

Water Sustainability Fund Close Out Report for Project 5198

Modify Delivery Structures for Augmentation of River Flow

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This is the close out report for Nebraska Public Power District (NPPD) project for Delivery Structures for Augmentation of River Flow (Water Sustainability Fund, application number 5198).

Results of the Project

NPPD has completed the modifications to the Gothenburg Canal and Dawson County Canal river diversion structures to allow for measurement of water passing the diversions. Rubicon SlipMeters were installed to provide accurate flow measurement (see photos below). The installation of the Supervisory Control and Data Acquisition (SCADA) system was completed in December 2019 to allow operation from NPPD's North Platte office. Construction was completed on December 12, 2019.

The entire grant amount of \$205,068 has been paid to the vendors.

Project Benefits

We believe the benefits anticipated in the application will be realized. The measurement structures will ensure that the proper amount of water is bypassing the river diversion structures and can be measured. Measuring flow using the existing river gates has an accuracy at low flows of approximately +/- 30-50%. The new gates will provide measurement accuracy of 5% or better. The benefit of the project is to protect against the risk of insufficient flows to NPPD's customers or other surface water users. This project will decrease that risk by more accurately measuring bypassed water than the current river gates would allow. Each structure will provide control, measurement, and documentation of water flows less than 100 cubic feet per second (cfs).

NPPD was prepared to use the new measurement structures to measure the Platte River Recovery Implementation Program's Environment Account (EA) Whooping Crane water releases in October-November 2019, but the EA water was routed through Central Nebraska Public Power & Irrigation District's system instead of using the river. During the summer of 2019, NPPD used the gates to aid in maintaining the pond level for canal diversions and plan to continue this practice into the future. Doing so allows for more accurate understanding of how much water is passing our diversions and available for downstream users. In dry times this information will be important for management of scarce supplies.

NPPD appreciates the partnership with the Water Sustainability Fund and looks forward to future partnerships.

Dawson County Canal Rubicon gate is on the right (upstream view):



Dawson County Canal Rubicon gate on the left (downstream view):



Gothenburg Canal Rubicon gate (upstream view):



Gothenburg Canal Rubicon gate (downstream view):

