

## Hydroelectric Power

### James W. Broderick Hydroelectric Power Facility

#### Pueblo, Colorado

The Southeastern District has finished construction of the James W. Broderick Hydroelectric Power Facility at Pueblo Dam, and commercial operations began on May 28, 2019. The plant provides the District's Enterprise Activity with a new revenue stream. The plant is the first hydroelectric feature added to the Fryingpan-Arkansas Project since the completion of the Mount Elbert pump-back hydroelectric plant at Twin Lakes in 1981.

#### Project History

Hydroelectric power is generated by falling water flowing through turbines. No water is consumed during the generation of electricity. The Broderick plant connects to the Municipal Service Line constructed by Colorado Springs Utilities for the Southern Delivery System at the North Outlet Works. The U.S. Bureau of Reclamation now owns the Municipal Service Line. Reclamation granted the District a Lease of Power Privilege in 2017, following a planning and permit process that began in 2011. Colorado Springs Utilities and the Pueblo Board of Water Works were originally partners, but the project is being solely undertaken by the



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#### Pueblo Dam power plant begins operation

The \$20 million James W. Broderick Hydroelectric Power Facility at Pueblo Reservoir began operations this week after testing and commissioning were completed during May.

The plant will produce electricity by harnessing flows that pass through the north outlet of the dam into the Arkansas River. Water rushing through the turbines is not consumed during the process, but simply returns to the river.

The Southeastern Colorado Water Conservancy District signed a Lease of Power Privilege with the U.S. Bureau of Reclamation in August of 2017, and began construction shortly thereafter. Reclamation approved full operations this week.

Mountain States Hydro LLC, of Fort Collins, Utah, was the general contractor for the design-build project, which was financed through a \$17.2 million loan-orient loan from the Colorado Water Conservation Board, and the District's Enterprise.

"This is an important step for the District," said Southeastern's Executive Director Jim Broderick. "We envision this as a long-term revenue source for Enterprise programs, such as the Arkansas Valley Growth Fund. Equally important will be the new source of clean power we have created."

The Southeastern Board voted in April to name the hydro plant for Broderick. A dedication is being planned, but no date has been set.

The 1.5 megawatt plant will generate 28 million kilowatt hours of electricity annually, enough to power 2,500 homes. Three turbines and two generators within the plant can be used individually or in tandem to take advantage of releases from Pueblo Dam ranging from 35-810 cubic feet per second. The Pueblo Dam Hydro plant was constructed on a dedicated connection to the North Outlet Works, which was constructed by Colorado Springs Utilities as part of the Southern Delivery System.

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District.

#### Project Description

The 7.5 megawatt (MW) facility will be able to generate electricity at flows ranging from 35-810 cubic feet per second. Three turbines and two generators use the Dam's authorized releases to the Arkansas River to generate an annual average 28 million kilowatt hours (kWh) of power, and approximately \$1,500,000 in average revenue per year. The project's total capital cost is \$20.2 million, which includes a \$17.2 million loan from the Colorado Water Conservation Board. Revenues from the hydro plant will repay the District's Enterprise Activity and the CWCB.

#### Project Use

The City of Fountain and by Colorado Springs Utilities (for use at Fort Carson) will purchase the power generated. After 10 years, Fountain will purchase all of the power generated by the plant for the following 20 years. These utilities are looking for ways to broaden their energy portfolios to include clean, renewable energy. Energy costs for Fountain, which purchases all of its power, will actually be reduced.

Revenues from the Broderick plant will fund projects and programs of the Enterprise Activity, once debt repayment and other obligations are met.

Project Documents

Project Features

Schedule



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