cotter

[EMAIL DELIVERY]

May 26, 2017

Mr. Michael Cunningham
Environmental Protection Specialist II
Division of Reclamation, Mining and Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Schwartzwalder Mine: DRMS File No. M-1977-300: Technical Revision -25, Amendment to Technical Revisions -23 and -24, Response to Adequacy Review Comments

Dear Mr. Cunningham:

On April 28, 2017, the Division of Reclamation, Mining and Safety ("DRMS") received an application for Technical Revision 25 ("TR-25") from Cotter Corporation (N.S.L.) ("Cotter"), which amends two previous technical revisions, TR-23 and TR-24. By letter dated, May 22, 2017, DRMS issued its adequacy review comments. Responses to these comments are presented below and are presented by first reiterating the comment followed by Cotter's response. Cotter is not including DRMS's first comment regarding the Environmental Protection Plan since the comment reiterates a Cotter commitment.

Comment 2. Specify the type of liner which will be used for the secondary containment of the tanks located outside of the NWTP.

> **Response:** Cotter will use smooth, 60-mil, high density polyethylene ("HDPE") liner for its secondary containment, which is the same material currently in use.

Comment 3. Section 3.14 of Technical Revision No. 25 states that a lined secondary containment berm will contain the reactor tank, as well as the backfill slurry tank and the molasses tank. Figure 3-2 only depicts the backfill slurry tank and the reactor tank within the secondary containment berm. Please clarify this discrepancy.

> **Response:** Cotter will not include the molasses tank within the secondary containment. The text has been revised to correct the discrepancy. However, Cotter is revising the size of the reactor. Cotter previously stated that a 7,000-gallon tank would be used for the reactor tank. Cotter is now proposing a 17,000-gallon tank for the reactor tank.

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This tank is currently unused and onsite. This existing steel tank will store sump and creek water into which flocculant and sodium hydroxide will be injected. The flocculant will precipitate solids, and the sodium hydroxide will raise the pH, both of which will allow cleaner water to enter the clarifier inside the NWTP.

The 12-ft diameter reactor tank, with a capacity of 17,000 gallons, will be located outside the Steve Adit. The reactor tank will be located adjacent to the 15,000-gallon backfill slurry tank and within a lined secondary containment berm that will be constructed with the capacity to hold a minimum of 36,000 gallons. This capacity is 110% of the entire contents of all tanks within the secondary containment area. Figure 3-2 will be revised to reflect this change.

Comment 4. The Clean Water Tank, which is piped directly to the outfall in Ralston Creek, does not have a designated secondary containment berm. The Operator has stated secondary containment is not required since the contents of the tank are of discharge quality. The water which passes through the Clean Water Tank typically meets the discharge standards. However, it is possible that treated water could pass through the tank which does not meet the discharge standards. Please provide a technical justification for not having a designated secondary containment berm for the Clean Water Tank, or otherwise provide a design details for a designated secondary containment.

Response: The New Water Treatment Plant ("NWTP") currently utilizes Reverse Osmosis ("RO") technology that uses a physical barrier to filter the highly pressurized water and divides the influent stream into two effluent streams. The treated water that leaves the RO system, also known as permeate, is discharged to the permitted outfall ("DIS-001A") and has generally complied with monthly discharge limits for the past eight months. Rejected water, also known as concentrate, is redirected to the mine pool. The two process streams are physically separated by the treatment membrane and are never allowed to comingle once processed.

Although the treatment system effluent may, on occasion, not meet a monthly discharge limit for a particular parameter, the water is still treated and, therefore, not toxic. The chemical characteristics of the treated water, as presented on numerous discharge monitoring reports ("DMRs") does not have the chemical signature of "acid and toxic producing materials", "acid mine drainage", or "designated chemicals", as defined in the rules for Hard Rock, Metal, and Designated Mining Operations. Furthermore, the mesa on which the NWTP is constructed contains a berm, which will prevent the contents of the clean water tank from entering surface water directly.

The NWTP is also equipped with integrated control computers that monitor key process parameters and have several safety features that will deactivate all operations and physically eliminate the possibility of untreated water flowing into the clean water tank. The system is operated on both an automated and a manual basis with capabilities for the operator to monitor conditions remotely. All process parameters are interlocked through

programmable logic control ("PLC") digital computers that have the ability to ultimately deactivate the system in accordance with emergency conditions. RO emergency deactivation is the default response in any adverse scenario and again will utilize control valves that eliminate the flow of any unprocessed water on a mechanical level. The operation of the RO will always need a physical presence to start the system prior to operation.

Cotter appreciates your attention in this matter. If these responses are acceptable to you, Cotter will submit a revised TR-25 application incorporating our comment responses. If you have any questions, please contact me at 719-275-7413, ext. 202, or via email at steve.cohen@cotterusa.com.

Sincerely,

Stephen J. Cohen, PG
Mill Manager

Enclosure

Cc: Tony Waldron, DRMS
Ken Mushinski, Cotter
Bruce Norquist, Cotter
Jim Harrington, Alexco