

U.S. Department of Energy

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Subject: Response to the U.S. Fish and Wildlife Service Comments Submitted on May 23, 2002, for the Draft Ground Water Compliance Action Plan for Remediation at the Shiprock, New Mexico, Site

Your comments on the draft Ground Water Compliance Action Plan (GCAP) for remediation at the Shiprock site were received and appreciated.

Because of the large scope and cost of ground water remediation at Shiprock, the U.S. Department of Energy (DOE) is constructing remedial systems for the site in two phases. The first phase focuses on construction of an evaporation pond, which will hold contaminated ground water piped from extraction wells in terrace east and in the floodplain and from interceptor drains in Bob Lee and Many Devils washes. Completion of this phase will allow remediation of ground water to begin. Continued and expanded monitoring using the observational approach during and following phase I remediation activities will indicate the effectiveness of remediation and, if necessary, the need for interim actions or expanded remediation scope (additional extraction wells or interceptor drains). Phase II remediation will consist mainly of construction of a flow barrier at the base of the escarpment to intercept contaminated ground water moving from the terrace to the floodplain. This water would be collected in an interceptor drain and piped to the evaporation pond. Additional extraction wells in the floodplain or terrace areas and interceptor drains in the washes would be included, as necessary, in the Phase II remediation.

Terrace west has not been omitted from the DOE ground water remedial strategy, and it is acknowledged that contaminated ground water in terrace west comes both from natural sources (Mancos Shale) and mill site sources. Ground water modeling, as presented in the Site Observational Work Plan, has established the continuity of the terrace west and terrace east ground water systems and that extracting ground water from the sump area of terrace east over a period of approximately 7 years would separate the terrace west system from its source of ground water to the east. Five extraction wells are in the planning for installation in terrace east in the sump area east of U.S. Highway 666. Extraction of water from these wells should result in lowering of water levels in wells west of the highway (in terrace west). Monitoring data (water levels and contaminant concentrations) from wells west of the highway will be analyzed for a 2year period after extraction begins from the wells to the east. A decision would then be made, based on hydrologic results, whether to install additional extraction wells in terrace west.

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Ms. Nicholopoulos

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Expanded monitoring (sampling at semiannual frequency) is planned for terrace west for 11 wells, 5 seeps, and 2 surface water locations in the San Juan River distributary channel. Mill site-related contamination at levels slightly above UMTRA ground water standards has been recognized in surface water from 1st wash and 2nd wash and from the distributary channel. This exposed water in the distributary channel may pose a risk to threatened and endangered (T&E) species such as the Southwestern willow flycatcher. The presence of this bird in the distributary channel area has not been established and the USFWS has proposed to the DOE that a T&E survey for the flycatcher be conducted. As ground water extraction is conducted in terrace east, seeps in the area of 1st and 2nd washes are expected to diminish in flow. The planned sampling and monitoring should document these trends. If flows and contaminant concentrations do not decrease, interim actions will be considered.

No ground water is exposed in Bob Lee Wash and exposed contaminated water in Many Devils Wash was covered during the recent (May 2002) repairs of interim actions necessitated by the damage caused by the July 2001 flood. Monitoring of subsurface water levels in both washes is planned after construction of the interceptor drains. If water levels do not decrease, one or more additional interceptor drains could be placed in lower Many Devils Wash. Also, an additional extraction well to the west that would intercept flow from terrace east ground water would be considered.

Larger mammals will be excluded from the 11-acre evaporation pond by a planned 7-foot high safety/security fence constructed of chain link. Fencing details are included in the design drawings for the remediation system as an appendix to the final GCAP. A Wildlife Management Plan will be prepared, similar to the one for the Tuba City, Arizona, site, to describe the proposed measures to minimize the potential for adverse effects to smaller mammals and birds. Exclusion of birds from the pond will be managed by a phased approach. Immediately after the pond is constructed and water starts to fill it, a several month observance phase will occur in which it will be determined what bird species are attracted to land on the pond. If necessary, the next phase will be to identify and implement one of several proven techniques to minimize the use of the pond by birds.

The DOE appreciates your review and comments on the draft GCAP and looks forward to continued discussions and consultations to resolve wildlife exposure/risk issues. If you have any further questions or comments, please contract me at 970/248-7612.

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