

News Release

Upper Colorado Region
Salt Lake City, Utah
Loveless (801) 524-5403
For Release August 23, 1983



For more information on Reclamation activities, contact:

Utah Residents: 1-800-624-1094
Out-of-State: 1-800-624-5900

Workmen Tunneling Into Damaged Glen Canyon Spillway

The Bureau of Reclamation is boring an access tunnel into the left spillway to remove accumulations of debris prior to repairing the damaged spillways at Glen Canyon Dam, Reclamation's Upper Colorado Regional Director Clifford Barrett announced today.

The tunneling machine, which started from the machine shop parking lot, is 70 feet into the canyon wall and 110 feet from intersecting the spillway tunnel. The drilling, expected to last another 2 weeks, is progressing at a rate of 20 to 40 feet a day.

While the drilling is continuing, the contractor also is installing drainage pipes to extract the remaining water, and hooking up utilities, such as compressed air and electricity, prior to moving in heavy equipment to remove the eroded pieces of sandstone and reinforced concrete. The current contract calls for the left spillway debris removal and repair to be completed by mid-April 1984.

The right spillway repair is expected to be completed by June 15, 1984. Damage in the right spillway is estimated to be only about one-third the magnitude of the left spillway. Total costs could run into the \$5 million to \$10 million range. Guy F. Atkinson, the prime contractor, is expediting the repair in time for next season's runoff in late June to July.

"Despite the damage, which first had been observed early in June, neither the dam nor the spillways were in danger of failing," said Barrett. "And while there was serious damage to the spillway lining, it was confined to a small area and at no time would it have caused us to shut down the spillways. Considering all the water that was spilled (4.4 million acre-feet including the bypass tubes), it was remarkable how well the spillways performed," he added.

The work in the left spillway will include the removal of approximately 1,000 cubic yards of debris. "We have several holes that have to be backfilled," noted Barrett. About 4,000 to 5,000 cubic yards of concrete is estimated to be needed to fill the holes, plus another 4,000 cubic yards of concrete to restore the damaged reinforced concrete lining. "To better appreciate the enormity of the work to be done, a large construction truck has a capacity of from 8 to 10 cubic yards," he said.

At the right spillway, catwalks are being constructed along the canyon wall to allow access to the downstream end of the spillway. Then, pumps will be installed to get out as much water as possible. The powerplant transformer deck will be used by the boring machine for access to the other spillway to drill an access tunnel similar to the one currently being drilled on the left. The powerplant is continuing to operate at full capacity despite the widespread construction effort. The boring machine has a round, rotary auger head, with cutting teeth mounted on an arm positioned hydraulically to dig into the canyon wall from several angles.

Atkinson currently has about 80 personnel actively engaged at the site, with expectations of another 70 eventually joining them. Assisting the contractor are 4 Reclamation personnel from the Upper Colorado Region and 6 from other Reclamation regions.

In addition to the repair, an air slot will be cut into the inclined portion of each spillway to counteract future effects of cavitation, a condition in which holes are eroded into the spillway lining. Cavitation occurs when shock waves are created from swiftly flowing water traveling over 100 miles an hour, passing over irregularities in the concrete, and cutting away large pieces of the lining. The air slot will introduce air bubbles which prevent the formation of the destructive shock waves.

#