



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

BUD:PJZ/17-BUD-0030

JUL 18 2017

MEMORANDUM FOR JAMES M. OWENDOFF
ACTING ASSISTANT SECRETARY
FOR ENVIRONMENTAL MANAGEMENT
EM-1, HQ

FROM: DOUG S. SHOOP
MANAGER

A handwritten signature in blue ink, appearing to read "Doug S. Shoop", is written over the printed name and title.

SUBJECT: FISCAL YEAR (FY) 2019 ENVIRONMENTAL MANAGEMENT
(EM) COMPLIANCE BUDGET SUBMITTAL FOR THE U. S.
DEPARTMENT OF ENERGY (DOE) RICHLAND OPERATIONS
OFFICE (RL)

Consistent with EM's FY 2019 budget formulation guidance and the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement or TPA), paragraphs 148 and 149, RL is requesting \$1.385B for FY 2019. This request is responsive to Executive Order 12088 and recognizes the TPA objectives of DOE, the U.S. Environmental Protection Agency (EPA), and the Washington State Department of Ecology (Ecology).

RL's FY 2019 budget request represents planned efforts for continued achievement of important cleanup progress. In summary, the RL FY 2019 budget request is designed to:

- Maintain safe, secure, and compliant activities, facilities, and operations, including groundwater pump and treat operations;
- support sludge removal from K-West Basin near the Columbia River, and transfer to interim storage in the Central Plateau;
- support Hanford Site Infrastructure projects to minimize further degradation;
- support repackaging of transuranic waste currently in storage;
- expand groundwater well network and remedy implementation;
- continue Cesium and Strontium Capsule movement to temporary dry storage;
- continue River Corridor 300-296 waste site remediation and 324 Facility demolition; and
- continue River Corridor and Central Plateau waste site, canyon, facility remediation and risk reduction.

JUL 18 2017

As part of DOE's desire to seek, collect, and consider input in the development of Hanford's budget, we provided budget briefings during RL's budget development process and other information to the Hanford Advisory Board, Ecology, EPA, the Oregon Department of Energy, the Yakama Indian Nation, the Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce Tribes. In addition, RL and the DOE Office of River Protection jointly held a public meeting to discuss the proposed FY 2019 budget request and cleanup priorities. We are providing, as attachments to this memorandum, the Oregon Department of Energy letter dated July 6, 2017, addressing recommended priorities for Hanford cleanup. In addition, we are attaching other written comments we received from the public and other Stakeholders.

RL and its Contractors will continue to evaluate and advance cleanup strategies and initiatives that optimize tax payers' dollars, while working collaboratively with state and Federal regulators.

If you have any questions, please contact me, or your staff may contact Gregory A. Jones, Assistant Manager for Business and Financial Operations/Chief Financial Officer, on (509) 372-8977.

Attachments:

1. Letter to RL from ODOE
2. Hanford Site Cleanup Priorities Public Meeting Notes
3. Heart of America Northwest's Comments on the Hanford Site Cleanup Budget for FY 2018 and 2019

cc w/attachs:

Stacy Charboneau, EM-3
Celinda Crawford, EM-3
Dennis Faulk, EPA
Mark Gilbertson, EM-4
Robert Seifert, EM-4.3
Alexandra Smith, Ecology
Steve Trischman, EM-5.1
Candace Trummell, EM-5



Oregon

Kate Brown, Governor



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July 6, 2017

U.S. Department of Energy
Richland Operations Office
PO Box 550, H5-20
Richland, WA 99352

To whom it may concern:

Thank you for the opportunity to provide comments regarding Hanford cleanup budget priorities. I will remind you that the State of Oregon provided detailed near-term, mid-term and longer-term priorities to the U.S. Department of Energy's Richland Office in December 2015, as part of our comments on proposed Tri-Party Agreement milestones. For the most part, those priorities remain unchanged. You'll see our updated list below.

A concern we have is that we are being asked to help prioritize cleanup priorities and we and the public have not been provided detailed budget information to help in this process. In preparing our priorities in 2015, DOE-RL shared with us a detailed pre-decisional Integrated Priority List. That list provided information about projected project costs on a year by year basis. We were able to understand DOE's expectations for how quickly (or slowly) a particular project may ramp up; how long it will take to complete; and annual costs for each specific project. We were also able to determine for ourselves the tradeoffs necessary in elevating one project above another – recognizing that budget limitations are an unfortunate reality of the Hanford cleanup.

This year, we were not provided that detailed information for DOE-RL projects. We have never been provided this level of information for DOE's Office of River Protection. Without this detailed information, there is less precision in our priorities and, if we elevate one project over another, we are unable to determine whether the costs are commensurate.

As the budgets for DOE-RL and DOE-ORP are still separate, we have not attempted to combine our priorities or to rank RL projects against ORP activities.

In addition to the priorities we have identified, we recognize there are ongoing min-safe requirements for both DOE-RL and DOE-ORP which must be funded and we are generally supportive of infrastructure upgrades that have been identified.

The recent incident at the PUREX tunnel emphasizes the continued peril of a cleanup that is dragging on decades longer than originally envisioned. Other facilities are also showing serious signs of degradation. The underground waste storage tanks are of particular concern, with the recent loss of service of one of the double-shell tanks due to a leak from the inner tank and serious concerns about the integrity of many of the other double-shell tanks.

Given this situation, it is difficult for us to advocate that certain cleanup projects have a lesser priority when it is clear that pushing them farther into the future will almost certainly result in more instances of failure and the potential risk of a serious accident and spread of contamination. Nevertheless, we agree that it is necessary to prioritize the work.

Throughout the Hanford cleanup, Oregon has advocated for an aggressive and expansive cleanup of the groundwater. We continue to support ongoing groundwater remediation efforts and endorse an expansion of these treatment systems.

