1. Lower Watershed Lower Dam

I would advise that some level of repair be performed for the spillway. In a "Do-Nothing" approach, head cutting and undermining of the spillway structure will continue, particularly during large or extreme rain events. This could lead to erosion of the embankment soils along the spillway and ultimately a breach.

Obviously, we were focused on a replace-in-kind approach to follow the requirements for FEMA reimbursement. A full replace-in-kind option was recommended by FEMA and considered as the best approach considering the age of the concrete spillway structure. Besides dam decommissioning, I think there is one other option to consider for cost savings and that is a partial repair approach. With this approach, the existing intact portion of the concrete spillway would remain (~60%), and only the damaged and undermined portion of the spillway would be replaced. Hydraulic and Hydrologic Engineering calculations would be required to gage if riprap could be used for the spillway following a concrete transition zone – although riprap would require more frequent maintenance, particularly after extreme events. We did not have any H&H calculations budgeted for the replace-in-kind approach.