



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
COLORADO FIELD OFFICE  
730 SIMMS STREET  
ROOM 292  
GOLDEN, COLORADO 80401

IN REPLY REFER TO:

FWE/CO RFP  
Comments.001

David Simonson  
U S. Department of Energy  
Rocky Flats Office  
P.O. Box 928  
Golden, CO 80402-0928

Dear Mr Simonson:

The U.S Fish and Wildlife Service (Service) has completed review of the following documents as requested in your letter of 14 June 1991.

- 1) Final Phase I RFI/RI Environmental Evaluation Work Plan, Rocky Flats Plant, Woman Creek Priority Drainage (Operable Unit No 5), dated June 5, 1991
- 2) Final Phase III RFI/RI Environmental Evaluation Work Plan, 881 Hillside (Operable Unit No 1), dated May 1991
- 3) Phase II RFI/RI Environmental Evaluation Work Plan, Rocky Flats Plant, 903 Pad (Operable Unit No. 2), dated June 1991
- 4) Standard Operating Procedures, Ecology, 5.0, dated May 1991

The overall strategy and content of the environmental evaluations (EEs) is similar for each of the operational units (OUs 1, 2, and 5) and the comments listed below apply to all three

- Under Task 8. Planning. In each of the EEs it is stated that "Field sampling will only be performed where acceptance criteria for demonstrating injury to a biological resource will be satisfied in accordance with regulations under the Natural Resource Damage Assessment Rule and the accompanying Type B Technical Information Document." This section of the Natural Resource Damage Assessment Rule does not discuss whether or not field work should be pursued to demonstrate injury but rather which type of biological response should be measured. It is the biological response under consideration that must satisfy the acceptance criteria (Natural Resource Damage Assessment Rule, 43 CFR Part 11, Subpart E, section 11.62, (f)). This may be the intent of the statement in the EE but it is not clear

**ADMIN RECORD**

A-DU01-000058

- In the discussion of OU contamination, under the metals section, it is stated that there is no aquatic life criteria for aluminum, however, there is an EPA Criteria Document for Aluminum. Ambient Water Quality Criteria for Aluminum - 1988 EPA 440 15-86-008 August 1988. This document specifies aquatic life criteria which should be used

- In the discussion of wetlands under the section: Protected Wildlife, Vegetation, and Habitats, it is stated that wetlands at the Rocky Flats Plant fall under the jurisdiction of the U.S. Army Corps of Engineers (COE). The COE only has jurisdiction over the filling of wetlands. The Service encourages the U.S. Department of Energy (DOE) to consult with the Service on any type of wetland disturbance including filling or draining.

- Under Task 5: Exposure Assessment and Pathways Model, the validity of any model(s) used will depend upon well documented field validation. Proper field validation is dependant upon the use of "real" data producing results similar to those predicted by the model(s). All models should have documented field calibration and validation.

- Under Task 3: Ecological Field Investigation, for the same reasons that aquatic toxicity tests will be done ("to aid in the determination of the nature and extent of contamination, particularly since there is the potential for exposure to mixtures of contaminants") sediment and soil toxicity tests should also be done. These tests would provide a biological measure of toxic effects

The following comments apply to the Field Sampling Plans (FSPs) portion of the EEs.

- The FSPs, as written, for each of the operational units violate SOP #13. Field Sampling Plans (Standard Operating Procedures, Ecology 5.0, EG&G Rocky Flats, May 1991). None of the FSPs have a predetermined sample size, nor a description of the statistical treatment to be used. This information should accompany all FSPs.

- The FSPs do not mention any bird inventories or sampling (or is this covered under terrestrial wildlife?). Birds could be an important link in the food chain at Rocky Flats and should be inventoried and sampled for residue analysis.

- For any fish or wildlife species sampled, the incidence of tumors, lesions, or other external deformities should be documented. These are potential biological responses which may be caused by the types of contaminants present at the Rocky Flats Plant which can be used for the determination of

injury or no injury to natural resources (Natural Damage Assessment Rule, 43 CFR Part 11, Subpart E, Section 11.62 (f) (iv) & (vi)).