As a Trustee of Hanford's Natural Resources, we also support an increase in funding for Natural Resource Damage Assessment and Restoration work, to help move that process forward.

Oregon's near-term priorities (now through December 2019) for DOE-RL

- Complete demolition of the Plutonium Finishing Plant to slab-on-grade
- Begin moving the cesium/strontium capsules from pool storage at WESF to dry storage
- Complete installation of the extended apatite barrier at N Area
- Begin and complete sludge movement from K West Basin
- Begin remediation of the high-dose soil contamination beneath 324 Building
- Interim stabilize the PUREX tunnels
- Expand groundwater extraction wells into the 200 East Area
- Complete the River Corridor Records of Decision

Oregon's mid-term priorities (2020 through 2022) for DOE-RL

- Complete transfer of cesium/strontium capsules to dry storage (upon completion, core and evaluate the concrete at WESF to develop a database of dry concrete properties from prolonged exposure to gamma radiation)
- Complete remediation of soil beneath the 324 Building and demolish the building
- Resume retrieval/treatment of retrievably stored waste from the solid waste burial grounds and resume shipments of transuranic waste to the Waste Isolation Pilot Plant
- Demolish the K-West basin
- Develop a more robust program to characterize and remediate contamination in the deep vadose zone
- Begin Interim Safe Storage of K East and K West reactors
- Begin characterization of the solid waste burial grounds

Oregon's longer-term priorities (2023 through 2026) for DOE-RL

- Begin additional characterization/treatment in the deep vadose zone
- Complete Interim Safe Storage of K East and K West reactors
- Begin remediation of the 618-11 burial ground
- Continue retrieval/treatment of retrievably stored waste from the solid waste burial grounds and continue shipments of transuranic waste to the Waste Isolation Pilot Plant
- Construct or acquire necessary treatment facilities to begin treatment of the K-Basin sludge at T-Plant.
- Begin characterization of waste sites near PUREX and other canyons

DOE-RL work that Oregon believes can be delayed until after 2026 (unless substantial additional funding is received)

- PUREX tunnel remediation
- U Plant closure

- S Pond barrier
- B Pond barrier
- Non-Radioactive Dangerous Waste Landfill (NRDWL) barrier
- Outer Area soil cleanup

For DOE-ORP, Oregon supports continued progress towards Direct-Feed Low-Activity Waste treatment; a continuation of tank waste retrievals; and continued resolution of technical issues so that work can resume on the full Waste Treatment Plant complex. We do not believe funds should be dedicated towards tank closure until tank waste treatment is well underway.

Oregon has previously advocated on behalf of new underground waste storage tanks. Since the beginning of cleanup, it has been a race as to whether treatment could begin before the tank storage situation became untenable due to tank failures or inadequate available tank space to continue single-shell tank retrievals. We are concerned that the degradation of the tanks is such that more tank failures are likely – even if DOE is able to successfully begin Direct-Feed LAW treatment on or close to schedule.

While the issue of new tanks has been much debated, it seems as though there has been little external discussion as to what new tanks should look like. We suggest that new tanks at Hanford be much different than what are there now. They should not be million plus gallon tanks that are built in place on site. New Hanford tanks should be smaller, so they can be fabricated in controlled conditions and barged to the site; appropriate alloys need to be used to ensure the tanks' durability; they need to be seismically qualified; and the entire tank needs to be easily inspected.

Should you have questions or if you want to discuss our comments, please contact me at 503-378-4906.

Sincerely,



Ken Niles
Assistant Director for Nuclear Safety

c.c. Doug Shoop, U.S. Department of Energy Richland Office
Kevin Smith, U.S. Department of Energy Office of River Protection
Alex Smith, Washington Department of Ecology
Dennis Faulk, U.S. Environmental Protection Agency
Rod Skeen, Confederated Tribes of the Umatilla Indian Reservation
Rose Longoria, Yakama Indian Nation
Jack Bell, Nez Perce Tribe
Oregon Hanford Cleanup Board
Hanford Advisory Committee

Heart of America Northwest's Comments on the Hanford Site Cleanup Budgets for Fiscal Years 2018 and 2019:

USDOE's Budget Requests are Legally Inadequate; Ecology and EPA Should Take Enforcement Actions Against USDOE for Failing to Request Adequate Funding for 2018; and, Failing to Disclose Proposed Budgets for Regulator and Public Comment

Heart of America Northwest and Heart of America Northwest Research Center (jointly referred to as HoANW) submit these comments as part of our long-term emphasis that the real decisions on cleanup priorities at Hanford are reflected in the cleanup budget, rather than in any other planning documents. These comments supplement the oral and written comments submitted by Executive Director Gerry Pollet at the public meeting held in Richland on June 7, 2017. Both sets of comments should be reproduced and responded to by the agencies, and included in USDOE's forwarding of public comment to its Headquarters and Congress.

The US Department of Energy ("USDOE"), the US Environmental Protection Agency ("EPA") and the Washington Department of Ecology have entered into an enforceable Federal Facility Agreement and Consent Order, referred to as the Hanford Clean-Up Agreement or Tri-Party Agreement ("TPA") to establish a timeframe, progress milestones, and ultimate end goals regarding the cleanup of the Hanford site.

For 2018, USDOE requested approximately \$188.347 million less in funding for the Richland Field Office than the funding level in the 2017 Appropriation, with \$137 million cut from the project housing 300 Area remediation.¹

USDOE-RL has utterly failed to disclose proposed 2019 funding levels for each project area.

