



May 25, 2004

License SUA-1341
Docket 40-8502

Mr. Gary Janosko Chief,
Fuel Cycle Facilities Branch
Mail Stop T-8A33
Two White Flint North
11545 Rockville Pike
Rockville, MD. 20852

RE: Christensen Ranch Pond 3 & 4 leaks.

Dear Mr. Janosko:

This letter serves as the report requirement of License Condition 12.2 of SUA-1341 in which it is stated that a written report of any leak, spill or excursion will be submitted to the Chief, Fuel Cycle Facilities Branch within thirty (30) days of the confirmation of the incident.

Description of Incident:

As per Condition 11.4 of SUA-1341, weekly inspections are performed of the Christensen evaporation ponds. During the routine weekly inspection on April 28, 2004, fluid in excess of six vertical inches was detected in one of six leak detection tubes in two of the four Christensen ponds, Pond 3 and Pond 4. Samples from these particular tubes were obtained on April 29 and were analyzed for chloride, conductivity, pH and uranium. The results from the analysis confirmed that the fluid in each of the leak detection tubes had similar chemical characteristics to the pond water, thus confirming that a leak had occurred. The probable leaks in Ponds 3 and 4 were reported to the Wyoming Department of Environmental Quality (WDEQ) and the U.S. Nuclear Regulatory Commission (NRC) on April 29.

Corrective Actions Taken:

The Christensen evaporation ponds are constructed such that each pond contains six cells that are monitored individually by a leak detection system. In Pond 3, fluid was detected only in the southwest corner cell (see attached map), thus indicating that the source of the leak is isolated to that portion of the pond. Fluid was detected in only the northwest corner cell of Pond 4, also indicating that the source of the leakage should be in that particular part of the pond.

Initial corrective action was to lower the water levels in each pond by transferring the liquid to another pond within the pond system. Once the water is evacuated from a pond, inspections for holes in the liner can be made, and any holes can be repaired. The corrective actions taken to date for each pond are described following.

RWMSO

Pond 3:

Pond 3 was taken out of service on April 29. Water transfer from Pond 3 was initiated the following day, and was lowered 1.7 feet, to the 4.7 feet freeboard elevation, over a multi-day period. Daily inspections of the pond liner were made during the water transfer. On May 2, the daily inspection identified three small holes along the west side of the southwest cell of the pond at approximately the 4.5 ft. freeboard elevation. Two days later an additional five holes were found in the same general area as the first three holes. All eight holes were repaired. However, continued daily inspections of the leak detection tube indicated that some leakage continues to occur. The corrective action is to continue to drop the pond level (currently at a freeboard elevation of 6.4 feet out of a maximum 9.5 feet) until the source of the leakage is found and repaired.

Pond 4:

Pond 4 was also taken out of service on April 29. The leakage in the northwest corner of Pond 4 appears to be significantly less than in Pond 3, as the water in the leak detection tube is only two inches over the reporting level, whereas Pond 3 was eight inches in excess of the reporting level at the time of detection. Due to the relatively full levels of Ponds 1 and 2, transfer of the water from Pond 3 to the other ponds has taken priority over transfer from Pond 4. The transfer of Pond 4 water to Pond 2 has been initiated but no holes in the liner have been found to date. The water transfer and search for holes will continue in Pond 4 until the source of the leakage is found and repaired.

Results Achieved, Conclusions:

To date, the cause of the holes found in the Pond 3 liner appears to be a result of a winter situation in which an ice shelf attached to the liner collapsed when a pump was removed from the pond. The water level was actually several inches below the ice as water had been transferred to Pond 4 earlier in the year. As pieces of this ice broke up and fell to the water level they punctured the liner. As the water level in Pond 3 has only recently risen to the elevation where the ice was located this winter, it is assumed that this maybe the cause for the sudden appearance of the leakage.

The source of the leakage in Pond 4 has yet to be identified, but could also be related to ice breakage that occurred during the winter.

As the leakage in Ponds 3 and 4 is not totally resolved at this time, a final report will be issued once all leaks have been identified, repaired and the ponds are back in service.

Please contact me if you should require any additional information.

Sincerely,



Tom Nicholson
Environmental Specialist/RSO

Attachments: Area Map.

CC: M. Taylor WDEQ-Project Manager
D. Wichers COGEMA - General Manager

