1228302
[150121018]

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

January 14, 2015 15-NWP-004

RECEIVED
JAN 19 2015
EDMC

Mr. Kevin W. Smith, Manager
Office of River Protection
United States Department of Energy
PO Box 550, MSIN: H6-60
Richland, Washington 99352

Re: Department of Ecology Review of the *River Protection Project System Plan*, ORP-11242, Revision 7

References: See page 5

Dear Mr. Smith:

The Department of Ecology (Ecology) received the *River Protection Project System Plan,* ORP-11242, Revision 7 (System Plan 7), submitted by the United States Department of Energy (USDOE) to comply with Hanford Federal Facility Agreement and Consent Order (HFFACO) interim milestone M-062-40 (Reference 1).

After completing our review, Ecology finds that System Plan 7 does not meet the requirements of interim milestone M-062-40. In addition, we are disappointed that the collaboration characteristic of system planning in previous years was absent in this year's planning.

With this letter we give USDOE the opportunity to bring the planning document into compliance and to re-engage in the collaborative process to facilitate compliance.

Non-Compliance with HFFACO Milestone M-062-40

Milestone M-062-40 requires that the System Plan:

> "The Plan will evaluate scenarios and identify potential near and long-term actions to optimize tank waste retrieval so that the single-shell tank retrievals are completed *as quickly as is technically feasible but not later than the date established in milestone M-045-70...*" and so that, "...the treatment mission is completed as quickly *as technically feasible but not later than the date established in milestone M-062-00....*" (Emphasis added.)

These scenarios are to be evaluated "...with and without consideration of (i) whether such further optimization would be excessively difficult or expensive within the context of such activities and (ii) any impact on the overall cleanup mission."

We have reviewed the System Plan 7, and it does not meet these requirements.

M-062-40 M-045-70 M-062-00

Ecology proposed certain scenarios in *Selected Scenarios for the River Protection Project System Plan, Revision 7*, RPP-56408, Revision 0. (See the schedule based success criteria specified for Case 1 – Consent Decree Compliant Case.) If those scenarios had been evaluated in the plan, they would have addressed this compliance issue. However, the relevant assumptions of this case, related to meeting milestone dates in milestone M-045-70 and M-062-00, were dropped without explanation.

Moreover:

- USDOE specifically stated that it did not intend to meet those requirements.

  See System Plan 7, Page ES-2, "SP7 does not form the technical basis for either the near-term baseline or the out-year planning estimate range because of uncertainties in the baseline as a result of currently unresolved technical issues at WTP."

- USDOE declined to participate in selection of scenarios for evaluation.

  See System Plan 7, Page ii, "ORP elected to not select or define scenarios for evaluation in System Plan, Rev. 7."

- USDOE emphasized that the scenarios selected by Ecology contain baseline assumptions with are out of line with Office of River Protection's (ORP) new understanding of its mission.

  See System Plan 7, Page ii "The five presented cases selected and defined by Ecology for evaluation in System Plan, Rev. 7 are all what-if cases with outcomes that are based on certain key assumptions approved by Ecology, do not reflect the current status of ORP's mission...."

Resuming Collaborative Discussion

In the collaborative process used for earlier system planning exercises, USDOE engaged with Ecology throughout the development and evaluation of the selected scenarios. This included review of preliminary modeling results and draft versions of system plan sections to ensure that Ecology could concur with any revisions to the agreed-to scenarios.

The result of such collaboration was a joint letter acknowledging Ecology's agreement with the published plan (Reference 2).

For System Plan 7, USDOE chose not to continue the collaboration that had been the practice. Ecology is disappointed with that decision and with the resultant quality of the information provided in this document.

Ecology would like to re-engage in collaborative discussions with USDOE in several areas, with the aim of producing a revised, more informative, and more useful system plan.

- None of the cases predict meeting the HFFACO milestone M-045-40 for completion of single-shell tank (SST) retrievals. Even the Ecology selected "consent decree compliant" case predicts completion of all SSTs in May 2044 instead of the end of 2040. If USDOE's position is that this milestone cannot be met, the system plan should state that position clearly and explain why this is the case.

- The System Plan 7 Executive Summary states:

  > The five presented cases selected and defined by Ecology for evaluation in System Plan, Rev. 7 are all what-if cases with outcomes that are based on certain key assumptions approved by Ecology, do not reflect the current status of ORP's mission, and do not reflect a complete and adequate understanding of assumptions of facility interim and startup dates associated with resolution of technical issues with the Waste Treatment and Immobilization Plant and the need to establish new or revised baselines for key project components.

  Although USDOE has asserted that Ecology's assumptions for each case are contrary to the current status of ORP's mission, it has not explained either to Ecology in the system planning process, or in the document itself, what is inadequate in those assumptions.

  Ecology would like to give USDOE the opportunity to provide information and offer us a reasonable understanding of ORP's mission.