At the time of the public meeting, USDOE had not even disclosed the specific funding levels requested for appropriation from Congress for 2018 for each of the Richland Field Office's project areas (control point), much less at the level which is mandated for disclosure in the TPA (referred to as the ADS level, which refers to specific activities or units within the control point). USDOE belatedly published the Budget Detail of its FY 2018 Congressional Budget Request more than a week AFTER the June 7 public meeting on Hanford cleanup budget request levels for 2018 and 2019.

USDOE has requested Congress cut RL-0030 Soil and Water Remediation (Groundwater / Vadose Zone) by 24.617 million in 2018 from 2016 levels and from 172.287 million in 2017 to \$150.million. (Id.)

¹ "FY 2018 Congressional Budget Justification," DOE/CF-0134, USDOE Submittal to Congress, June, 2017, at 43; and \$125.64 million cut for DOE-RL in Volume 5, Congressional Budget Request Detail at 27. <https://energy.gov/sites/prod/files/2017/06/f34/FY2018BudgetVolume5.pdf>

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USDOE requested Congress to cut RL-0041, River Corridor Closure Project by an astonishing \$137 million, leaving just \$44.692 million requested for all 300 Area, K-Area and other River Corridor cleanup actions.

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HoANW strenuously objects to USDOE's failure to meet the requirements of the TPA (paragraph 148) to disclose proposed 2018 and 2019 funding levels for each Congressional control point for Hanford Cleanup under the purview of the Richland Field Office. This failure to identify the funding levels needed to meet TPA requirements, e.g., for RL-0041 River Corridor Closure Project and RL-0030 Soil and Water Remediation – Groundwater / Vadose Zone has denied the public and HoANW of our rights to be able to effectively comment on the proposed budgets pursuant to the TPA and CERCLA.

The regulatory agencies did not, and could not, meet their duties to review and provide the public with their views on the adequacy of USDOE's Congressional Budget Request for 2018 and proposed funding levels for 2019 due to USDOE's failure to provide those proposals.

Those proposed funding levels and identification of total funding required to meet TPA and CERCLA obligations, e.g., the funding level required to be on schedule to remediate soil and groundwater in the 300 Area and 100 Areas along the Columbia River, were required to be disclosed prior to the June 7, 2017 public meeting on USDOE's proposed funding levels and requests. This is a TPA obligation. Failure to provide proposed funding levels left HoANW unable to comment at the public meeting and continues to deny the HoANW of its rights to fully comment on USDOE's budget priorities and the inadequacies of funding requested in 2018 and 2019 for the 100 and 300 Areas along the Columbia River and for the 200 Areas (Central Plateau).² Thus, we are unable to determine if USDOE intends to, or will be able to, meet legal requirements to remove waste from dangerous facilities and sites on a timely basis, or to meet TPA schedule obligations.

Compliance with the TPA requires that the DOE request full funding from Congress in the 2018 and 2019 federal budgets for the RTD of contaminated soil in the 300 Area (for the 300-FF-1 and 2 operable units, and the 300-FF-5 unit). Unless USDOE has requested the full amount of funding from Congress, USDOE has no excuse for not meeting the timeline for completion of cleanup under the TPA.

² See "Environmental Management Budget Briefing: FY 2018 President's Budget FY 2019 Estimated Requirements" Greg Jones, Richland Operations Office, June 7, 2017. This was the official handout and presentation at the public meeting required by the TPA of the levels of funding required and requested for each Congressional Control Point for the two upcoming fiscal years. FY 2018 funding by Congressional Control Points is left blank, and no funding levels were identified for 2019. There is no mention of what work would be funded at what levels for the 300 or 100 Area units in the presentation nor for 200 high risk facilities such as CWC, WESF, PUREX Tunnels, cribs or burial grounds. Each of these high risk facilities pose catastrophic risks in event of an inevitable major earthquake. The TPA requires that these funding levels be identified for public, regulator and Tribal comment. HoANW urges that the State of Washington and US EPA take formal enforcement action for this violation of the fundamental right to know and comment on the USDOE's Hanford Cleanup budgets.

RTD is the sole proven and reliable remedy which will meet the TPA milestone, M-016-00B, by September 30, 2018. While HoANW understands that the agencies have agreed to a one year delay to review the efficacy of polyphosphate injection as a remedy in the 300 Area, and consider replacing that remedy with full or partial removal of contamination, we are concerned that USDOE's failure to identify and request from Congress the amount of funding required to implement RTD in either 2018 or 2019 will preclude honoring the commitment to openly and fairly consider the RTD remedy in lieu of the unproven polyphosphate injection alternative. Essentially, the funding for RTD must be identified in the budget request in order to preserve this option, even if the results of consultation determine proceeding with the lower cost injection remedy.

Instead of requesting full funding for the cleanup of the 300 Area (and other areas along the Columbia River) on the timeline required by the TPA, USDOE has instead requested a dramatic reduction in funding for USDOE-Richland Field Office for 2018.

If the DOE does not request money now for the level of remediation which may be required if USDOE were to reach agreement that full or partial RTD is the only proven remedy which will meet standards, there will be no way for that work to be completed before the TPA deadline. Inclusion of the funding needed if RTD is agreed to in the funding level identified to USDOE-HQ and Congress is necessary at this time. HoANW is concerned that the DOE will not meet TPA Milestone M-016-00B, cited in Appendix D of the Hanford 300 Area Record of Decision, which requires completion of remedial actions in the 300 Area, by the September 30th, 2018.

The DOE's current strategy for cleanup, as set out in Alternative 3a, would attempt to address hot spots in the 300 Area via polyphosphate injections. The target date will not be met through the use of polyphosphate injection. As noted in the comments (dated 09/2013), the use of polyphosphate injection has been shown to induce a short term, immediate decrease in uranium levels but testing has shown an increase to previous uranium levels within two months after injection (300 Area Uranium Stabilization Through Polyphosphate Injection: Final Report PNNL 18529 5.1 – 6/2009). Additionally, the use of polyphosphate injection necessarily requires long term monitoring and continued testing which far exceeds the target date of September 30th, 2018.

