



Jerry Gore, left, and Luis Uriarge, employes of Dworshak Dam Constructors, vibrate concrete down through steel reinforcing rods — the last time they will have to do that job. The final bucket of 6.6 million cubic yards of concrete was poured yesterday for the main structure of the 717-foot high dam near Orofino. The two are working on a portion of the roadway deck atop the dam.

Last Massive Bucket Of Concrete Poured For Giant Dworshak Dam

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AHSAHKA — A ceremony Friday marked placement of the final buckets of mass concrete at Dworshak Dam.

The first ceremonial bucket, tripped by U.S. Rep. Steven D. Symms, R-Ida., and Col. Richard M. Connell, Walla Walla district engineer for the Army Corps of Engineers, carried the figure: 6,626,645 cubic yards.

The three ceremonial bucketloads, each of about eight cubic yards, went into the remaining portion of the concrete deck atop the dam.

The second bucket was tripped by Ronald Maxwell, general superintendent for Dworshak Dam Constructors, and Ben W. Molle, Dworshak resident engineer for the corps.

The third bucket, tripped by Orofino Mayor A. B. Curtis and Clearwater County Commissioner Bill Bird of Greer, splashed wet concrete on Colonel Connell and some of the other dignitaries standing by.

Although the ceremony marked the last of the massive concrete placement, concrete work will continue at the dam for some time.

The remaining 4,000 cubic yards to be placed between now and June 1 will be architectural concrete, explained Maxwell.

It will be used to complete the north and south elevator towers, the parapets or low walls along the top and other

small finishing touches.

How much is 6.6 million cubic yards?

Enough concrete to build the second highest concrete gravity dam in the United States, 717 feet high from bedrock to top. (The dam is the third highest of any type in the United States. Oroville, in California, is highest, with Hoover next).

Enough concrete to build a base 525 feet wide, tapering to a crest 30 feet wide and 3,300 feet long with a roadway providing space for two lanes of traffic; enough concrete to surround all of the dam's interior hallways, tunnels, elevator shafts, gates, piping and other paraphernalia which make a dam more a series of holes surrounded by concrete than a massive block.

And finally, enough concrete to hold back the North Fork of the Clearwater River for 53 winding miles and to store 3.5 million acre feet of water. (An acre foot is enough water to cover an acre with water one foot deep).

In all, it took four years and nearly nine months to complete concrete work to this point.

The first dribbles were placed April 30 and May 1, 1968, to patch holes in the north and south canyon walls, but the first bucket used to build the dam itself was placed June 22, 1968.

Now the work is steadily winding down. Dworshak Dam Construc-

tors, which in 1970 had a payroll peak of about 1,700 employed on three shifts, now employs about 250 on one shift. About 100 more are employed by subcontractors on dam and powerhouse work and the corps resident engineer's staff has dwindled to 40.

The afternoon ceremony drew most of the top corps officials and their wives from the Walla Walla district office.

Mindful of environmentalists' pressure on the corps to build no more dams, one of the officials quipped, "This is probably the last 700-foot high dam we'll build this year, so we thought we'd better come and see it getting finished."

As the visitors stood on the unfinished roadway atop the dam to watch the ceremony in 35-degree weather, they also overlooked the lower end of the blue reservoir, bathed in sunlight.

All the lower end of the pool has been cleared of floating debris; in fact, two-thirds of the pool has been cleared and the remainder will be swept clean by next fall.

Meanwhile, inside the powerhouse below the downstream face of the dam, other workmen were checking and making adjustments on the first turbine and generator, soon to produce power.

Gary Willard, chief of engineering for the corps at Dworshak, said the schedule calls for what he termed a "mechanical run" of the No. 1 generator the end of next week.

The 90,000 kilowatt-capacity generator and turbine, linked by a 36-inch diameter steel shaft, will be turned slowly to make sure there are no obstructions and everything is in working order, he explained. That run will produce no power.

But by Feb. 15, experts in power production will begin to synchronize the first Dworshak power output with the alternating current carried on the Bonneville Power Administration transmission line and thus fit Dworshak power into the entire system.

By March 1, the first generator should be producing commercial power and by April 1, the other two generators should be added to the line.

The No. 2 generator also has a 90,000 kilowatt rated capacity, the No. 3, a 220,000 kilowatt capacity.

This will give the powerhouse the flexibility of producing 90,000 kilowatts with one generator, 180,000 kilowatts with the two smaller ones, 220,000 with the large one, 310,000 kilowatts with a large and small one and 400,000 kilowatts with all three generators on the line.

Flow Reduced At Dworshak

AHSAHKA — Adjusting to reduced flows of the North Fork of the Clearwater River resulting from relatively dry, cold weather, the flow from Dworshak dam was reduced