

Department of Energy

Washington, DC 20585

December 22, 2011

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Deputy Director
Mail Stop T8F5
Washington, DC 20555-0001

Subject: Submittal of the Preliminary Final *Long-Term Surveillance Plan for the Gas Hills North, Wyoming, Uranium Mill Tailings Radiation Control Act (UMTRCA), Title II, Disposal Site*

To Whom It May Concern:

Enclosed for U.S. Nuclear Regulatory Commission (NRC) review is the preliminary final *Long-Term Surveillance Plan for the Gas Hills North (UMTRCA Title II) Disposal Site, Fremont County, Wyoming* (LTSP).

This LTSP was prepared to satisfy the requirements set forth in 10 CFR 40.28, and was initially submitted to NRC for technical review on January 29, 2009. The draft LTSP was subsequently revised in response to NRC's review comments received by letter dated May 29, 2009. In turn, the U.S. Department of Energy (DOE) provided comment responses informally to NRC by e-mail dated June 9, 2009, which indicated that the LTSP would be submitted to NRC as a preliminary final document once the remaining real property instrument (i.e., the warranty deed for the site's fee land) was complete and a copy was inserted into the document. The warranty deed is now complete and a copy of the executed document has been inserted into the LTSP.

In November 2009 (during this interim period), concentrations in groundwater samples collected at the site were reported just above the established alternate concentration limit (ACL) for combined radium-226 and radium-228 of 7.5 pCi/L. Concentrations above the radium ACL were reported in trend well AL-1 (7.7 pCi/L) and the designated background well T1-6 (7.6 pCi/L). In 2007, concentrations above the radium ACL were also reported at the point-of-exposure well AL-6 (8.3 pCi/L) and again in the background well T1-6 (11.8 pCi/L). Although these concentrations in excess of the radium ACL did not occur at the designated point-of-compliance well T1-12, DOE expressed concern to NRC over these concentrations (i.e., would a concentration reported above the ACL at a well that was not the site's designated point-of-compliance be considered an out-of-compliance event or an exceedance by NRC under long-term monitoring). To address DOE's concern, a conference call was held with NRC on September 14, 2010 to discuss the issue.

FSH/EO



U.S. Nuclear Regulatory Commission -2-

During this discussion, DOE understood NRC to have agreed that these radium values reported above the ACL appeared to be the result of naturally occurring concentrations of radium associated with the underlying ore-bearing formation, as there was no indication (from other site-related constituents) that the elevated concentrations were related to cell performance or legacy contamination. Therefore, it was agreed during this conference call that DOE would revise the LTSP's groundwater monitoring section (Section 3.7.1) to address these historical elevated radium concentrations and to define the conditions that would cause additional action by DOE if concentrations above an ACL were reported under long-term monitoring. The revisions are intended to preclude DOE from responding to concentrations of radium reported above the ACL as an out-of-compliance event that cannot be attributed to cell performance or legacy contamination, i.e., if the radium concentrations are naturally occurring.

To achieve this goal, the LTSP's groundwater monitoring section was revised to include a discussion as to what will constitute an exceedance of a groundwater protection standard and cause DOE to take additional actions, such as initiating an evaluative monitoring program. DOE understood NRC to have agreed that before any additional actions are to be taken by DOE, groundwater monitoring results should clearly indicate that an elevated concentration reported was due to leakage from the disposal cells. The LTSP was revised to indicate that the following conditions could trigger a DOE response:

- A groundwater standard is exceeded for three consecutive annual monitoring events for a given well;
- More than one site-related constituent shows unusual behavior that is inconsistent with established patterns; or
- Other aberrant behavior in groundwater chemistry occurs which cannot be explained based on previously observed trends and ranges of constituent concentrations.

The revised section also indicates that:

- DOE will transmit monitoring results to NRC annually (with the Wyoming Department of Environmental Quality site representative being included on the distribution);
- DOE will consult with NRC regarding the need to take any additional actions, such as initiating an evaluative monitoring program, in response to an established exceedance of a groundwater protection standard that is clearly site-related; and
- Any subsequent assessment that may result from the exceedance of a groundwater protection standard at the site will focus on the risks associated with the exceedance.

December 22, 2011

U.S. Nuclear Regulatory Commission -3-

The LTSP was also revised to address comments received from the licensee (Pathfinder Mines Corporation) and to present information that supports DOE's proposal to not control the growth of deep-rooted vegetation on the disposal cells under long-term surveillance and maintenance.

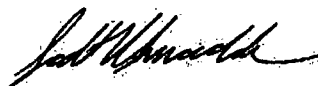
The long-term surveillance program presented in the LTSP entails performing the following long-term surveillance activities; annual site inspection and reporting, annual groundwater monitoring and reporting (5 wells, 8 constituents), and minor maintenance (periodic fence repair and sign replacement). DOE believes this scope is consistent with NRC's policy as described in their Regulatory Issue Summary (RIS) regarding long-term care of UMTRCA Title II sites dated September 29, 2011, that long-term surveillance activities must have a "nexus to radiological health and safety" and are "relied on for the performance of the tailings impoundment."

DOE understands that NRC cannot accept this LTSP until the licensee has paid the long-term surveillance charge to the general treasury of the United States. DOE also understands that upon NRC acceptance of the LTSP, DOE becomes the long-term custodian of the site and assumes the responsibilities and requirements set forth under NRC's general licensee at 10 CFR 40.28. In a concurrent action, NRC will terminate the specific license held by Pathfinder Mines Corporation, thereby completing the site transition.

Please call me at 720-377-9682 if you have any questions. Please send any correspondence to:

U.S. Department of Energy
Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503

Sincerely,



Scott R. Surovchak
2011.12.15 17:34:57
-07'00'

Scott R. Surovchak
Site Manager

Enclosure

cc:
T. Carter, NRC
File: GHN 505.15(A)

cc w/o enclosure:

D. Orlando, NRC

R. Bush, DOE (e)

D. Shafer, DOE (e)

C. Carpenter, Stoller (e)

S. Hall, Stoller (e)

M. Widdop, Stoller (e)

File: GHN 505.15(A)

Surovchak/Gas Hills/12-8-11 GHN LTSP Final NRC.doc