

TONGUE RIVER DAM

Fact Sheet

PROJECT DESCRIPTION

- ◆ Located on the Tongue River in Big Horn County, 5 miles north of Decker
- ◆ Construction completed in 1940
- ◆ Owned by DNRC & managed by the SWPB
- ◆ Operated by the Tongue River Water Users Association since 1940

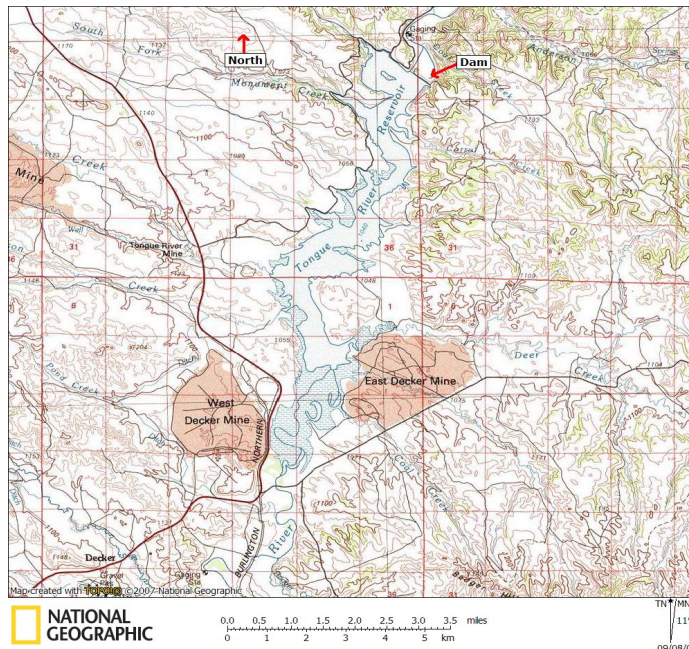
- ◆ Project consists of:
 - Zoned Earthfill Dam, 93 feet high, 1,824 feet long
 - Uncontrolled, 150 feet wide, 560 feet long concrete labyrinth weir principal spillway. Auxillary spillway consists of roller compacted concrete with conventional concrete encasement stair step chute with an ogee crest, 650 feet wide.
 - 9-foot horseshoe shaped concrete primary outlet tunnel; 4.5 ft x 7.5 ft bonneted slide operating gate and fixed-wheeled guard gate
 - 16-foot horseshoe-shaped concrete auxiliary outlet tunnel; downstream and upstream wet wells with a 4.5 ft x 7.5 ft fixed wheel guard gate and a 4.5 ft x 7.5 ft cast iron sluice gate

- ◆ Stores 79,071 acre-feet at normal full pool, covering 3,700 surface acres.
- ◆ The dam is a “high hazard” structure, which means that its failure could cause loss of life. Farms and ranches, roads, bridges, and utilities are located in the flood plain.



WATER USE

- ◆ 40,000 acre-feet through 180 contracts; provides a portion of the Northern Cheyenne Tribe’s federally reserved water right
- ◆ Irrigation, industrial, fish hatchery
- ◆ A very popular recreation site, with Tongue River State Park, managed under lease by the MT Fish, Wildlife and Parks, located on the west shore of the reservoir.



REHABILITATION SUMMARY

From 1996 to 1999, the DNRC completed a major rehabilitation of the dam. The rehabilitation included:

- ◆ Raising the spillway crest an additional 4-feet, providing up to an additional 14,000 acre-feet of storage
- ◆ Construction of a new primary low level outlet tunnel and auxiliary spillway
- ◆ Replacing the principal spillway
- ◆ Improvements to the drain system
- ◆ Improvement to access and maintenance roads
- ◆ New gates for existing low level outlet conduit
- ◆ Rehabilitation cost (1999): \$48,000,000

FUTURE NEEDS

- The dam was rehabilitated in 1996 to 1999 and meets or exceeds existing dam safety standards. No deficiencies currently exist.
- Determine a long-term solution to the auxiliary spillway chute concrete step cracking.
- A plan is currently being developed to repair abutment erosion below the right spillway wing-wall.
- Finalize plans to mitigate cavitation issues in the auxiliary low level outlet operating gate chamber

Gatehouse and top of spillway



Outlet and spillway