The DOE has not provided sufficient data to support the use of polyphosphates for the purposes of cleaning up the 300 Area. The HoANW requests disclosure on the USDOE or Ecology website of all lab data and reviews that have been used in support of the use of polyphosphate in the 300 Area.³ If DOE chooses to pursue the use of polyphosphate injection to immobilize uranium in soil, DOE must provide significant, scientific evidence that the method is effective and permanent; and, that the timeline to achieve unrestricted use of the resources is reasonable.

Given the unproven nature of polyphosphate injections as a means of remediating the soil as set out in Alternative 3a of the ROD, the DOE should be requesting the level funding which

³ We urge that all records relating to the efficacy of the proposed polyphosphate injection remedy, including estimates of time to achieve standards, be posted on the website for the 300 Area Plan.

would be required for timely RTD of soil from operable units within the timeline for completing the remedy established in the TPA. This step (requesting the funds from Congress) is the only way to have a likelihood of success for cleaning up the contamination at the 300 Area within the given deadline if DOE, EPA and Washington agree that polyphosphate injection may not work on a reasonable timeline. Removal of the contaminated soil provides the most effective, and permanent means of ensuring the uranium does not continue to contaminate the groundwater and reach the Columbia River.

According to the TPA, the DOE must include the estimated funding levels required for *full* compliance with the Agreement. By failing to request funds to fully meet the goals set forth within the Agreement, including the funds necessary to meet the September 30, 2018 goal for completing remedial action in the 300 Area, the DOE fails to meet its obligations under the TPA. HoANW requests that the DOE's budget request include funds for the complete RTD of contaminated soil in the 300 Area in order to meet its September 30, 2018 cleanup milestone.

The HoANW expects this comment to become part of the administrative record for the operable units in question. The DOE's failure to provide adequate funding for the cleanup of these areas needs to be reflected in the administrative record.

The FY 2018 Request and 2019 budgets should similarly include a level of funding to REMOVE waste from the PUREX tunnels on an expedited basis. Removal is the only permanent remedy, and only action certain to prevent release of contamination in event of an earthquake, due to failure of the tunnels from the effects of radiation on the structures, or from long-term release of contaminants to soil and groundwater. Planning to add grout will likely complicate and increase the cost of a closure / cleanup action which meets the legal requirements to prioritize a permanent remedy which does not add long-term contamination to soil or groundwater, or adds to long-term human exposure risks. If USDOE produces studies meeting these criteria supporting short-term stabilization with grout, then the higher levels of requested funds may be redirected to other very high priority – and, currently unfunded – high risk facilities, including removing and treating wastes from the Central Waste Complex (both from outdoor and indoor locations), strontium and cesium capsules stored under water at the WESF / B Plant, Plutonium liquid waste crib sites, or numerous caisson and high risk waste sites in burial grounds. Each of these pose serious risks in the event of a serious earthquake which is inevitable.

In regard to tank wastes, we reiterate that it is unacceptable for USDOE to fail to request the funds to remove wastes from leaking / recently leaking Single Shell Tanks. Federal and state hazardous waste laws (RCRA and HWMA) require removal of all wastes as soon as practicable from leaking tanks. This may require new Double Shell Tanks for storage, since WTP operation is many years away (even if DFLAW works, these tanks are not slated for waste retrieval in the near future). The TPA requires that USDOE identify and request funding necessary to meet all legal requirements. Funds should be requested and allocated to conduct the long-delayed test of whether waste from the oldest Single Shell Tanks, which include the leaking tanks, may be effectively dried and treated at Perma-Fix NW. It appears that this work falls within that facility's permit and capabilities. If so, waste could not only be removed from tanks, it could be treated and removed from Hanford – which would be a first for tank wastes. The budget should include funding for this alternative path, which would be far less costly and, allow for far sooner retrieval, than the funding identified as needed for DFLAW for these particular tanks.

June 24, 2017

U.S. Department of Energy
Richland Operations Office
P.O. Box 550, H5-20
Richland, WA 99352

Subject: 30-Day Public Comment Period on Hanford Site Cleanup Budget Priorities¹

To the Department of Energy, EPA, and State of Washington Department of Ecology:

Below are comments arising from your request for public comment on Hanford's Budget Priorities. Comments were requested by July 7, 2017.

BUDGET PRIORITIES BRIEFING MATERIALS LACK A BASIS

Each of the presentations from the public meeting: *DOE-RL Priorities Posters; DOE-RL Budget Briefing; ORP Budget Briefing Priorities Posters; DOE-ORP Budget Briefing; and Ecology Perspective*, includes a list of "things to do." No information was provided on how you arrived at the decision for what the priorities should be. This defeats the purpose of a budget priorities meeting, and it ignores past efforts.

ORP/WTP IS MISMANAGED

At present, DOE has spent about \$19 Billion trying to force-fit an all-vitrification solution to the Hanford Tank Waste disposal problem. There has been zero success, except for the success in coming up with creative ways to preserve the spend plan. And excepting the notable success of Department of Energy managers who created an environment conducive to fraud, while protecting contractors from the consequences of having defrauded the taxpayer. See GAO Reports GAO-17-235, GAO-17-306, and GAO-17-651T, for example.

PRIORITY FOR THE WTP IS MISPLACED

WTP is supposed to be addressing the "risk" from the tank waste. Prior studies show that much of this risk was already addressed. The prior risk drivers were from the tank waste "watch list" safety issues (potential for hydrogen explosion, organic nitrate reactions, and ferrocyanide reactions). The tank waste safety issues were evaluated and resolved, at great expense, previously. Protecting against the "threat" to the groundwater does not require WTP or vitrification. Leaked waste under the tanks has been there for decades (plumes already present).

