DOE/CX-00005

CATEGORICAL EXCLUSION FOR CONSTRUCTION of 241-TY INTERIM SURFACE BARRIER, HANFORD SITE, RICHLAND, WASHINGTON

PROPOSED ACTION: The U.S. Department of Energy (DOE), Office of River Protection (ORP) proposes to construct an interim surface barrier to cover the TY Tank Farm.

LOCATION OF ACTION: On the Hanford Site in 241-TY Tank Farm, Richland, Washington

DESCRIPTION OF PROPOSED ACTION: The TY Farm Interim Surface barrier is a RCRA interim measure for the TY tank farm in the 200 West Area. Construction of the barrier will involve placing and compacting fill material in the tank farm to establish a 0.8% slope to facilitate drainage from the east side to the west side of the farm. A modified asphalt interim surface barrier[1] would be constructed on the prepared sub-grade. The asphalt will be nominally 4" thick and will be constructed using standard asphalt paving equipment and standard construction practices. The area covered by the modified asphalt surface barrier in the TY tank farm is approximately 80,000 square feet.

The collected storm water will be routed into two standard storm water collection boxes. A buried drain line will route the storm water to an evaporation basin located just west of the TY farm. A cleanout (solids separator) will be installed along the drain line route to separate suspended solids (i.e., blow sand) and prevent buildup in the drain lines buried in the evaporation basin. Figure 1 shows the layout of the interim barrier and evaporation basin.

The area of the evaporative basin is approximately 60,000 square feet. The estimated earthwork volume associated with the evaporative basin is 11,000 cubic yards of cut and 7,000 cubic yards of fill for a net of 4,000 cubic yards of excess soil that can be stockpiled for future use. Depth of excavation will be 1-8 feet. The evaporation basin will be lined with a geomembrane to prevent storm water from percolating into the vadose zone. A series of buried, perforated drain lines will be used to distribute the storm water across the bottom of the basin. Approximately 3' of the native soil will be placed back into the basin and the surface of the basin will be vegetated with native plants to facilitate evapotranspiration.

The drain lines and evaporation basin are sized to accommodate a 25-year, 24-hour storm event. The overall function of the interim surface barrier is to reduce infiltration over 241-TY tank farm, which provides the primary driving force for contaminant migration to groundwater. Specific functional requirements for the barrier include the following:

[1] The term modified refers to the MatCon® proprietary product produced by Granite Construction. The addition of the proprietary binder added to the hot asphalt mix reduces the permeability of the finished barrier.

- Minimize the infiltration of precipitation
- Function under environmental conditions present at the Hanford Site (i.e., semi-arid climate)
- Function with minimal maintenance
- Minimize the likelihood of plants or animals accessing and mobilizing contamination
- Control surface water runoff and prevent the run-on of surface water
- Minimize surface erosion by wind and water
- Accommodate potential settling and subsidence to maintain barrier integrity

CX to be Applied: The following CX is listed in 10 Code of Federal Regulations (CFR) 1021, "National Environmental Policy Act Implementing Procedures," Subpart D, Appendix B, published in the Tuesday, July 9, 1996 51 Federal Register 35222.

B6.1 Small-scale, short-term cleanup actions under RCRA, Atomic Energy less than approximately 5 million dollars in cost and 5 years duration, to reduce risk to human health or the environment from the release or threat of release of a hazardous substance other than high-level radioactive waste and spent nuclear fuel, including treatment (e.g., incineration), recovery, storage, or disposal of wastes at existing facilities currently handling the type of waste involved in the action. B6.1 identifies several actions that would qualify as categorical exclusions. Actions that are applicable to the proposed TY interim barrier include:

(e) Capping or other containment of contaminated soils or sludges if the capping or containment would not affect future groundwater remediation and if needed to reduce migration of hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products into soil, groundwater, surface water, or air;

(i) Drainage controls (for example, run-off or run-on diversion) if needed to reduce offsite migration of hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum or natural gas products or to prevent precipitation or run-off from other sources from entering the release area from other areas.