- The FSPs state that very few samples, if any, would be analyzed for radionuclides. The Service believes that it is important for some environmental samples to be analyzed for radionuclides so that a determination of injury or no injury to natural resources resulting from radionuclides can be made. Tissue concentrations of radionuclides are needed to estimate the radiation-absorbed dose rate which is in turn needed to estimate the potential for population level responses

It has come to the attention of the Service that Dr. Ward Whicker (Radiation Ecologist, Department of Radiation Biology, Colorado State University, Fort Collins, CO) is currently under contract to EG&G to conduct a small mammal study at the Rocky Flats Plant and is collecting tissues for analysis of radionuclides. The Service encourages DOE to utilize this data or collect similar data for use in the EEs. Also, through conversation with Dr. Whicker, we were informed that Dr. Bill Alldredge (Ecologist, Department of Fishery and Wildlife Biology, Colorado State University, Fort Collins, CO) is conducting a mule deer study at the Rocky Flats Plant under contract to EG&G. While the emphasis of the study is not tissue analysis, Dr. Alldredge is collecting tissues from incidental mortalities and preserving them for Dr. Whicker who is saving these tissues for later analysis of radionuclides if and when funding becomes available. Because data from a previous study documenting concentrations of radionuclides in mule deer tissues at the Rocky Flats Plant is available, the Service encourages DOE to either have these recently collected tissues analyzed or collect additional tissues for analysis. This data would provide a temporal comparison for radionuclides in an important component of the food chain.

- Organic chemicals occur at each of the Operational Units yet there is no indication that environmental samples will be analyzed for organic compounds. Many of these compounds are lipid soluble and tend to bioaccumulate. Environmental samples should be collected and analyzed for the organic compounds present. Concentrations of these compounds are needed for the same reasons that trace element and radionuclide tissue concentrations are needed

The following comments are specific to a particular Operational Unit.

- Woman Creek Priority Drainage (OU No 5). Biota sampling in Woman Creek, where it enters and exits the Rocky Flats Plant property, should be collected. This data would be useful for spatial comparisons of biota in relation to the OU.
- 903 Pad, Mound, and East Trenches Areas (OU No. 2). Aquatic biota sampling sites should be established and biota collected in South Walnut Creek since it is a main drainage in OU No. 2

The following comments apply to the Standard Operating Procedures (SOPs), Ecology 5.0, May 1991. These sampling techniques and procedures are commonly used and are well documented in the scientific literature. Besides the issues discussed in the comments listed below, the SOPs should be adequate to collect the proposed data assuming that sample sizes, sample locations, and statistical approach will be documented in the field sampling plans

SOP #6, Birds - This SOP should include information detailing the collection of bird tissues including eggs and nestlings should they be needed. With respect to section 6 1, small mammals alone will not provide an adequate representation of site contamination with respect to Rocky Flats avifauna

#### SOP #13. Field Sampling Plans

Section 6 1.5 Reference Areas - The Service recommends the use of an off-site along with the on-site reference area if a suitable site can be found. Possible areas include Boulder and Jefferson Counties Open Space areas.

Section 6.2 Sampling Methods and Intensity, pg. 18 - There are incomplete sentences in the last paragraph which discusses composite samples. With respect to this section, when samples are composited the composite becomes only one sample because the variance of the individuals is unknown

Section 6.4 Quality Assurance/Quality Control - Spiked samples should be included to check the quality and precision of laboratory analyses

These comments are provided to DOE by the U S. Fish and Wildlife Service as technical assistance only and do not constitute a position that the U.S. Department of Interior may take regarding

possible injury or impacts to natural resources under the trusteeship of the U.S. Department of Interior.

If you have any questions regarding these comments please contact Andrew Archuleta of this office at (303) 231-5280.

Sincerely,



LeRoy W. Carlson,  
Colorado State Supervisor

cc.

B Lavelle, U.S. EPA

D. Weber, CDOW

J. Jacobus, Jefferson, Co

J Crain, City of Boulder