener in cuttings* *Intruder trenches* *Recreational* *Native American (Harper & Harris).* *Secondary scenarios for information include rural resident farmer outside the Core Zone.*	Screen using RESRAD. Future impacts modeled using STOMP.	Ecological risk will not be evaluated	• Hanford Site Wide Monitoring Program • Remedial Investigation Sampling	• 200 Area Groundwater • Central Plateau Eco-risk • History matching for Composite Analysis • Cumulative risk assessment	• *Current Conditions* • *Future impacts out to 1,000 years*	
25	**D&D - SALDS & K Basins** **POC (alt.):** Mike Lacey/FH **DOE:**													
26	**D&D – Tank Farms** **POC (alt.):** Terry Sams/CH **DOE:**													
27	**ERDF** **POC (alt.):** Julie Atwood /BH													

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	(Owen Robertson) **DOE:**													
28	**CDI** **POC (alt.):** Chuck Hedel /CH (Kevin Leary) **DOE:**													
29	**Active Solid Waste Burial Grounds** **POC (alt.):** Marc Wood/FH **DOE:**													
30	**US Ecology** **POC (alt.):** John Price/Ecy **DOE:**													
31	**Central Landfill** **POC (alt.):** Barry Vedder/BH (Janet Badden/CH) **DOE:**													
32	**WTP** **POC (alt.):** ? **DOE:**													

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Tank Farm Assessments

#	Project Title and Scope Statement	What Decision is this Risk Assessment Supporting	Geographical Scope	Study Resolution	Media Included	Specific Scope Included	Specific Scope Exclusions	Human Health Risk Scenarios Used	Risk Evaluation Methods, Models, and Standards of Protectiveness used in Risk Evaluation	Ecological Endpoints Evaluated	Links and Inputs Needed from Other Risk Assessments	Links and Outputs Relevant to Other Risk Assessments	Risk Evaluation Timeframe and Timeframe Links	Integration Issues
33	**S-SX Field Investigation Report (completed; RPP-7884)** **POC (alt.):** Frank Anderson **DOE:**	1. Determine remediation of S-SX Waste Management Area. 2. Determine if additional characterization beyond that planned is required.	S-SX Waste Management Area (southern portion of 200 West Area)	Plume from individual leak or spill	Groundwater pathway	Vadose zone to groundwater to Columbia River, with emphasis on WMA fenceline	Air and intruder pathways excluded. Ecological assessment excluded. Wastes other than past leaks or spill are excluded.	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2-dimensional STOMP calculations for vadose zone and near-by groundwater. Distance groundwater model is stream tube based on Hanford Site Groundwater Model. Dose, ILCR, and hazard index used as metrics.	None	None	Supports succeeding FIRs and RFI rollup. Results used in SST PA and will be used in TF PA. Results used as calibration for Composite Analysis.	• Current contamination in vadose zone • transported to groundwater for 10,000 years.	Awaiting TRD
34	**B-BX-BY FIR (completed; RPP-10098)** **POC (alt.):** Frank Anderson **DOE:**	1. Determine remediation of B-BX-BY Waste Management Area. 2. Determine if additional characterization beyond that planned is required.	B-BX-BY Waste Management Area (northern portion of 200 East Area)	Plume from individual leak or spill	Groundwater pathway	Vadose zone to groundwater to Columbia River, with emphasis on WMA fenceline	Air and intruder pathways excluded. Ecological assessment excluded. Wastes other than past leaks or spill are excluded.	