¹ <http://www.hanford.gov/pageaction.cfm/calendar?IndEventId=8150>

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DOE-RLCC

Leaked waste and waste in single shell tanks is managed by water intrusion prevention and the previous elimination of thirty-three aqueous effluent streams.

Some examples of previous risk-based evaluations include:

- WHC-EP-0619, Vol 4, *Risk Management Study for the Hanford Site Facilities, Risk-Reduction Cost Comparison for the Retired Hanford Site Facilities*, February 1994, located at: <https://www.osti.gov/scitech/servlets/purl/10139571>
This document provides a cost-comparison evaluation for implementing certain risk-reduction measures and their effect on the overall risk of the 100 and 200 Area retired, surplus facilities.
- *Overview of Hanford Site Risk Assessment to Support Cleanup Decision Making*, April 11, 2016, located at: http://ndf-forum.com/common/data/pdf/presentation/en/3-1_Triplett.pdf
This presentation notes that in 1992, there was a broad public consensus for using the Hanford Central Plateau for waste management. It notes that “tank safety issues” (addressed as “watch list” tanks) were the near-term release hazard, and that these safety issues are resolved. It points out that removing the liquid from the single shell tanks is a long-term remediation strategy. (Adding liquids to the SSTs to retrieve waste actually works *backwards* for risk.) Four slides from this presentation are enclosed. There is no near-term release hazard from Hanford’s tanks. The urgency to spend \$billions on a wasteful project like the WTP is fiction.
- *A Review of the Use of Risk-Informed Management in the Cleanup Program for Former Defense Nuclear Sites*², by the Omnibus Risk Review Committee, August 2015, located at: http://www.tricityherald.com/news/local/hanford/article33023001.ece/BINARY/Omnibus%20Risk%20Review%20Report_FINAL.

The Consolidated Appropriations Act, 2014 (H.R. 3547, sometimes known as the Omnibus) is an omnibus-spending bill that packaged several appropriation bills together in one larger bill. Language attached to that Congressional Omnibus appropriations legislation directed the Department of Energy (DOE) to “retain a respected outside group ... [to] undertake an analysis of how effectively [DOE] identifies, programs, and executes its plans to address risks [to public health and safety from the DOE’s remaining environmental cleanup liabilities], as well as how effectively the Defense Nuclear

² Omnibus Risk Review Committee, *A Review of the Use of Risk-Informed Management in the Cleanup Program for Former Defense Nuclear Sites* (Washington, D.C.: August 2015). EM requested the Consortium for Risk Evaluation with Stakeholder Participation, an independent multidisciplinary consortium of universities led by Vanderbilt University, to organize a review in response to congressional direction accompanying the Consolidated Appropriations Act, 2014. To carry out the reviews, the consortium constituted a committee of eight nationally distinguished individuals with diverse experience in risk analysis; public health and safety; nuclear safety; risk management; and environmental law, regulation, and public policy. (Ref: GAO-16-422T)

Facilities Safety Board (DNFSB) identifies and elevates the nature and consequences of potential threats to public health and safety at the defense environmental cleanup sites.”

A general finding of this report was that “Currently, achieving the best risk reduction use of available resources is significantly impeded by inconsistencies in the regulatory approaches followed at different sites, by selection of cleanup remedies that are not appropriately tailored to the risks presented, and by requirements in federal facilities agreements and consent decrees; all of these cause disproportionate resources to be directed at lower priority risks.” This Omnibus report contains 24 findings and recommendations. And the tank waste does not present a risk that requires the expense and risk of vitrification, which produces toxic gasses resulting in the need for elaborate off-gas treatment. The WTP approach has provided an environment ripe for fraud. What are your priorities for addressing the failed business model, instead of kicking the funding can down the road? Why is there a “priority” for DFLAW, in which radioactive cesium is dumped back into the waste tanks in clear violation of ALARA principles? How is WTP/DFLAW your priority, when the risk profile is not reduced?

PRIORITY FOR WTP IS NOT SUPPORTED DUE TO SHODDY DESIGN AND INADEQUATE QUALITY OF INSTALLED AND PLANNED EQUIPMENT

Bechtel has, after repeated findings over decades, advertised “bulletproof quality,” yet the improper installation of equipment and improper commercial grade dedication have continued. Where are DOE’s priorities that allowed the Inspector General’s audit of commercial grade dedication to be put off for three years, work plan after work plan? Why does DOE now place priority on replacing the accepted standard ASME NQA-1 with some home-grown DOE QA program that is subject to political and contractor manipulation?

I would like to suggest that the priorities should be re-evaluated based on risk and root cause analysis. We need answers that reflect an understanding of why WTP issues have been allowed to continue with a life of endless re-design as the institutional business model, when the work products consist of fraudulent payments and technical, safety, and ALARA failures. The priority should be to no longer pay for this.

The recent statement in the newspaper from Senator Cantwell, that there are people who know “nothing about science, trying to do it [Hanford remediation] on the cheap,” is ironic, considering that she herself has a Bachelor of Arts in Public Administration. She knows no more than those she criticizes. This raises a question about where Senator Cantwell gets the information she uses in public statements. How often do contractor lobbyists visit Senator Cantwell? Are elected officials’ strident demands for more money based on the donations they have received from Hanford contractors, who benefit from a large budget? Of note is that Bechtel Group donations (individual and PAC) totaled ~\$650,000 to federal candidates in the 2016 election cycle, with \$12,843 donated to Dan Newhouse, who received the second highest Bechtel Group donation to a House of Representatives candidate³.

