

RAI 12.E:

Description of Deficiency: The information provided in TR Section 2.6 does not meet the applicable requirements of 10 CFR Part 40, using the review procedures in Section 2.6.2 and using acceptance criteria in Section 2.6.3 of NUREG-1569.

Request for Additional Information: Please address the following issues regarding the proposed preoperational environmental monitoring program for the MEA:

E. Please provide the laboratory reports for all radiological baseline monitoring results.

RAI 12.E Response (05/21/15):

Section 2.9.8.1 has been revised and the sampling results are presented in their entirety in **Appendix BB**, Tetra Tech (2015) Report; Section 2.1.



2.9.8 Baseline Direct Radiation Monitoring

2.9.8.1 Survey Intervals

RG 4.14 recommends direct radiation measurements be collected at 150-meter intervals to a distance of 4,921.26 feet (1,500 meters) in each of eight directions from the centerpoint of the milling area or at a point equidistant from the milling area and tailings disposal area. The direct gamma radiation sampling at MEA ~~was~~~~will~~~~be~~ designed to meet or exceed this guidance. Because there are no milling or tailings disposal areas, CBR will use the satellite facility as the centerpoint.

Tetra Tech performed two gamma survey approaches: (1) RG 4.14 direct gamma field investigation, and (2) continuous gamma survey field investigation. Both of these approaches used NRC guidance documents for ISR uranium projects. Background radiation, as described in NUREG-1757 Vol. 1, Rev. 2 Consolidated Decommission Guidance (NRC 2006a) and NUREG-1757 Vol. 2, Rev. 1 Characterization, Survey, and Determination of Radiological Criteria (NRC 2006b), is radiation from cosmic sources, naturally occurring radioactive material (including radon), and global fallout. The results of these surveys are presented in their entirety in Appendix BB, MEA Baseline Radiological Investigation Report, Section 2.2 (Tetra Tech 2015).

~~A baseline sampling plan with details on where and how direct radiation monitoring will occur will be submitted for NRC review in December 2013. Following resolution of any issues, the application will be revised to highlight the elements of that plan. Sampling will be conducted in late spring or early summer of 2014, prior to construction.~~

2.9.8.2 Survey Measurements at Air Particulate Monitoring Stations

The PPMP baseline radiation monitoring program includes routine monitoring of direct radiation levels at the air monitoring stations.

Monitoring has been conducted by placing Inlight® Systems Dosimeters, provided by Landauer, Inc., quarterly at the air particulate monitoring sites (**Figure 2.9-2**). The monitors were located approximately 1 meter above ground level. They were exchanged with new monitors quarterly, and the exposed monitors were returned to the vendor for processing. These devices provide an integrated exposure for the period between annealing and processing.

The PPMP and operational monitoring plan has been designed to meet the criteria outlined in RG 4.14 (NRC 1980). As with air particulate and radon-220 monitoring, gamma monitoring began in the fourth quarter of 2011 and was completed in the fourth quarter of 2012 (five quarters of data). The proposed PPMP and operational monitoring program is shown in **Tables 2.9-41 and 5.7-1**.

The results of gamma measurements conducted at the air particulate monitoring stations (MAR-1 through MAR-5) for the fourth quarter of 2011 through the fourth quarter 2012 are presented in **Table 2.9-40**. The gross and net measurements for all sampling locations over the entire sampling period ranged from 19.9 to 40.9 (average of 33.3) and 4.5 to 14.5 (average of 8.0)