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2-dimensional STOMP calculations for vadose zone and near-by groundwater. Distance groundwater model is stream tube based on Hanford Site Groundwater Model. Dose, ILCR, and hazard index used as metrics.	None	• S-SX FIR	• Supports succeeding FIRs • RFI rollup • Results used as calibration/history matching for Composite Analysis. • TF PA.	• Current contamination in vadose zone • transported to groundwater for 10,000 years.	Awaiting TRD
35	**T, TX-TY FIR** **POC (alt.):** Frank Anderson **DOE:**	1. Determine remediation of T and TX-TY Waste Management Areas. 2. Determine if additional characterization beyond that planned is required.	T and TX-TY Waste Management Areas (northern portion of 200 West Area)	Plume from individual leak or spill	Groundwater pathway	Vadose zone to groundwater to Columbia River, with emphasis on WMA fenceline	Air and intruder pathways excluded. Ecological assessment excluded. Wastes other than past leaks or spill are excluded.	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2-dimensional STOMP calculations for vadose zone and near-by groundwater. Distance groundwater model is stream tube based on Hanford Site Groundwater Model. Dose, ILCR, and hazard index used as metrics.	None	• Previous FIRs	• Supports succeeding FIRs • RFI rollup • Results used as calibration/history matching for Composite Analysis. • TF PA.	• Current contamination in vadose zone • transported to groundwater for 10,000 years.	Awaiting TRD
36	**A-AX/C/U FIR** **POC (alt.):** Frank Anderson **DOE:**	1. Determine remediation of A-AX, C, and U Waste Management Areas. 2. Determine if additional characterization beyond that planned is required.	A-AX and C Waste Management Areas (eastern portion of 200 East Area) and U Waste Management Area (central portion of 200 West Area)	Plume from individual leak or spill	Groundwater pathway	Vadose zone to groundwater to Columbia River, with emphasis on WMA fenceline	Air and intruder pathways excluded. Ecological assessment excluded. Wastes other than past leaks or spill are excluded.	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2-dimensional STOMP calculations for vadose zone and near-by groundwater. Distance groundwater model is stream tube based on Hanford Site Groundwater Model. Dose, ILCR, and hazard index used as metrics.	None	Built on previous FIRs	• Supports succeeding FIRs • RFI rollup • Results used as calibration/history matching for Composite Analysis. • TF PA.	• Current contamination in vadose zone • transported to groundwater for 10,000 years.	Awaiting TRD
37	**RFI Rollup** **POC (alt.):** Frank Anderson **DOE:**	1. Determination remediation of Single-Shell Tank Waste Management Areas.	All single-shell tank Waste Management Areas	Plume from individual leak or spill	Groundwater pathway	Vadose zone to groundwater to Columbia River, with emphasis on WMA fenceline	Air and intruder pathways excluded. Ecological assessment excluded. Wastes other than past leaks or spill are excluded.	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	Mainly summary of above FIRs	None	Built on previous FIRs	• Supports succeeding FIRs • RFI rollup • Results used as calibration/history matching for Composite Analysis. • TF PA.	• Current contamination in vadose zone • transported to groundwater for 10,000 years.	Awaiting TRD