³ Data from opensecrets.org

FAST-TRACK DESIGN-BUILD AT WTP IS CONTRARY TO DOE ORDER 413.3B

DOE Order 413.3B (Acquisition of Capital Assets) prohibits fast-track design concurrent with construction except for very simple projects. Yet the senselessly complex WTP is still constructing away in spite of wholesale re-designs, QA failures, and new, ill considered patched-in facilities like the EMF and LAWPS.

The President recently signed the "Follow the Rules" Act, which prohibits retaliation against employees who refuse to follow instructions that are contrary to Agency orders and regulations.

DOE Management has required WTP employees to execute fast-track design-build for WTP without justification that is required per DOE Order 251.1D, *Departmental Directives Program*. An exemption is required when not implementing a requirement of a DOE Order. This failure to comply with the design-build prohibition (failure to complete design before construction) is destructive to safety and destructive to DOE's fiduciary duty. This irrational approach is at the heart of many "safety culture" issues, and it is the source of many "technical challenges."

DOE should inform employees that they are not obligated to execute design-build at WTP any further.

WE CAN DO BETTER

There is no time like the present to re-establish risk-based priorities with an emphasis on elegant and simple, easy to verify design. This will promote safety and cut off the fraud.

A second look at filling void spaces and disposing the tank waste in place, as a landfill, is in order.

Overview of Hanford Site Risk Assessment to Support Cleanup Decision Making

Mark Triplett
Senior Advisor
Risk and Decision Sciences

1st International Forum on the Decommissioning of the Fukushima Daiichi NPS

April 11, 2016

PNNL-SA-116283



Pacific Northwest
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Proudly Operated by Battelle Since 1965

Hanford Near-Term Release Hazards (1995 to Today)

