



OPTIONAL FORM 99 (7-89)

FAX TRANSMITTAL

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| To | Jay Coughlan | From | |
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NSN 7540-01-317-7368 5009-101 GENERAL SERVICES ADMINISTRATION

March 16, 1995

Cons. #2-22-95-1-221..

Mr. Larry D. Kirkman
 Acting Area Manager
 Los Alamos National Laboratory
 Los Alamos, New Mexico 87544

Dear Mr. Kirkman:

The U. S. Fish and Wildlife Service (Service) has reviewed the Biological Assessment (BA) for the proposed Radioactive Liquid Waste Treatment Facility (Facility) at Los Alamos National Laboratory (LANL). The purpose of the Facility is to treat radioactive liquid waste generated at LANL. The proposed activities involve the clearing and movement of land for the construction of the Facility (10 acres) in one of two alternate locations and the construction of two access roads (5 acres) in the project area. The project area is located in LANL Operable Units 1129 and 1147, including Technical Areas (TAs) 35, 50, 55, and 63, Los Alamos County, New Mexico.

Your attached cover letter, dated February 3, 1995, requested our review and concurrence with LANL's determination that the proposed activities would be unlikely to adversely affect any endangered or threatened species or their critical habitat. Potential impacts and mitigation measures were inadequately addressed in the BA, and therefore, the Service cannot concur with LANL's determination. The relationship between soil quality and natural resource management should be addressed in detail for this project area. The Department of Energy should consider preparing an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) that details the potential environmental consequences of Facility construction and location.

The concentrations of radionuclides potentially found in the soil of the project area were not discussed in relation to suitable habitat for any endangered species. We are not saying that radioactive contamination exists, rather that the extent of any potential contamination has not been documented for the proposed and alternate sites. The Service is acting on the basis of the following available information. The Environmental Protection Group (1993) reported (page IV-46) a soil ²³⁹⁺²⁴⁰Pu concentration of 0.043 pCi/g. This concentration was measured at an undisclosed location in TA 50; no other data were reported for soils within the project area (e.g., in TAs 35, 48, 52, 55, 63, or 66). Graf (1994) reported an average ²³⁹⁺²⁴⁰Pu concentration of 0.0024 pCi/g in sediment that he considered a "background concentration." Therefore, given no other site-specific soil quality information, the Service would expect the potential for project area soil concentrations of ²³⁹⁺²⁴⁰Pu to be elevated; up to 20 times greater than background concentrations. If the project area soils were contaminated, then the clearing of contaminated land and the excavation of contaminated soil would be considered a major federal action.

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The BA does not address the containment measures necessary to prevent potential site soil contamination from becoming ecologically harmful. The BA stated that construction of the Facility will involve the excavation and movement of 1530 m³ (2000 yd³) of site soils, and the clearing of approximately 6.08 hectares (15 acres) of land (pages 1 and 2). The BA also suggested that the resulting environmental impacts would include disturbance within a drainage and on steep slopes that could initiate soil erosion, resulting in localized sedimentation of downstream wetlands (page 20). The BA did not adequately address wetland mitigation measures (page 1, summary ¶2); delineation of wetlands, by itself, will not ensure they will not be disturbed. Presently, the BA only briefly mentions how soil erosion might be ecologically harmful.

Page 21: *"Soil erosion . . . could cause adverse impacts to nearby streams or water sources, thus affecting spotted bat potential foraging areas."*

Page 22: *"Nearby streams . . . could be damaged because construction of the facility would be adjacent to the wetland. Dumping soil and sediment into the stream can also alter water sources and destroy or change the potential habitat that exists downstream of the alternate site, thus making the area unsuitable for nesting or foraging of flycatchers."*

Page 22: *"Removal of existing vegetative cover could increase or initiate erosion and alter drainage patterns both within the canyon bottoms (including stream channels) and along the canyon slopes."*

Page 26: *". . . vegetation removal and backfilling of streams could cause erosion that could affect other natural and outfall-related wetlands down-gradient."*

