



Department of Energy
Washington, DC 20585

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U.S. Nuclear Regulatory Commission
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WM-00063

Subject: Response to U.S. Nuclear Regulatory Commission (NRC) Comments on the 2015 Annual Inspection Reports for Uranium Mill Tailings Radiation Control Act Title I Disposal Sites

To Whom It May Concern:

In response to NRC's letter dated May 2, 2016, regarding "U.S. Nuclear Regulatory Commission (NRC) Staff Review of *2015 Annual Site Inspection and Monitoring Report for Uranium Mill Tailings Radiation Control Act Title I Disposal Sites*," letter to Richard Bush from Dominick Orlando, U.S. Department of Energy Office of Legacy Management's (LM's) responses to NRC's comments are provided as follows.

NRC Comment 1

On page 4-5, the DOE discusses the creation, since the 2014 inspection, of an 18-foot (ft.) long by 2.5 ft. deep depression on the north slope of the Durango disposal cell. In that this depression formed in one year, please indicate how often the DOE intends to re-check the condition of the depression.

DOE Response

Although the depression on the north slope of the Durango disposal cell had not been noted in previous inspections, the depression is in a location that could impede identification, and may have existed previously. The depression will be added to the site inspection check list and will be monitored during future annual inspections.

NRC Comment 2

On Page 12-7, the DOE discusses the monitoring of seeps at the Mexican Hat site. The fourth paragraph directs the reader to Table 21-2 for information on seep monitoring. The report does not appear to include Table 12-2 (sic). In addition, the report states that the 2015 inspection occurred at the Mexican Hat site on April 7, 2015, and that the seeps were dry. During a meeting in October 2015 the DOE staff indicated that the seeps appeared to be damp and that water samples were collected and evaluated. In that the DOE staff appears to have observed the flows in the seeps 6 months before the 2015 report was issued, it is not clear why a discussion of the seeps does not include a discussion of the results of the DOE's analysis of the seep samples. Please provide the dates that the seeps were found to have observable flow, the dates that they were sampled, and the results of the sampling.



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DOE Response

LM has corrected the omission of Table 12-2 and has inserted the table. Although the seeps were observed during an inspection in 2015, they weren't sampled until 2016. NRC is correct that the report should have stated that the seeps were damp at the time of the inspection. The Mexican Hat site chapter for the 2015 annual inspection will be resubmitted to NRC and will be updated on the Mexican Hat site website. Seep sampling at the Mexican Hat site occurred (March 2016) after the 2015 site inspection and, therefore, was not included as part of the annual report. In accordance with the Mexican Hat LTSP, LM will provide the NRC with seep sampling results through the Mexican Hat Seep Sampling Summary Report. This report is anticipated to be provided spring 2017.

NRC Comment 3

On Page 13-6, the fourth paragraph states that the NRC approved the DOE's request to discontinue groundwater sampling at the Naturita site in April 2014 and that the DOE would revise the Long-Term Surveillance Plan (LTSP) and submit it to the NRC. Please provide the estimate of when the revised LTSP will be submitted to the NRC.

DOE Response

The revised draft LTSP is currently under review by LM and is anticipated to be transmitted to NRC before the end of this calendar year.

NRC Comment 4

The caption on the picture on page 13-9, (PL-5) states that it is of the southeast face of the Naturita disposal cell with the Maybell West site in the background. In that the Naturita and Maybell West sites are not located in proximity to each other, this may be an error. Suggest the DOE review the picture and caption to determine the correct caption.

DOE Response

LM has corrected the error in the caption on page 13-9 (PL-5); the caption now reads "UMETCO Title II Disposal Cell." The Naturita site chapter for the 2015 annual inspection will be resubmitted to NRC and will be updated on the Naturita site website.

NRC Comment 5

Lakeview disposal cell: (Please note that the comment is not reproduced here in its entirety. only a selected portion of this comment concerning the Lakeview site is presented to reference pertinent portions that were addressed.)

