Garrett, Betty

From: John Schmuck [John_Schmuck@Cameco.com]
Sent: Thursday, August 16, 2012 5:44 PM
To: Burrows, Ronald
Cc: Paul Goranson; Josh Leftwich; Larry Teahon; Jim Stokey; Rhonda Grantham
Subject: Supplemental information related to pond inspection frequency
Attachments: Pond Inspection Frequency.doc

Ron - At the public meeting held on June 5, 2012, Cameco committed to provide supplemental information regarding the frequency of pond inspections. The supplemental information is in response to the NRC revisions to License Condition 11.10 for the Crow Butte license renewal, dated March 8, 2012. The supplemental information is attached.

Thanks. .john

Cameco

CAMECO RESOURCES
U.S. Corporate Office

Inter-Office Memo

To: Ronald Burrows

From: John P. Schmuck

Date: August 16, 2012

Subject: Additional Information on Draft License Condition 11.10, Crow Butte License Renewal

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1) The number of liner tears will not be decreased by for more frequent inspections. The primary cause of the tears is ice cutting into the fabric and secondarily, the liner system is aging.
2) In response to a liner tear, it generally requires six to eight weeks before the secondary containment becomes functional again.
3) A savings of several days at the outset (compared to six to eight weeks overall) should be carefully weighed against the safety implications of daily inspections, especially in the winter months.

When the visual inspection detects a liquid level increase of more than 6" in the underdrain, or a conductivity reading in excess of ½ the conductivity of the contents of the pond is noted, the pond is immediately taken out of service. Pumps are set up (1-2 days) to transfer the contents to another pond, so that the water level may be lowered below the tear. The transfer capacity is roughly 1" per day. Since most tears occur reasonably close to the water line of the pond, it generally takes 1-2 weeks (7"-14") to allow the tear to be discovered. Tears at greater depth take longer. Once the tear is identified, it is temporarily patched. The liner company then takes 3-4 weeks to mobilize for a permanent repair.

During and after the permanent repair, the underdrain is left full. The pond is then filled above the repaired area and the level in the underdrain is carefully observed to determine if the repair was successful. If the underdrain had been emptied earlier, the water levels could not be used to determine if the repair was effective because a very slow leak would not appear for a substantial time.

At this point the underdrain is pumped (emptied) and substantial volumes of fresh water are circulated to reduce the conductivity of liquids in the underdrain. This is necessary so that conductivity measurements may again be used as a leak detection tool, as required in the license. Optimally, the corrective action can be accomplished in six to eight weeks.

The weekly (or daily) inspections require the operators to traverse the liners so that the liquid levels and conductivity readings may occur. This work is especially dangerous in the winter months when ice and snow are present.

Conclusion: Compared to the overall duration of corrective action, saving a day or two that the outset will not significantly reduce the time it takes to re-establish functioning secondary containment. Daily inspections will not decrease the number of tears; that is a largely a function ice cutting into the liner fabric. Daily inspections in the winter months will expose employees to significant additional safety hazards, with only a very minor impact on the time required to restore secondary containment.