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38	**Tank Farm System Performance Assessments** POC Mike Connelly (alt) Fred Mann DOE: Bob Lober													
39	**Preliminary Performance Assessment for Waste Management Area C at the Hanford Site, Washington** (DOE/ORP-2003-11_ **Tank Farm System Performance Assessments** POC Mike Connelly (alt) Fred Mann DOE: Bob Lober	Closure of C Tank Farm	C Tank Farm (northeast corner of the 200 East Area)	Each tank and spill considered. Residual waste in infrastructure treated on farm basis	Groundwater, air, and inadvertent intruder pathways	Vadose zone to groundwater to Columbia River, with emphasis on farm fenceline	Ecological assessment excluded.	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2-dimensional STOMP calculations for vadose zone and near-by groundwater. Distance groundwater model is stream tube based on Hanford Site Groundwater Model. Dose, ILCR, and hazard index used as metrics.	None	• S/SX FIR • B/BX/BY FIR	Succeeding closure plan assessments for tank farms. Results used to calibrate CA.	Present to 10,000 years in the future.	
40	**Risk Assessment for Waste Management Area S-SX Closure Plan** (RPP-21596) **Tank Farm System Performance Assessments** POC Mike Connelly (alt) Fred Mann DOE: Bob Lober	RCRA Closure of S-SX WMA	S/SX WMA (southern part of the 200 West Area)	Each tank and spill considered. Residual waste in infrastructure treated on farm basis	Groundwater and inadvertent intruder pathways	Vadose zone to groundwater to Columbia River, with emphasis on WMA fenceline	Ecological assessment excluded.	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2-dimensional STOMP calculations for vadose zone and near-by groundwater. Distance groundwater model is stream tube based on Hanford Site Groundwater Model. Dose, ILCR, and hazard index used as metrics.	None	Past leak analysis from S/SX FIR. Methods based on S/SX and B/BX/BY FIRs	SST and TF PAs Results used to calibrate CA.	Present to 10,000 years in the future.	
41	**Single-Shell Tank Performance Assessment (SST PA)** **Tank Farm System Performance Assessments** POC Mike Connelly (alt) Fred Mann DOE: Bob Lober	RCRA Closure of single-shell tank farms	All SSTs (located in both 200 West and East Areas)	Each tank and spill considered. Residual waste in infrastructure treated on farm basis	Groundwater, air, and inadvertent intruder pathways	Vadose zone to groundwater to Columbia River, with emphasis on each WMA's fenceline	Ecological assessment excluded.	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2-dimensional STOMP calculations for vadose zone and near-by groundwater. Distance groundwater model is stream tube based on Hanford Site Groundwater Model. Dose, ILCR, and hazard index used as metrics.	None	*Assessment for Waste Management Area C at the Hanford Site, Washington* and *Risk Assessment for Waste Management Area S-SX Closure Plan*	TF PAs. Results used to calibrate CA.	Present to 10,000 years in the future.	Will be maintained (updated several times a year) until superceded by the Tank Farm Performance Assessment. Will be approved by DOE/HQ, NRC, and Ecology.
42	**Tank Farm Performance Assessment (TF PA)** **Tank Farm System Performance Assessments** POC Mike Connelly (alt) Fred Mann DOE: Bob Lober	RCRA Closure of the entire tank farm system (including SSTs, DSTS, pipelines, and associated facilities)	All tank farm system components (located in 200 West and East Areas as well as between the two areas)	Each tank and spill considered. Residual waste in infrastructure treated on farm basis	Groundwater, air, and inadvertent intruder pathways	Vadose zone to groundwater to Columbia River, with emphasis on each WMA's fenceline	Ecological assessment excluded in initial versions. Will build *on Central Plateau Ecological Risk Assessment*	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2-dimensional STOMP calculations for vadose zone and near-by groundwater. Distance groundwater model is stream tube based on Hanford Site Groundwater Model. Dose, ILCR, and hazard index used as metrics.	TBD	*Single-Shell Tank Performance Assessment (SST PA)*	Results used to calibrate CA.	Present to 10,000 years in the future.	Will be maintained (updated several times a year). Will be approved by DOE/HQ, NRC, and Ecology.
43	**Tank Waste Retrieval Work Plans (TWRPs)** **Tank Farm System Performance Assessments** POC Mike Connelly (alt) Fred Mann DOE: Bob Lober	TPA requirement - Retrieval of waste from a set of tank farm components	Usually a single tank or a small number of tanks in a single farm.	Hypothetical tank leak and amount of residue. Also analysis of entire WMA. Results are based on existing analyses.	Groundwater pathway	Vadose zone to groundwater	Ecological assessment excluded	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	Based on existing analyses. Goal is that it will be based on Ecology tank farm (SST and TF) performance assessments	None	Best available existing assessments (initially *Assessment for Waste Management Area C at the Hanford Site, Washington* and *Risk Assessment for Waste*	None	Present to 10,000 years in the future.	