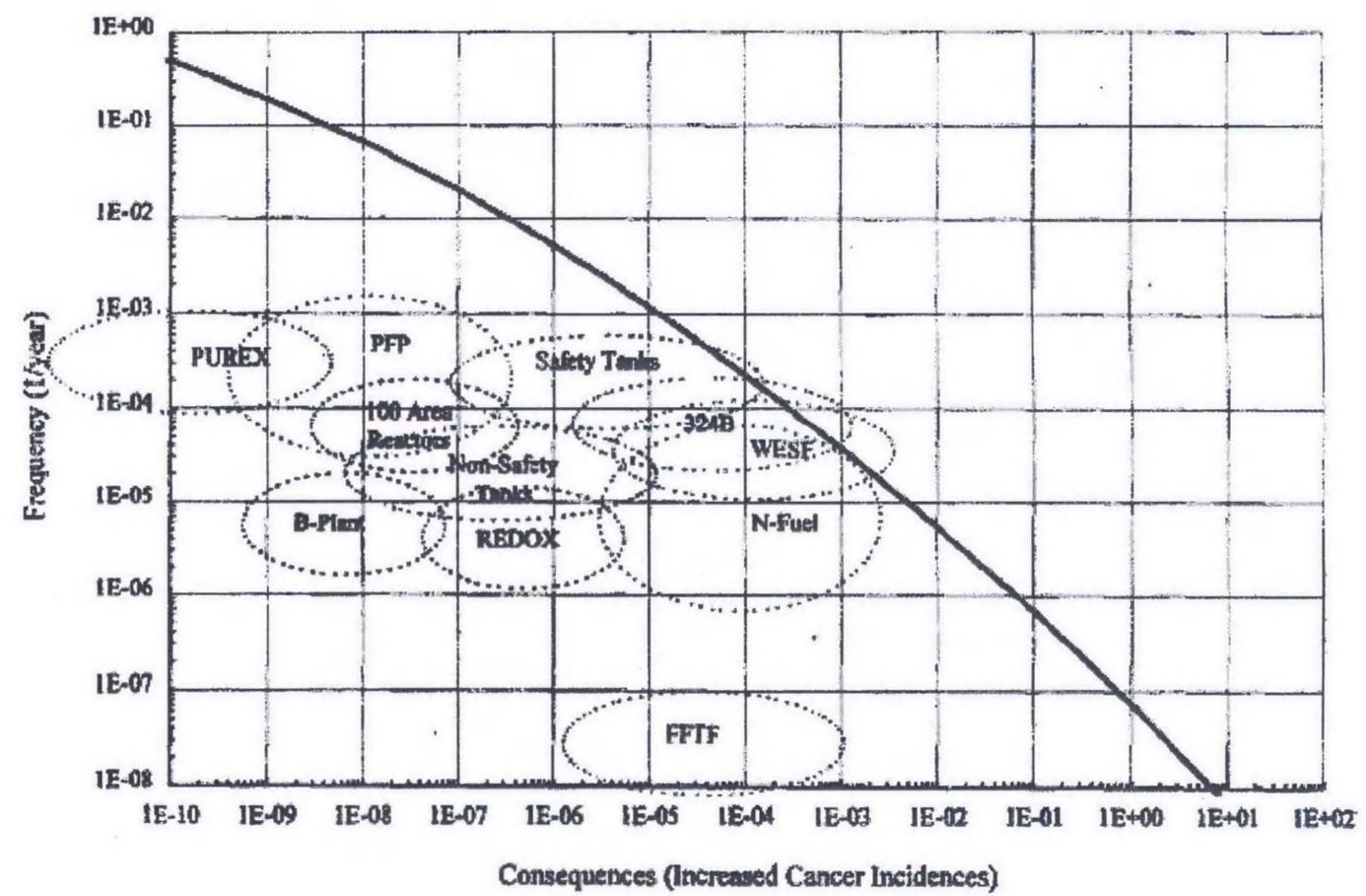
BEFORE



Pacific Northwest
NATIONAL LABORATORY

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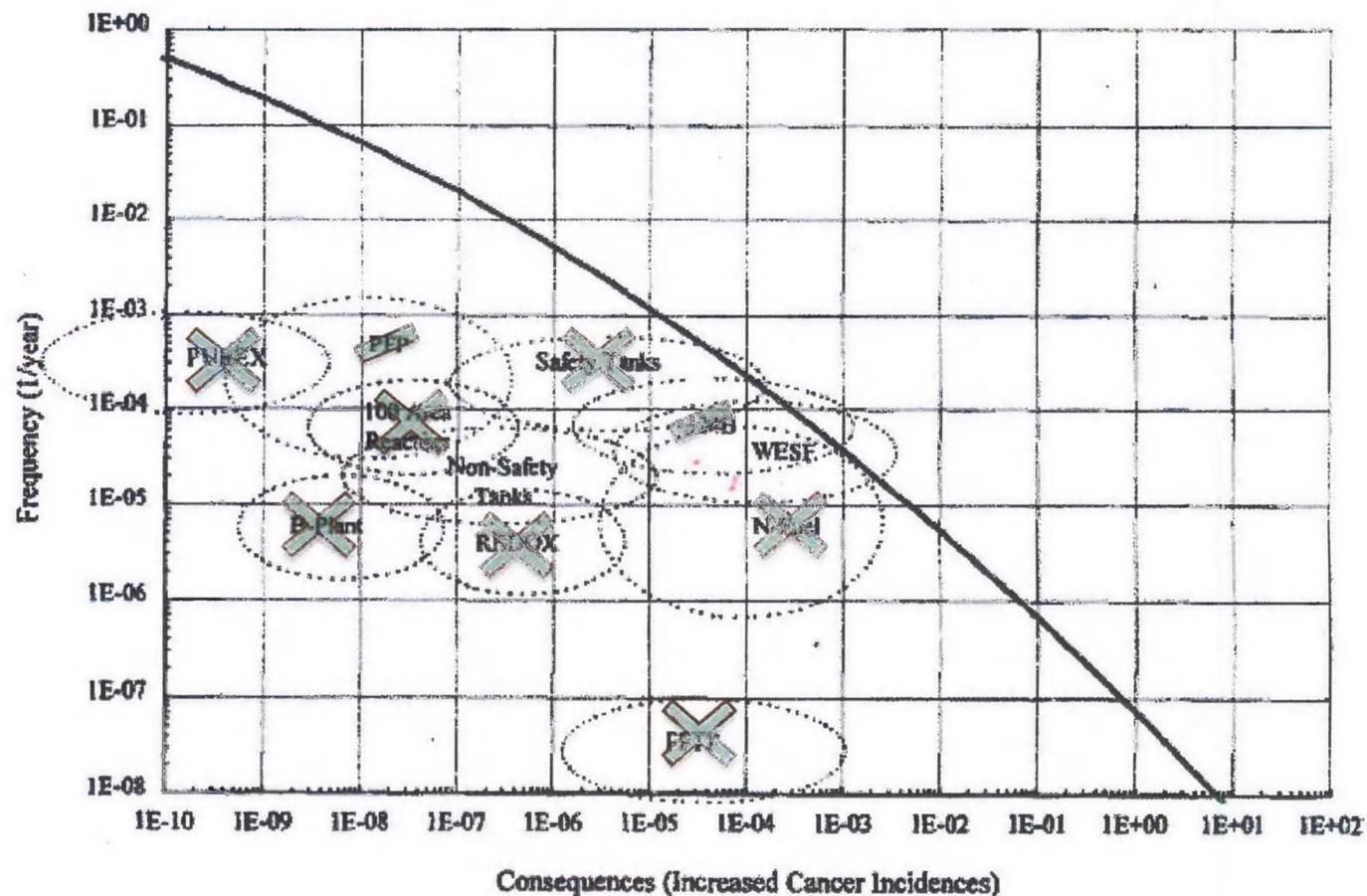
- ▶ High-risk nuclear fuel and materials
- ▶ **Tank safety issues**
- ▶ Surplus reactors
- ▶ Processing facilities requiring active safety controls



Hanford Near-Term Release Hazards (1995 to Today)

