Department of Energy
Office of Legacy Management

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Mr. Gary Janosko, Chief
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Department of Energy Position regarding Ground Water Contamination and Monitor Wells Outside the Long-Term Custody Licensed Area Boundary for Title II Sites

Dear Mr. Janosko:

This is to follow up on our teleconference with you and your staff on March 23, 2005. As you know, we disagree regarding what we consider to be an inconsistency in the way the NRC has finalized a ground water monitoring plan for the Pathfinder Lucky Mc Title II site in the Gas Hills area of Wyoming (renamed Gas Hills North by DOE). DOE believes that all point of compliance and point of exposure wells should either be within the federally owned licensed area boundary or be subject to an institutional control that both assures long-term access and establishes long-term restrictions on ground water usage within the affected area. At this site, NRC has established long-term monitoring off-site without any institutional controls, and the site is approaching license termination for transfer this year to the DOE for long-term custody under the general license for long-term custody found at 10 CFR 40.28. It is our understanding that NRC is working with the site owner so that long-term private property access to the off-site wells is acquired and transferred to DOE; however, long-term restrictions on ground water usage (institutional controls) have been determined to be unnecessary by NRC.

Since DOE continues to have site-specific concerns regarding the anticipated ground water monitoring network and associated off-site contamination, and it is likely that these concerns will be pertinent to other Title II sites, DOE is taking this opportunity to both clarify our position on the subject and to suggest a specific approach for the Gas Hills North site.

At the time a Title II site is transferred from a private company to DOE for long-term custody, ideally all ground water monitor wells and contaminated ground water would be located on or underneath the land transferred to the United States for the disposal of 11(e)2 byproduct material. This provides protection of human health and the environment through the ability to control exposure to the contaminants. In cases where contaminated ground water will have an impact beyond the proposed licensed area property boundary, effective institutional controls are necessary for DOE to manage the site for the long-term and maintain protection of human health and the environment.

DOE acknowledges that NRC staff is under Commission directive to consider only "realistic" use scenarios when evaluating ground water compliance proposals, and, in this case, Class I and Class II ground water use was not considered to be realistic. Class III ground water use is realistic; however, it appears NRC has determined that it is not realistic to expect that the Class III standards will ever be exceeded outside the site boundary expected to be transferred to DOE. This is the crux of the inconsistency. If it is not realistic to assume that the Class III standards will ever be exceeded (and therefore restrictions on ground water usage are not needed), then why is ground water monitoring for hundreds of years required for this unrealistic possibility? If the restrictions are not needed, then it is logical to assume that the monitoring is also not needed, and if monitoring is justified then clearly NRC should require restrictions that protect human health and the environment from access to this contamination. Monitoring is not protection. NRC appears to apply Point of Exposure standards at the off-site wells and therefore NUREG-1620, Rev. 1 Section 4.3.3.2(5), paragraph 3, page 4-32, should apply, which requires efforts by the licensee to acquire the land or an institutional control.

An acceptable form of control would be a permanent real property instrument that runs with the land, restricting access to or inappropriate uses of, the ground water in the affected area. This restriction must be established prior to the site being transferred to DOE so that all components of the remedy, including institutional controls, are in place and the costs are borne by the private company, not the federal government. Additionally, in the case where DOE will be required to sample monitor wells that are located outside of the federally owned licensed area boundary, a permanent access agreement for monitor well sampling and maintenance must be established prior to site transfer to DOE. The DOE Real Property Specialist is ready to work with NRC on language for both the ground water use restriction real property instrument and the access agreement in order to assure that the instruments are both durable and enforceable over the long-term in accordance with state law. In cases where affected off-site property is federally owned (e.g., Bureau of Land Management), DOE will work with the cognizant federal agency to develop the necessary restrictions and access agreements. If for some reason the current site licensee is unable to establish the necessary controls on non-federal property, DOE expects that the 10 CFR 40, Appendix A, Criterion 10, long-term custody fee, would be augmented by the anticipated costs for DOE to establish the necessary controls, including the costs associated with condemnation, if that became necessary. DOE does not believe Congress intended that the U.S. taxpayer bear the costs associated with establishing these controls.

Specifically for the Gas Hills North site, if NRC maintains that off-site monitoring is necessary, then Pathfinder should establish ground water use restrictions for the affected private properties. The State of Wyoming has currently designated the affected ground water as Class III (livestock use). Therefore, Class I (domestic) and Class II (agricultural) uses should be prohibited unless local background concentrations of all of the contaminants of concern already exceed Class I and II standards. The restriction should also include any usage, including Class III, if there is any potential for the Class III standards to be exceeded due to contaminant migration from the site. Since NRC seems to have decided that off-site monitoring is necessary for the long-term, it appears that NRC is concerned that the Class III standards could be exceeded at the off-site wells. The lateral and vertical extent of the off-site contamination, as well as the hydraulic capture radius of a

well, as established in the company's Alternate Concentration Limit application should be used to define the enlarged area requiring restriction. The restriction should include a right of access clause so that DOE can inspect the private properties periodically for compliance with the restriction. Pathfinder should also establish any private party access agreements necessary (e.g., private roads) for monitoring.

Alternatively, if NRC believes that the technical information supports the conclusion that the site contamination cannot adversely affect any "realistic" use of off-site ground water or any use that is not already impacted by background contamination, then removal of the off-site wells from the monitoring program and proper abandonment by the company would be acceptable to DOE.

We look forward to discussing this matter further with you, and the annual meeting in late May could be an appropriate forum. In the meantime, DOE will be preparing the draft Long-term Surveillance Plan for the Gas Hills North site. It will not include the off-site monitoring, but we are amenable to inclusion of this monitoring if proper institutional controls are in place. We ask that you consider DOE's position as outlined in this letter within the framework of the 1998 *License Termination/Site Transfer Protocol between the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission*, specifically item 9, which reads in part "...the NRC will work with the DOE and the licensees on the determinations regarding site boundary identification, including boundary decisions for Alternate Concentration Limits, site access...to yield final site conditions that enhance the DOE's ability to institutionally control the sites." It is our intent to work collectively toward a solution that is acceptable to DOE, NRC, and the Title II owner, and that most importantly protects human health and the environment to the best of our technical knowledge without unnecessarily increasing taxpayer costs and liabilities.

Sincerely,

Raymond M. Plieness
Acting Director

cc:
J. Lusher, NRC
T. Pauling, LM-50
S. Schiesswohl, LM-30
File: GHN 000 (D. Roberts)

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