- Cost profiles comparing the System Plan 6 USDOE baseline with the System Plan 7 Case 1 – Consent Decree Compliant Case (Page 4-17) show similar increases in funding. Both planning documents show the need to ramp up to at least a threefold increase in annual funding within the next six years. However, USDOE provides no insight into whether and to what extent the baseline assumptions used in System Plan 6 or System Plan 7 must be revised to accommodate the current status of USDOE's mission, and to what extent this might impact the cost profile.

  Ecology requests that USDOE discuss the potential impacts of the current USDOE mission status on the cost profile.

- Changes in the Integrated Solubility Model (ISM) have resulted in an increase in the amount of water used for retrievals and possibly an increase in the amount of double-shell tank (DST) space used for each retrieval. In addition, USDOE noted that the new SST retrieval assumptions had a significant impact on the delay of SST retrievals and caused an increase in the amount of DST space needed (Page 4-21).

  To understand the timing and effects of these changes, Ecology would like to see the estimated net DST space impact for each SST retrieved. This information is not provided in System Plan 7. Ecology requests this information be provided and included in System Plan 7.

- Ecology requests a breakdown of annual cost into Tank Operations Contractor and Waste Treatment Plant (WTP) categories.

- For all cases, the retrieval rates will need to increase by a factor of 4 to 6 times the historical retrieval rates (tanks per year) to complete retrievals on schedule. This increased rate also relies on the operation of the WTP to provide sufficient DST space to complete a majority of retrievals in this time frame. This seems highly optimistic. Ecology would like to hear ORP's plans to assure the projected required retrieval rates can be met.

- The 242-A Evaporator remains a critical system both for SST retrievals and WTP operations. The System Plan is supposed to identify new equipment, technology, or actions needed for the scenarios (for example, new evaporators or DSTs). Ecology does not see where contingency planning for failure of the 242-A Evaporator is discussed in the System Plan.

  Ecology has a concern that loss of the 242-A Evaporator's capability, even for a short period as was recently experienced, would seriously impact Hanford's cleanup mission. Ecology requests that USDOE discuss this concern and include this information in the System Plan.

- There are significant differences in the prediction of 242-A Evaporator operations for the different cases. The minimum volume of bottoms is about 50 million gallons, while the maximum volume of bottoms is about 90 million gallons. It is not clear from the basic assumptions why there should be much difference between cases for this parameter. A discussion of the causes for these differences between the cases would be helpful.

- Changes to the ISM are claimed to impact the available space in the DSTs, apparently related to flammable gas issues. This needs explanation, as it departs significantly from System Plan 6.

- Ecology would like to see a comparison of the current status of USDOE's mission with the Case 1 – Consent Decree Compliant Case and the System Plan 6 USDOE baseline. This will require details and information on the key assumptions, issues, uncertainties, and potential mitigating actions with their status. It will also require details of the near-term funding requirements, plans for DST transfers and 242-A Evaporator campaigns, and a simplified mass balance comparison.

Ecology would like to meet with USDOE to bring the planning document into compliance and to re-engage in the collaborative process. Our team is available to meet with you February 2 through February 5, 2015, to begin working on this.

Anticipating USDOE participation, Ecology would like to request a revision, or the addition of supplemental information, to the System Plan that provides clarifications reflecting our concerns and input.

If you have any questions, please contact Dan McDonald at dan.mcdonald@ecy.wa.gov or (509) 372-7988, or Jeff Lyon at jeff.lyon@ecy.wa.gov or (509) 372-7914.

Sincerely,

Jeffery J. Lyon
Tank Systems Operation and Closure Project Manager
Nuclear Waste Program

ja/jc

cc: See page 5

Reference 1: Letter 14-WSC-0047, dated October 31, 2014, from K.W. Smith, USDOE-ORP, to J.A. Hedges, Ecology, "U.S. Department of Energy, Office of River Protection Submittal ORP-11242, *River Protection System Plan,* Rev. 7 in Completion of Hanford Federal Facility Agreement and Consent Order Milestone M-062-40D"

Reference 2: Letter 11-TDP-087, dated October 24, 2011, from S.L. Samuelson, USDOE-ORP, and J.A. Hedges, Ecology, to D.A. Faulk, USEPA, "Notification of Submittal of River Protection Project System Plan Revision 6 in Partial Completion of Hanford Federal Facility Agreement and Consent Order (HFFACO) Interim Milestone M-062-40"

cc electronic:

Dennis Faulk, USEPA
Briant Charboneau, USDOE
Dabrisha Smith, USDOE
Ken Niles, ODOE
Jim Alzheimer, Ecology
Jeff Lyon, Ecology
Dan McDonald, Ecology
Nancy Uziemblo, Ecology
Cheryl Whalen, Ecology
Environmental Portal
Hanford Facility Operating Record
USDOE-ORP Correspondence Control
WRPS Correspondence Control

cc: Thomas Crawford, WRPS
Leo Thompson, WRPS
Tony Waldo, WRPS
Stuart Harris, CTUIR
Gabriel Bohnee, NPT
Rex Buck, Wanapum
Russell Jim, YN
Steve Hudson, HAB
Administrative Record
NWP Central File
NWP Compliance Index File: 14.489
NWP Reader File