

September 22, 2011

Mr. Mahesh Vidyasagar, Project Manager
ExxonMobil Environmental Services Company
13401 North Freeway First Floor Room 126
Houston TX 77060

SUBJECT: REPLACEMENT OF MONITORING WELL MFG-3 FOR THE EXXONMOBIL
HIGHLAND RECLAMATION PROJECT, SOURCE MATERIALS LICENSE SUA-
1139

Dear Mr. Vidyasagar:

By letter dated August 23, 2011, ExxonMobil proposed abandonment and replacement of well MFG-3 at the Highland Reclamation Project site (Highland) due to an apparent faulty bentonite seal. ExxonMobil provided the U.S. Nuclear Regulatory Commission (NRC) with a summary of ground water chemistry in the Highland MFG-Series monitoring wells to evaluate the potential for leakage of tailings-derived constituents from the upper ore body sandstone (OBSS) units into the lower OBSS. The potential downward migration of constituents into the lower OBSS necessitates abandonment of well MFG-3 in order to prevent impact to groundwater resources in the 30SS.

NRC staff has reviewed the summary of ground water chemistry provided by ExxonMobil. Monitoring wells MFG-1, MFG-2 and MFG-3 are completed in the OBSS units 50SS, 40SS and 30SS, respectively. OBSS units 50SS and 40SS are characterized with consistently elevated chloride and sulfate due to impact of tailings leakage, with chloride ranging from approximately 150 mg/l to 450 mg/l, and sulfate ranging between approximately 1,500 mg/l and 2,500 mg/l. The chloride concentrations in MFG-3 (30SS) have been observed to increase from 50 mg/l in 2005 to approximately 75 mg/l in 2011, with one measurement of about 150 mg/l. The sulfate concentrations in the 30SS had also been increasing from approximately 500 mg/l in 2005 to about 1,000 mg/l in 2011. The observed increase of chloride and sulfate concentrations in MFG-3 appears to indicate a leakage of tailings-impacted groundwater from the upper OBSS 50SS and 40SS units where the ground water has much higher chloride and sulfate concentrations. Based on the observed ground water monitoring data, it is appropriate to abandon and replace well MFG-3 in order to prevent the potential future downward migration of tailings constituents into the ground water in the 30SS unit.

If you have any questions regarding this letter or the enclosure, please contact Tom McLaughlin, NRC Project Manager for the Highland Reclamation Project, at (301) 415-5869 or via e-mail to Thomas.McLaughlin@nrc.gov.

In accordance with 10 CFR 2.390 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 Agency-wide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Paul Michalak, Chief
Materials Decommissioning Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8102
License No.: SUA-1139

cc: K. Frederick, WDEQ
D. Harris, WDEQ
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M. Vidyasagar

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Sincerely,

Paul Michalak, Chief
Materials Decommissioning Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

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