Reports since 2009 do not discuss the streaks and during the 2015 inspection, the NRC staff noted several (i.e., greater than 15) streaks on the disposal cell. Because the streaks have not been discussed in recent inspection reports, it is not clear if the DOE monitored the streaks and evaluated the cause and impact of these features. Please clarify the actions the DOE has taken regarding the streaks... The second paragraph in Section 9.1 on page 9-1, states, 'However, at the U.S. Nuclear Regulatory Commission's (NRC's) request, the 2015 rock monitoring approach

deviated from the normal procedure by using a pre-established monitoring grid in a subset area of the west slope.' In addition, the second paragraph in Section 9.4.2.2 on page 9-6, states, 'However, for the 2015 inspection, the rock monitoring approach deviated from the normal procedure, at the NRC's request, by using a pre-established monitoring grid in a subset area of the west slope (see Figure 9-1).' The NRC staff believes that it is important to clarify why the NRC staff recommended a new approach for the monitoring procedure during the 2015 inspection. On November 12, 2014, the NRC staff requested that the DOE provide the status of the analysis of data collected as part of the on-going rock degradation monitoring program at the site (ML14303A623). On December 19, 2014 and March 2, 2015, the DOE submitted responses to the NRC, which included the data collected for the past 15 years, but did not include an analysis of the data as requested by the NRC staff (ML14356A562 and ML15068A252, respectively). Because the data was not analyzed by the DOE, the NRC staff performed a preliminary analysis of the data, by plotting the data in a grid by rock size and rock durability. Based on the NRC staff's preliminary analysis, the NRC staff identified an area at the top-center of the side slope which contains rock with a mean rock diameter (D50) lower than the approved D50 for the site and rock durability classification of "low/poor." In the March 2015 letter, the DOE stated that it will discontinue the annual rock gradation and durability monitoring at the site. Rather, the DOE proposed to perform "focused inspections" of the rills that may form along the interface between the vegetated soil/rock top-slope cover and the rock-covered west side slope. The DOE staff inspected the site on September 16 and 17, 2015, and the NRC staff observed the DOE staff performing the inspection. During the week prior to the inspection, the NRC staff discussed the results of the staff's analysis of the DOE data with the DOE staff and suggested that the DOE staff perform "focused" monitoring of the area the NRC staff found with unacceptable rock D50. The DOE staff agreed with the NRC's proposed approach. The proposed approach was further discussed during the inspection at the site with the DOE project manager and the DOE contractors...

DOE Response

LM conducted streak monitoring at the Lakeview site during annual inspections between 2009 and 2011. During the initial monitoring event in 2009, inspectors noted the delineation process for "streak" boundaries to be highly subjective and areas to account for less than 5 percent of the west side slope. In subsequent inspections no additional "streaks" were noted and marked "streaks" showed no expansion during the 2010 and 2011 inspections. Subsequent to the 2011 inspection DOE-LM discontinued the streak monitoring during the 2012 site annual inspection.

In response to the November 12, 2014 (ML14303A623) NRC request for rock gradation monitoring analysis, LM submitted correspondence on January 21, 2016 and March 2, 2015 (ML16029A165 and ML15068A252 respectively). Recommendations from the results of the analysis proposed a monitoring strategy that would focus on identifying development of conditions that lead to erosion along the side slopes. An engineering evaluation determined precursory conditions to slide slope erosion would originate near the top-slope/ slide-slope interface. Formation of rills on the top slope near the interface could channelize water flow, promoting erosion. Thus, LM recommended the addition of "rill monitoring along the interface

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between the vegetated soil/rock top-slope cover and the rock-covered west side slope. This focused inspection would incorporate photographing any erosional rills annually, mapping locations of the features, inspecting the condition of erosion protection rock immediately downslope of a rill, and making repairs, as warranted, in accordance with the LTSP.” LM is currently awaiting NRC response to this recommended approach. LM continues to monitor the cell, addressing problems as they occur, and will resume rock gradation monitoring in accordance with the site LTSP, until NRC concurrence to discontinue rock gradation monitoring is received.

Please contact me at (970) 248-6073 if you have any questions. Please send any correspondence to:

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Sincerely,



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