Transuranic nuclides that have been released to the environment are likely adsorbed or bound to dust, soils and sediments (Graf 1994). Erosional processes move a substantial percentage of radionuclide contaminated soils on LANL from the slopes to the stream channels when surface runoff enters the canyon (Environmental Protection Group 1993, Graf 1994, Hakonson *et al.* 1976, Hakonson *et al.* 1981). Because erosion and aerial redistribution are the important processes affecting radionuclide fate, transport, and exposure, the BA should present a plan for assessing any contamination and controlling soil erosion, sedimentation, and fugitive dust in the project area. An understanding of the project area soil erosion dynamics (e.g., contaminant concentrations, site geology, site hydrology, aerial transport, changes in sedimentation rate, etc.) would be essential for determining the fate of project area soils and the risks of wildlife exposed to any expected radioactivity. Perhaps site conditions can be determined (e.g., soil texture, moisture content, cohesiveness, density, also topography, vegetative cover, relative humidity, etc.) and manipulated to reduce the potential impacts to the environment. Methods to prevent contamination of nearby wetlands from any radionuclide-contaminated particulates, soils, and sediments should be clearly specified. However, bales of hay and drift fences, normally recommended to control erosion impacts during the construction of federal facilities, would be inappropriate for the containment of ²³⁹Pu and ²⁴⁰Pu-contaminated soils migrating from cleared land to stream channels and wetlands. If stream channels and wetland habitats are contaminated by radionuclides because of project-related activities, then there would likely be adverse impacts to wildlife, including migratory birds, and federally

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listed threatened or endangered species. The Service could not concur that the Facility construction would have no adverse effects on any endangered or threatened species because the impacts of any site-specific radionuclide contamination have not been addressed.

Pathways of Exposure to Wildlife

An EIS or EA should address the possible pathways of any site specific radionuclides affecting wildlife, considering not only direct exposure, but dust inhalation, soil and sediment ingestion, and impacts to and movement through the various trophic levels of the ecosystem. Information on both wetlands and terrestrial ecosystems should be assessed. For instance, are local ponderosa pine trees experiencing a similar reduction in growth as demonstrated in pine trees studied by Sparrow (1962)? How does a potential reduction in productivity affect the terrestrial habitat quality of threatened and endangered species and migratory birds? What is the level of radioactivity found in the many wildlife species identified in the project area (BA, Appendices A, B, C, and D), and what are the risks to their consumers? Migratory birds or threatened and endangered species that reside or migrate through the project area, would be expected to breathe site-air and dust, eat plant materials, insects and sediments associated with Mortandad and Ten Site Canyons, and drink from nearby natural wetlands and those created by effluent discharges. Although natural radiation sources account for most of wildlife annual average exposure, long-lived transuranics elevated in an area pose a considerable hazard to exposed species (Eisler 1994). Nesting birds, their eggs, fledglings, and all developing or regenerative organisms (e.g., amphibians, reptiles) and their tissues (e.g., reproductive organs, bone marrow) are much more susceptible to the effects of ionizing radiations due to the tendency of rapidly dividing cells to be more sensitive to radiation damage than slowly-dividing cells (BEIR 1990). If a migratory bird were to inhale plutonium-contaminated dust particles (potentially exacerbated by site activities) and have them lodge in their lungs, the resultant alpha-radiation could lead to lung cancer, disease, or other respiratory debilitation, and perhaps mortality depending on the species' exposure.

The Service suggests that an ecological risk assessment approach be used to decide the amount of exposure and risks of any project area contamination to wildlife species. Perhaps this endeavor could culminate in soil and sediment quality standards for radioisotopes, including plutonium, which could serve as guidelines for clean up, monitoring, and surveillance. This process could also utilize the Natural Resource Damage Assessment and Restoration strategy defined by the Comprehensive Environmental Response, Compensation, and Liability Act that attempts to balance wildlife injury against technological advances in clean up, and the needs of the people. Until there is an clear understanding about the amount of wildlife exposure and adverse effects from site radioactivity, the potential for the long-term protection and recovery of threatened and endangered species on any identified radionuclide-contaminated habitats on LANL lands is questionable.

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Specific Comments on the BA

1. Page 1, Summary, ¶ 2. "Wetlands boundaries will be delineated within two years of beginning construction in order to ensure that these wetlands are not disturbed."

Delineation of wetlands, by itself, will not ensure they will not be disturbed. Methods to prevent disturbance to wetlands should be specified.

