

Federal Energy Regulatory Commission – Hydropower Licensing 101

Broadwater Hydropower Project

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Image Landsat

Google earth

Imagery Date: 4/9/2013 46°11'24.29" N 111°49'46.10" W elev 5979 ft eye alt 90.51 mi



287

Toston Dam

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Toston Dam

Toston Dam Rd

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1997

Imagery Date: 7/25/2014 46°07'14.19" N 111°24'21.03" W elev 4005 ft eye alt 6101 ft

Project Overview (1 of 4)

- The original 40-year Project license was issued April 23, 1984
- First power production was in June 1989
- The current license expires on June 30, 2024
- The Project is owned and operated by the State of Montana
 - Department of Natural Resources and Conservation (DNRC)
 - State Water Projects Bureau (SWPB)
 - It is the only hydropower facility owned by the State
- Broadwater is classified as a high-hazard dam
- Broadwater is a PURPA Qualifying Facility (QF)
- The Power Purchase Agreement with NorthWestern Energy also expires on June 30, 2024

Project Overview (2 of 4)

- Dam Completed: 1940
- Powerhouse Completed: 1989
- Length of Dam: 705 feet
- Structural Height of Dam: 51.5 feet (bottom of foundation to top of rubber gates)
- Dam Construction: Concrete, gravity
- Reservoir Storage: 4100 acre-feet (original), 1900 ac-ft (2008)
- Reservoir Area: 327 acres
- Reservoir Elevation: 3952.6 ± 0.6

Project Overview (3 of 4)

- Number of bays: 7
- Gate construction: Rubber bladders
- Width of each bays: 54 feet
- Maximum spillway capacity: 68,900 cubic feet per second (cfs)
- Highest recorded flow: 34,000 cfs in 1997
- Maximum power rating: 10 Megawatts (MW)
- Maximum power occurs at: 6,630 cubic feet per second (cfs)
- Average power generation: approximately 6 MW

Project Overview (4 of 4)

- Owner of transmission line and substation: DNRC
- Transmission line length: 3 miles
- Transmission line voltage: 100 kV
- Power purchaser: Northwestern Energy
- Broadwater operations funding: Power sale revenue
- Uses of net power revenue: Maintenance of DNRC Water Projects
- **No Physical Changes to the Project are being contemplated.**

Irrigation Projects Supported

- Broadwater-Missouri Water Users Association
 - Main Canal Capacity: 342 cubic feet per second (cfs)
 - Eastside Canal Capacity : 262 cfs (through pipe span over the river)
 - Westside Canal Capacity : 90 cfs
- Toston Irrigation District
 - Total Canal Capacity : 100 cfs

Take a breath - Nomenclature

- Broadwater Power Project
- At the Toston Dam
- Toston Reservoir
- Near Toston MT
- On the Missouri River
- In Broadwater County
- Broadwater-Missouri Canal and WUA
- Toston Canal and WUA

Operating Policy

- The Project is run-of-river.
- The operating policy is to maintain the reservoir pool elevation for both hydroelectric operations and irrigation purposes at normal pool elevation of 3952.6 ± 0.6 msl all year.
- At stream flows less than approximately 7,000 cfs, all the flow passes through the powerhouse.
- Above 7,000 cfs, or when the powerhouse is not online, water is released by deflating one or more pairs of rubber gates.
- **No change in Operating Policy is being contemplated**



Toston Dam

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Plant changes being made

- The original construction bond was paid off in December 2017
- Revenue that was used for the bond payment is now being used for plant modernization. Examples:
 - SCADA
 - Mechanical systems (e.g. lube oil)
 - Electrical systems
- **These changes will not affect anything outside of the Powerhouse and Substation areas**

Resource Area Information Required for Project Relicensing

- No Effect
 - Geology and soils
 - Wildlife and botanical resources
 - Rare, threatened and endangered species
 - Aesthetic resources
 - Socio-economic resources
 - Tribal resources

Water Resources

- Broadwater is run-of-river with a small reservoir and low head
- The existing license does not have any water quality-related requirements
- Water quality data exists for the Missouri river in this area
 - USGS gaging station is approximately 3 miles downstream
 - Periodic river sampling data from DEQ is available
- DNRC does not believe that Broadwater Power Project affects water quality

Fish and aquatic resources

- DNRC has an MOU with and provides annual funding to FWP as part of the Fisheries Mitigation Plan
- DNRC files a report every five years summarizing activities and evaluating data
- Originally, the Mitigation Plan was tied to trout production goals
 - These were not met due to unforeseen conditions (e.g. whirling disease, walleye introduction)
- Current efforts are focused on enhancing Deep Creek
- DNRC believes that efforts under the current license have mitigated any fisheries effects of Project construction

Wetlands, riparian, and littoral habitat

- The Toston Wetland Project was designed and built in 1998 to mitigate loss of wetland associated with Project construction
 - Required to develop 10 acres
 - Actually developed 16 acres on a 33 acre parcel
 - Submit reports every two years
- No change to current wetland practice is anticipated
 - DNRC will continue to maintain the Wetland
- Riparian vegetation surrounding the Project area has re-established itself

Recreation and land use

- Two recreation sites in the immediate area
 - BLM Toston Upper Recreation Site near the Powerhouse
 - BLM Toston Lower Recreation Site below the Project Boundary
- Current license requires cooperation with BLM (ops support, use logs)
 - Boat launch
 - Portage
 - Fishing access
 - Picnic area
 - Campground
- Existing facilities are adequate to meet need
- No change to existing practice is anticipated

Cultural resources

- Developed Cultural Resources Management Plan (CRMP) as part of original effort
- The Broadwater-Missouri Diversion and Broadwater Power Project Historic District are listed as eligible in the National Register of Historic Places (NRHP)
- The DNRC Archeologist has sent a Heritage Resource Management Plan to SHPO for review and concurrence
- No ground disturbing activities or impacts to the Historic District are anticipated

Relicensing Process

- Broadwater is a small, run-of-river Project that is not in an environmentally sensitive area and does not intend to make any significant physical or operational changes.
- DNRC believes that the Traditional Licensing Process (TLP) will be the most effective process to relicense the Broadwater Project due to the schedule flexibility and early agency consultation.

Key Dates

- DNRC File Notice of Intent (NOI), Pre-Application Document (PAD) and Request to use TLP with FERC, and distribute PAD to stakeholders
 - Hold Joint Agency/Public Meeting and offer site visit
 - Issue Draft License Application (including final study reports) to stakeholders
 - File Final License Application
- January 2019
 - 4/2019 to 5/2019
 - 5/2021 to 11/2021
 - 6/30/2022

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