Eligibility Criteria:
An interim infiltration surface barrier is planned to be constructed to cover the TY tank farm. The need for this project is based upon the following considerations:

- There have been releases to the environment at the TY tank farm.
- Groundwater is threatened as a result of the release(s).
- The Initial Single Shell Tank Performance Assessment (DOE/ORP 2006) indicates that a barrier placed earlier before final closure would reduce future groundwater impacts.
- Current tank farm surface soils are composed of crushed rock and pit-run gravel, that maximize the infiltration of precipitation into the subsurface soils; the primary driving force for contaminant migration to groundwater.
- Interim infiltration surface barrier construction performed within the TY tank farm is simplified because this tank farm is controlled/clean and stable, an access

gate is well positioned to support entry and egress, no tank waste retrievals are planned in the near future, and minimal scheduled work is currently planned in the farm.

The principal regulatory requirements associated with construction and operation of an interim infiltration surface barrier are:

- The Resource Conservation and Recovery Act,
- Hazardous Waste Management Act,
- The Hanford Federal Facility Agreement and Consent Order, and
- The National Environmental Policy Act.

Closure of the SST System involves retrieval and closure of the SSTs and associated ancillary equipment. In addition, WAC 173-303 corrective actions will be required for soil and groundwater contamination resulting from operation of the SSTs and ancillary equipment. HFFACO Milestone M-45-56 requires completion of the implementation of agreed-to interim measures as part of this corrective action process. One of these interim measures is the installation of a surface barrier for stabilization purposes.

The major elements of interim measures are:

- The goal of interim measures and stabilization is to control or abate imminent threats to human health and the environment from releases at RCRA facilities.
- To the extent practicable, interim measures and interim corrective measures will be consistent with anticipated closure and related final corrective measures and not limit the choices of final corrective measures.
- Interim measures are initial response actions that can be taken at any time while characterization activities are underway and while long term strategies are being developed to reduce the impacts of past releases on groundwater. They are "good engineering practice" actions that will reduce water infiltration at the tank farms and limit the migration of contamination through the vadose zone. Interim measures do not require comprehensive evaluation in a corrective measures study (CMS).
- In accordance with HFFACO Action Plan Section 7, interim measures can be performed at any point in the corrective measure process. Public comment on the proposal, as well as other public participation opportunities, must be provided as described in HFFACO Section 10. Section 10.6 states that prior to proposal approval, the lead regulatory agency will make the proposed IM available for public comment for a period of 15 or 30 days.

Interim barriers are a class of actions which by their very nature do not result in significant impacts to the environment, do not represent an irreversible or irretrievable commitment of resources, and do not foreclose consideration of other alternatives. Under NEPA, actions which meet these criteria can be categorically excluded from further review under NEPA and do not require the preparation of an environmental assessment or environmental impact statement prior to the decision to implement them. These actions

would fall under activities which are as categorically excluded as defined under B6.1 Small-scale, short-term cleanup actions under RCRA, Atomic Energy.

Since there are no extraordinary circumstances that may affect the significance of the environmental effects of the proposal, the proposed activity meets the eligibility criteria of 10 CFR 1021.410(b), as shown in the following table. The proposed activity is not "connected" to other actions with potentially significant impacts (40 CFR 1508.25[a][1]), or with cumulative significant impacts (40 CFR 1508.25[a][2]), and is not precluded by 10 CFR 1021.211.

Compliance Action: I have determined that the proposed action meets the requirements for the CXs referenced above. Therefore, using the authority delegated to me by DOE Order 451.1, I have determined that the proposed activities may be categorically excluded from further NEPA review and documentation.

Signature/Date:

Woody Russell 7/18/09

Hanford Site NEPA Compliance Officer

Cultural and Biological Resource Reviews were conducted to support this CX and the findings are attached.

Figure 1 Layout of TY Tank Farm Barrier and Evaporation Basin