February 25, 2002

Mr. Donald Metzler, Technical/Project Manager
U.S. Department of Energy
Grand Junction Office
2597 B3/4 Road
Grand Junction, CO 81503

SUBJECT: REQUEST FOR INFORMATION - DRAFT SITE OBSERVATIONAL WORK PLAN FOR THE NATURITA, COLORADO, UMTRA PROJECT SITE

Dear Mr. Metzler:

By letter dated September 28, 2001, you submitted the U.S. Department of Energy's Draft Site Observational Work Plan (SOWP) for the Uranium Mill Tailings Remedial Action Project site at Naturita, Colorado. The staff has reviewed the Naturita SOWP and finds that it needs additional information in order to complete its review. The information needed is identified in the enclosure.

If you have any questions regarding this letter, please contact Myron Fliegel, the Project Manager for the Naturita site, at (301) 415-6629 or by e-mail to mhf1@nrc.gov.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Melvyn Leach, Chief
Fuel Cycle Licensing Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Enclosure: Request For Information

Docket No.: WM-66

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Document Name: G:\FCLB\UR\Title I Site\NAT-SOWP-RAI.wpd
Accession No. : ML020570565

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*See previous concurrence **OFFICIAL RECORD COPY**

REQUEST FOR INFORMATION
DEPARTMENT OF ENERGY DRAFT SITE OBSERVATIONAL WORK PLAN
FOR THE NATURITA, COLORADO, UMTRA PROJECT SITE

1. DOE must either properly follow the strategy identified in its "Programmatic Environmental Impact Statement [EIS] UMTRCA Groundwater Program" (October, 1996), by adequately evaluating the option of alternative concentration limits (ACLs) or explain why it is deviating from that strategy.

   BASIS: DOE is proposing to use natural flushing for arsenic and supplemental standards based on technical impracticability (TI) for vanadium and uranium in accordance with 40 CFR Parts 192.21(f) and 192.22. Part 192.22(a) states that "when one or more of the criteria of 192.21(a) through (g) applies, the Secretary shall select and perform that remedial action that comes as close to meeting the otherwise applicable standard under 192.02(c)(3) as is reasonable achievable." The criterion that DOE proposes to justify supplemental standards is Part 192.21(f) which states that remediation "is technically impracticable from an engineering perspective."

   DOE has used the strategy in their Programmatic EIS. Figure 7-2 of the Draft SOWP illustrates the selection of a remedial strategy from the Programmatic EIS. For uranium and vanadium DOE has gone through all boxes in the figure down to box 17 which is the strategy for supplemental standards using TI. However, Box 6 states "Does contaminated ground water qualify for alternate concentration limits based on acceptable human health and environmental risks and other factors?" DOE answered "no" here and then on Table 7-2, under result of decision, DOE states that this option is "Questionable. At this time, DOE considers another strategy (TI) more favorable."

   NRC questions DOE's basis for moving past the ACL option. Before moving past the ACL option (Box 6) DOE must adequately explore this as an option and if it then determines that ACLs are not viable, provide the basis for that determination.

2. DOE must justify its assertion that it is technically impracticable to remediate uranium and possibly vanadium. To be consistent with guidance, DOE must demonstrate this with data from a site-specific pilot study or full scale aquifer restoration.

   BASIS: DOE is requesting the TI waiver at the "front end", i.e., it is attempting to prove that it "is technically impracticable from an engineering perspective" to remediate vanadium and uranium before first attempting to restore the contamination and then using the data from the attempt to justify the TI claim. DOE uses EPA's "Handbook of Groundwater Policies for RCRA Corrective Action" (EPA, 2000) and "Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration" (EPA, 1993). In the 1993 guidance, EPA states that "in many cases, TI decisions should be made only after interim or full-scale aquifer remediation systems are implemented because often it is difficult to predict the effectiveness of remediation based on limited site characterization data alone."

   NRC concludes that it may be difficult for DOE to prove, on the "front end", that it "is technically impracticable from an engineering perspective" to remediate uranium given

the many site successes in reducing uranium in groundwater using reasonable treatment methods at other uranium mill tailings sites. This would have to be demonstrated in a site-specific pilot study or full scale aquifer remediation. With regard to vanadium, DOE may be able to use data obtained from other sites if their hydrogeology is similar to that of Naturita. However, even with vanadium, the ACL option must first be adequately evaluated to remain consistent with the Programmatic EIS. Proving that it is not technically feasible to remediate a contaminate from the subsurface is a site specific issue. Differences in the soil types, hydrogeology, amount of clay and organic matter in the soils, geochemical conditions, and other factors can all influence the ability to remediate a contaminant in the subsurface. EPA's guidance stresses site specific pilot studies and data from remedial attempts on a full scale to demonstrate that it is "technically impracticable" to remediate a site.

In addition, 40 CFR Part 192.22(a) further states that "when one or more of the criteria of 192.21(a) through (g) applies, the Secretary shall select and perform that remedial action that comes as close to meeting the otherwise applicable standard under 192.02(c)(3) as is reasonable achievable." DOE has made no attempt to first meet applicable standards in 192.02(c)(3).

As presented in the Programmatic EIS, the supplemental standards option using TI is a choice of last resort. Other options presented in the EIS strategy may be more technically defensible.

3. Please provide more detail with respect to the use of institutional controls at the Naturita site. The following detail is necessary for NRC staff to review those controls and determine whether they are legally enforceable, durable, and defensible:
   * a detailed map illustrating all properties where institutional controls will be used,
   * the specific types of controls proposed for each property,
   * when the controls would be implemented and how long they will be in place,
   * specific wording in each restriction,
   * and what authority would enforce the control.

   BASIS: DOE states in the Draft SOWP that "risks are unacceptable for both residential and an occupational setting" (Page 6-16). In order to assure that human health and the environment will be protected from the exposure of hazardous chemicals at this site in the future, institutional controls that are legally enforceable, durable, and defensible, are necessary to prevent exposure. If DOE elects to propose ACLs, those controls may still be necessary to prevent exposure.