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DEPARTMENT OF FISH AND WILDLIFE

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Alden Foote
U. S. Dept. of Energy
P.O. Box 550
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Richland, WA 99352

Dear Mr. Foote:

The Washington Department of Fish and Wildlife (WDFW) is providing comments on the document titled " Risk Evaluation of Remedial Alternatives for the Hanford Site (RERA)," document number DOE/RL-93-54, Draft A. The WDFW appreciates the opportunity to provide comments early in the development of the document. 38817

General Comments

The WDFW supports the basic framework the RERA places on assessment of physical and biological impacts as an element of risk assessment. However, the document should consider physical and biological impacts for all aspects of a cleanup project which include disposal sites (such as ERDF), project sites, areas adjacent to the project site (staging areas), borrow sites and transportation corridors. In addition, the RERA document should be linked to the Hanford Site Biological Resources Management Plan (BRMaP) and the Hanford Site Biological Resources Mitigation Strategy (BRMiS). These documents will assist project managers in making wildlife and habitat decisions and assist with mitigation decisions prior to habitat loss occurring. By linking RERA to the Biological Resource documents, Department of Energy (DOE) can potentially reduce liability under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) natural resource damage assessment regulations.

Specific Comments

Page 2-5, section 2.3.2 The generalized equation (2-6) for non-radiological contaminants assumes the major pathway is via plant ingestion for a herbivore. This may not be necessarily true. Burrowing herbivores can encounter uptake directly through soil ingestion while excavating

and grooming, and through inhalation of dust particles and vapors. In addition, some organic compounds are known to bio-accumulate in wildlife species. Retention of organic compounds should be incorporated into the equation, or an explanation should be provided why it is not.

Page 2-6, section 2.3.2. If the ecological receptor is a small mammal, then the 1 rad/day is most likely too high, especially when cumulatively added over a 365 day exposure period. Please provide a reference which documents no observe effect limit at the dose of 1 rad/day for a small mammal. Is the NOEL level based on acute or chronic studies. This question needs answered for both equations (2-6 and 2-7).

Page 2-7, section 2.3.3.1. paragraph 1. Please provide an equation for a multiple pathway PRG.

Page 2-9, Ecological impacts. This bullet should include impacts from support facilities such as staging areas, burrow pits, transportation corridors etc.

Page 3-9, section 3.2.3, paragraph 2, line 2. The word "temporary" is inappropriate and the loss of habitat will not be a short term loss given the environment of the Hanford Site and the ability to restore such habitat. Mitigation should be initiated prior to habitat destruction. A relationship between RERA and other Hanford Site biological documents such as the BRMiS need developed throughout this document.

Page 3-9, section 3.2.3, paragraph 2, line 7. "changes to habitat food quality" should be reworded to read "reduction of habitat value".

Page 3-9, third paragraph, second sentence. Agree with the statement. However, no decisions have been made regarding future land use, and sites should not remain barren. In the interim, sites should be restored to provide wildlife habitat value.

Page 3-9, third paragraph, third sentence. The words "usually" and "primarily" should be deleted.

Page 3-9, third paragraph, fourth sentence. Propose deleting the words "consists of nonvascular photosynthetic plants" and replace with "include cryptogam".

Page 3-9, third paragraph, fifth sentence. Propose sentence to read "The cryptogam layer performs the critical function of preventing soil erosion, assisting... " **Comment**, the cryptogam layer does not augment seed germination but inhibits it thus reducing plant competition for resources such as water and nutrients. However, the cryptogam layer does augment plant growth. Propose changing "seed germination" to "plant growth".

Page 3-9, fourth paragraph, second sentence. Methods should be developed to evaluate the constraints and costs of habitat restoration. These constraints and costs should be included in the remedial alternatives. By addressing these issues up front, the most appropriate alternative will be chosen with habitat restoration issues considered in the decision making process. Each project should include a restoration budget which is incorporated into the project budget. This restoration budget should be protected from being utilized for cleanup cost over-runs and should not be diverted to other cleanup projects.

Page 3-9, third question. Please define what "associated construction activities" include.

Page 3-10, first paragraph, line 8. Statement "encompass several waste sites" should include staging areas, transportation corridors etc.

Page 3-11, first full paragraph, last sentence. The conceptual model that HSBRAM refers to is inadequate. The model is limited to a single pathway for contaminant uptake for the great basin pocket mouse. Pathways should include soil ingestion directly as well as inhalation of dust particles and vapors from organic compounds. Baseline risk should include several receptors and pathways. It would be inappropriate to apply the methodology for the conceptual model and baseline consistently because the assessor would arrive at an inaccurate assessment of risk.

Page 3-11, section 3.3.2. third paragraph, last sentence. This alternative does not make sense. Covering the washed soil with non-washed soil would create an impact at a burrow site. The alternative might be to add nutrients and inoculate the soil with bacteria (cryptogam).

Page 3-12, first full paragraph, second sentence. This sentence is incorrect. Loss of vegetation due to other impacts, such as soil disturbance, is distinguishable from wildfire affected losses. Wildfire does not disturb the soil profile whereas a bulldozer blading an area would have a tremendous effect. The human induced disturbance area would be more prone to alien plant invasion.

Page 3-12, second paragraph, first sentence. The word "can" should be replaced with "should".

Page 3-12, section 3.3.2.2. first paragraph, line 5. Please identify this technical document which is mentioned here. Is this document referring to the BRMaP. If so, please cite it or acknowledge its conception here.

Page 3-12, first full and fifth paragraphs, last sentences. the USFWS has developed methods for comparison and assessment of habitat and wildlife values using habitat evaluation procedures (HEP). WDFW requests that the RERA recommend the development of methods as soon as possible which incorporate HEP for species and habitat relevant to the Hanford Site.

Page C-1, first paragraph, fourth sentence. HEP uses more than one species to evaluate habitat. Each species model utilizes several variables to arrive at an habitat suitability index value. These facts should be clarified.

Page C-1, first paragraph, last sentence. HEP is appropriate if the adjacent area to an engineered facility is impacted, especially if new corridors etc. are created in the cleanup process.

Page C-1, first set of bullets. Three additional bullets need to be added. They are:

- developing models for evaluation species without models
- evaluating and modifying existing models, if necessary, to address the study objectives
- validating new and modified models

Page C-1, section C.2.0. second bullet. Propose changing bullet to "Selection of species should meet regional/local wildlife objectives and consider public interest and economic value, or selection of species should be based on the consensus of the HEP Team". Potential evaluation species should be ranked based on the previous mentioned criteria. Wildlife objectives should reflect native shrub steppe communities.

Page C-1, third bullet. Propose the third bullet read "Selection of evaluation species should exclude threatened or endangered species since federal and state laws may prohibit acceptance of habitat loses for these species."

Page C-2, first paragraph. This whole paragraph is confusing. Is it the habitat suitability index (HSI) model relationship that is trying to be explained here?

Thank you for the opportunity to provide comments. Please feel free to contact me at (509) 736-3095 with any questions or comments.

Sincerely,

Jay McConnaughey
Habitat Biologist, Hanford Site

jlm

cc: Ted Clausing, WDFW
John Carleton, WDFW
Dave Lundstrom, Ecology
Geoff Tallent, Ecology
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