2. Page 3 Proposed Action, ¶ 3. What are the radionuclide concentrations of the excavated soils and cleared lands? Soil concentrations of radionuclides should be determined and presented in terms of potential risks to wildlife species, including migratory birds and threatened and endangered species and their habitats.

3. Page 5, Affected Environment, ¶ 5 and ¶ 6. It is unusual to discuss alternatives in a BA. Normally, a BA discusses the environmental impact of a preferred alternative on threatened and endangered species. We encourage the discussion of alternatives in an EIS (or EA), where the amount of activity, their costs, mission, and relative environmental impact can be detailed. To reduce confusion about which sites are being discussed, there should be a clearer indication as to which site is which. Perhaps the preferred site might be called the Mortandad Canyon Site, and the alternate site might be called the Mesa del Buey Site. When will the decision be made to determine which site will be used? The Mortandad Canyon Site appears to have greater natural resource value and the potential impacts to this area, if selected, would require further analysis.

4. Page 14, Table 2, and footnote. The southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher) status is listed as FPE. The flycatcher was proposed for listing as endangered with critical habitat on July 23, 1993 (58 FR 39495). The final rule was published on February 27, 1995; the listing is effective March 29, 1995. Designation of critical habitat was deferred until July 1995, while the Service gathers further comments. Comments on the proposed designation of critical habitat may be submitted until April 28, 1995 (60 FR 10694).

The BA stated in footnotes to Table 2 that Mexican spotted owl "[h]abitat exists in the area, but field surveys found no individuals. Furthermore, no individuals are known to occur in the general area." Such statements should be supported by documentation on what surveys were completed, when they were completed, the survey methodology used, and their application. The results of these surveys and the replication of field notes taken during the surveys would be appropriate as an appendix to any BA.

5. Page 16, Results, 4.3.2, Wildlife, ¶ 1. The BA stated, "[b]ecause the proposed project area is in an area of heavy disturbance bordered by roads and technical sites with buildings and parking lots, there is little possibility that this habitat would support any breeding TES wildlife species." Data of sufficient quantity and quality has not been presented to support this claim. An example of sufficient data would be to discuss surveys and habitat evaluations conducted, including the time spent (depending on species), and to present the survey and habitat results in an appendix to the BA.

6. Page 16, Results, 4.3.2, Wildlife, ¶ 1. The ambiguous language used in this section does not address Service concerns or adequately support the not likely to adversely affect conclusion reached in the attached cover letter. The BA stated, "[t]he

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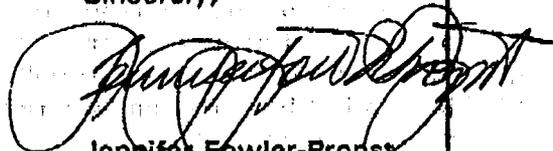
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alternative site, however could have habitat, but the following species are being dismissed from further consideration because (1) they are unlikely to occur in the project area, (2) none has been recorded at this site, or (3) if the species were in the area, there would be low or no potential for impact if the project is conducted according to the plan. These statements need to further explained for us to concur with the conclusions. The "likelihood of occurrence" statement does not answer the question: Do any threatened or endangered species occur in the project area or within ¼ mile of the project area? Documentation of threatened or endangered species surveys, the methodology used, and interpretation will need to be provided to support the determination that no species or their habitats are found in or nearby the project area. The questions that need to be addressed when determining potential effects to listed and proposed species are: (1) Are threatened or endangered species or their habitat found in or near the project area? (2) How was this determination made? and (3) What are the potential impacts of the proposed activities in relation to these species and their habitats?

7. Page 23. Mitigation, 6.2.2.1, ¶1. "... If this area were eliminated, the peregrine could find alternate hunting sites within Los Alamos County. Therefore, because the quality of foraging habitat outside the alternative site is good, and could replace foraging lost from construction of this project, no special mitigation measures are required for the peregrine." The argument that the loss of foraging habitat is not important because other foraging areas are available is not sufficient to support a "not likely to adversely affect" finding.

If you have questions concerning our comments, please call Joel D. Lusk at (505) 761-4525.

Sincerely,



Jennifer Fowler-Propst
State Supervisor

cc:

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