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											Management Area S-SX Closure Plan; goal is Ecology tank farm (SST and TF) performance assessments			
44	**Appendix H assessments** **Tank Farm System Performance Assessments** POC Mike Connelly (alt) Fred Mann DOE: Bob Lober	Retrieval volume goal process set by TPA 1. Whether retrieval of waste is complete as determined by using the TPA Appendix H waiver process.	Usually a single tank or a small number of tanks in a single farm.	Measured residual inventory in the tank(s) and any leak(s) that occurred during retrieval. Results are presented in terms of the WMA (based on existing analyses).	Groundwater and inadvertent intruder pathways.	Vadose zone to groundwater to Columbia River, with emphasis on each WMA's fenceline	Ecological assessment excluded	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	Based on existing analyses. Goal is that it will be based on Ecology tank farm (SST and TF) performance assessments	None	Best available existing assessments (initially *Assessment for Waste Management Area C at the Hanford Site, Washington* and *Risk Assessment for Waste Management Area S-SX Closure Plan; goal is* Ecology tank farm (SST and TF) performance assessments	None	Present to 10,000 years in the future.	
45	**Risk Assessments for Closure Plans** **Tank Farm System Performance Assessments** POC Mike Connelly (alt) Fred Mann DOE: Bob Lober	RCRA Closure of a tank or set of tanks	Usually a single tank or a small number of tanks in a single farm.	Components inside the WMA (based on existing analyses).	Groundwater and inadvertent intruder pathways.	Vadose zone to groundwater to Columbia River, with emphasis on each WMA's fenceline	Ecological assessment excluded in initial versions. Will build *on Central Plateau Ecological Risk Assessment*	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	Based on existing analyses. Goal is that it will be based on Ecology tank farm (SST and TF) performance assessments	Initially none. Latter versions TBD	Best available existing assessments (initially *Assessment for Waste Management Area C at the Hanford Site, Washington* and *Risk Assessment for Waste Management Area S-SX Closure Plan; goal is* Ecology tank farm (SST and TF) performance assessments	None	Present to 10,000 years in the future.	
46	**2001 ILAW PA** (completed – DOE/ORP-2000-24) **IDF PA** POC: Fred Mann; DOE: Phil LaMont.	Construction of ILAW Disposal Facility	ILAW Disposal Facility (south central part of 200 East Area)	ILAW package for release; facility level for VZ and groundwater transport	Groundwater, air, and inadvertent intruder.	ILAW	Limited ecological assessment	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2 dimensional release calculations (STORM); VZ – 2 dimensional using VAM3D; GW – Hanford Site groundwater model	Limited	1998 ILAW PA	Succeeding IDF assessments	Present to greater than 10,000 years	Succeeded by IDF PA.; set requirements on ILAW manufacture
47	**IDF Risk Assessment** (complete – RPP-15834) **IDF PA** POC: Fred Mann; DOE: Phil LaMont.	Construction of IDF	Integrated Disposal Facility (south central part of 200 East Area)	Waste package level for release; facility level for VZ and groundwater transport	Groundwater and inadvertent intruder.	ILAW, Category 1 (LLW)and Category 3 waste (LLW and MLLW)	Ecological assessment excluded	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2 dimensional release calculations (some use chemically reactive analyses – STORM while others are analytically); VZ – 2 dimensional using VAM3D; GW – Hanford Site groundwater model	None	2001 ILAW PA	Succeeding IDF assessments	Present to 10,000 years	
48	**Down Selection Risk Assessment** (complete - RPP-17675) **IDF PA** POC: Fred Mann;	Type of Supplement ILAW	Integrated Disposal Facility (south central part of 200 East Area)	Waste package level for release; facility level for VZ and groundwater transport	Groundwater and inadvertent intruder.	ILAW, Supplemental ILAW, and secondary waste from their	Ecological assessment excluded	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2 dimensional release calculations (some use chemically reactive analyses – STORM while others are analytically); VZ – 2	None	2001 ILAW PA; IDF RA	IDF PAs	Present to 10,000 years	Set requirements on BV manufacture

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	DOE: Phil LaMont.					production			dimensional using VAM3D; GW – Hanford Site groundwater model					
49	**IDF PA** **IDF PA** POC: Fred Mann; DOE: Phil LaMont.	Operation and closure of the Integrated Disposal Facility (IDF)	Integrated Disposal Facility (south central part of 200 East Area)	Waste package level for release; facility level for VZ and groundwater transport	Groundwater, air, and inadvertent intruder.	ILAW, Supplemental ILAW, Category 1 (LLW)and Category 3 waste (LLW and MLLW)	Limited ecological analysis in initial versions. Will build on *Central Plateau Ecological Risk Assessment*	*Exposure Scenarios and Unit Dose Factors for Hanford Waste Tank Performance Assessments* (HNF-SD-WM-TI-107)	2 dimensional release calculations (some use chemically reactive analyses – STORM while others are analytically); VZ – 2 dimensional using VAM3D; GW – Hanford Site groundwater model	TBD	2001 ILAW PA, IDF Risk Assessment; Down Selection Risk Assessment	Results used to calibrate Compositie Analysis.	Present to greater than 10,000 years	Set requirements for ILAW and supplemental ILAW manufacture processes. Will be maintained

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