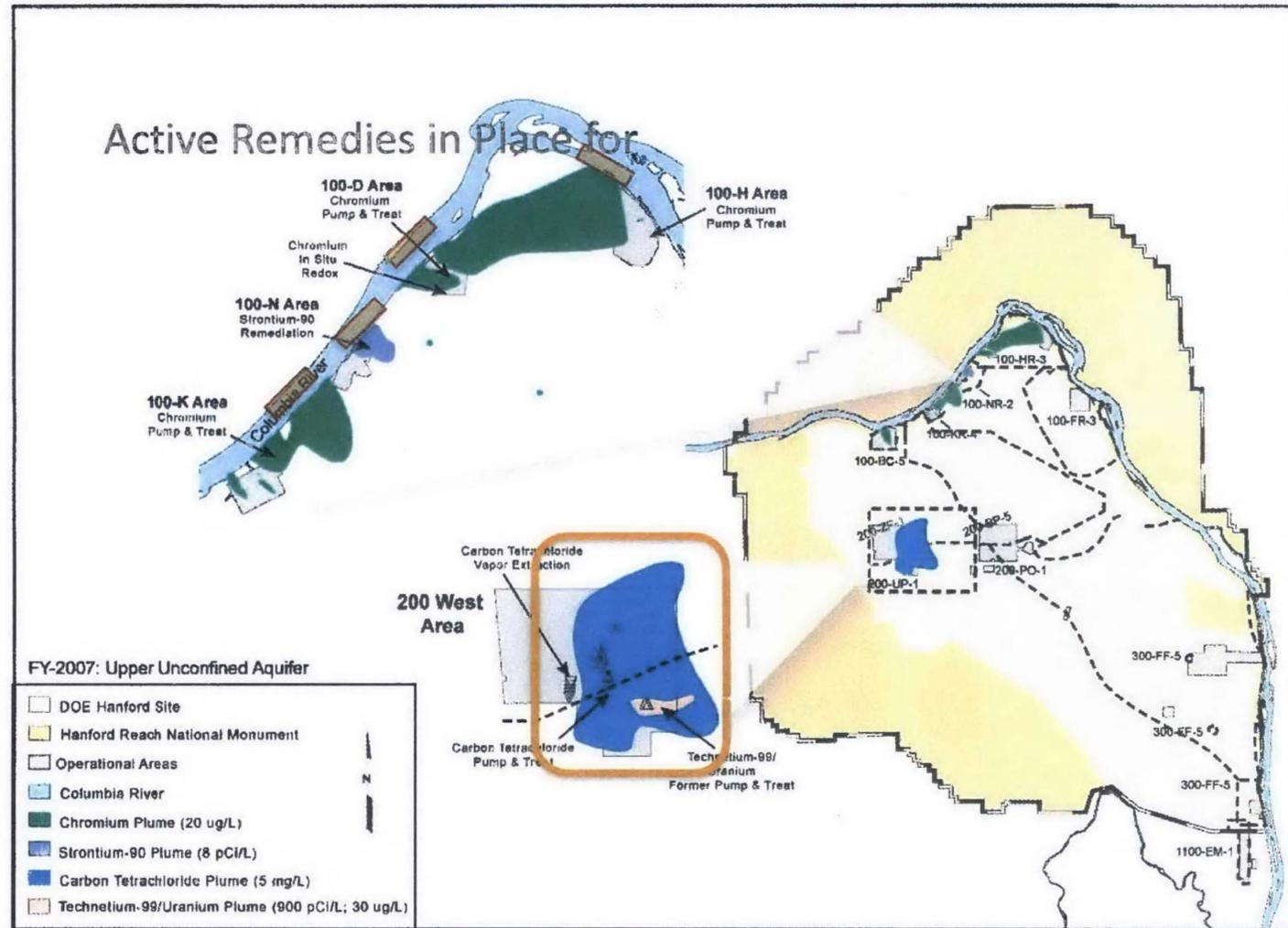
Now

- ▶ High-risk fuel and nuclear material moved to safe storage away from Columbia River
- ▶ Tank safety issues resolved
- ▶ Surplus reactors placed in interim safe storage (isolated from environment)
- ▶ Processing facilities deactivated and placed in passive safe condition



Long-Term Hazards – Remediation Strategy

- ▶ Contaminated soil removed from areas adjacent to Columbia River
- ▶ Active remedies in place for primary threats to groundwater and River
- ▶ Liquids removed from underground single-shell tanks



Hanford Public Meeting
FY 2019 Budget Priority Discussion
June 7, 2017

Background: A Public meeting was held at the Richland Public Library on June 7, 2017 from 5:00 PM to 7:00 PM. In addition to physical attendance at the meeting, a televideo broadcast was also conducted. During the meeting, both Richland and ORP provided presentations on FY 2017 and FY 2018 planned work scope. Additionally, an exercise was conducted where poster boards showing cleanup projects were on easels throughout the room. Meeting attendees were given a thick marker to physically write on the posters the order of importance the projects that they felt were the biggest cleanup priorities for RL. If the project represented a person's top priority, individuals wrote down a number 1 on the poster. If a lot of numbers appeared on a poster, it would indicate that a large number of attendees thought that project represented a high cleanup priority. All of the projects had at least one person put a number on it, but several of the projects were clearly the "front runners" in terms of priority based on the number of votes that were put on the poster. Following is a summary of the exercise results for Richland:

- The project that received the most votes was the one to move the cesium and strontium capsules to dry storage. 13 people listed that as a priority, with their priority for that project ranked 1, 2, or 3.
- 11 people thought the 324 Building was a priority. Priority numbers ranged from 1 to 5 with that project.
- 10 people thought facility risk mitigation was a priority. Facility risk mitigation had three #1 votes, but also, it got a #7.
- 9 people thought groundwater operations and Site infrastructure upgrades were the priority. Priority numbers ranged from 1 to 6.
- After that, Central Plateau remediation received 7 priority votes, none of which listed that project as the most important (no votes of #1).
- Completing the sludge removal at K-Area received 6 votes, ranging from 2 to 4.
- The work to ensure minimum safe operations had 4 priority votes, ranging from 3 to 6.
- 3 people voted to start the 618-11 remediation as a priority, ranging from 3 to 11; 3 others wanted the 100-K Reactor remediation to begin, ranging from 3-8.
- Canyon remediation received 2 low priority numbers (both 10), and the TRU waste shipments got one vote (a 4).

A similar exercise was conducted for ORP and summary results were as follows:

- **DFLAW:**
 - 3 people ranked this their #1 priority; one person ranked it #2; two others ranked this #3
- **SST Retrievals:**
 - 2 people ranked #1; one ranked it #2; three ranked it #3; one person just drew a "star"
- **Tank Safe Operations:**
 - 7 people ranked this as their #2 priority; one person marked it #1; one person ranked it #5
 - Comments on poster:
 - NEW TANKS!!
 - This number says fund faster (with arrow pointing to \$6B)
 - Include monitoring of vadose zone
- **Tank Closure:**
 - 1 person ranked this #1; one person ranked #4; three people ranked as #5
 - Comment:
 - Include vadose zone monitoring
- **WTP PT/HLW:**
 - Four people ranked this #4; one other ranked it #5