

COLORADO RIVER RECOVERY PROGRAM
FY 2017 ANNUAL PROJECT REPORT

RECOVERY PROGRAM
PROJECT NUMBER: C-34

- I. Project Title: Orchard Mesa Canal Automation Project
- II. Bureau of Reclamation Agreement Number(s): NA
- III. Principal Investigator(s): Brent R. Uilenberg
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- IV. Abstract: The project consists of constructing a canal automation system composed of 33 canal check structures, 87 acre-foot regulating reservoir, pumping plant(s), upper/lower canal interconnect pipeline, replacement of open channel laterals with pressurized pipelines and integrated SCADA system. The objective of the canal automation system is to reduce the volume of water diverted from the Colorado River for irrigation use by the Orchard Mesa Irrigation District and to redirect this water to generate more hydroelectric energy thereby indirectly improving flows in the Colorado River. Very conservative estimates indicate that ~17,000 acre-feet of water can be redirected to improve instream flows in the 15-Mile Reach of the Colorado River.
- V. Study Schedule: Preliminary project planning was initiated in the early 1990's using Reclamation's General Investigation Program. Project planning, preliminary designs, permitting, O&M contract execution and NEPA compliance were completed in FY 2013. Final designs for individual project components are being prepared as implementation proceeds in order to modify components based on operational experience. Project construction was initiated in FY 2013. Construction of all 33 canal check structures was completed during the winter of 2013-2014. These facilities were operated throughout the subsequent irrigation seasons. A construction contract for the regulating reservoir was awarded in FY 2016. Construction of this facility was completed in June of 2017 and placed into operation in July following a 30 day monitoring period after first fill of the reservoir. Construction completion of the entire canal automation project is currently scheduled for FY 2019 depending upon Federal appropriations; however, the majority of projects benefits will be realized now that the regulating reservoir has been placed into operation.
- VI. Relationship to RIPRAP: Colorado River Action Plan: Mainstem I.A.5.m.(1) Orchard Mesa Irrigation District (OMID) Canal Automation
- VII. Accomplishment of FY 2017 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings: Construction of the regulating reservoir was completed and placed into operation in July 2017. At the time of this report, Colorado State Engineer Division 5 diversion records for the 2017 irrigation season have not been released; however, based on 2017 canal operations observations, we anticipate a substantial reduction in irrigation

diversions. Attached is a preliminary summary of pre- and post-project results for the 2014 through 2016 irrigation seasons.

- VIII. Additional noteworthy observations: Our intent is to analyze 2017 and 2018 canal operations to make informed decisions on how best to complete the project within the approved \$16.5 million project budget while optimizing future project benefits. Based on this analysis, designs will be prepared for remaining project components which will be constructed during the winter of 2018-2019.
- IX. Recommendations: Continue to adjust project scope to optimize benefits within available approved budget. Pursuit of additional water supplies to augment flows in the 15-Mile Reach may be necessary to achieve flow recommendations on a more consistent basis and should be considered in the overall framework of habitat needs to support recovery.
- X. Project Status: With the recommended schedule, the project will be completed approximately 3 years behind the initial project schedule.
- XI. FY 2017 Budget Status
 - A. O&M Funds Provided: \$37,592.21
 - B. O&M Funds Expended: \$37,592.21
 - C. Difference: \$0.00
 - D. Percent of the FY 2017 work completed, and projected costs to complete: 100%
 - E. Recovery Program funds spent for publication charges: \$0
- XII. Status of Data Submission (Where applicable): NA
- XIII. Signed: Brent R. Uilenberg November 8, 2017
Principal Investigator Date

APPENDIX:

Preliminary Orchard Mesa Canal Automation Project Post Project Monitoring Results

YEAR	OMID Irrigation Diversions (<i>Includes Hydraulic Pumps</i>) (Acre- Feet)	OMID Power Plant Diversions (Acre-Feet)	OMID Total Diversions (Acre- Feet)	Delta Irrigation Diversions (Post- Project Individual Year minus Pre-Project Average)	Delta Power Plant Diversions (Post- Project Individual Year minus Pre-Project Average)
2004	147,491	182,996	330,487	NA	NA
2005	158,508	193,664	352,172	NA	NA
2006	131,155	373,785	504,940	NA	NA
2007	157,698	351,243	508,941	NA	NA
2008	161,642	179,423	341,065	NA	NA
2009	164,287	351,110	515,397	NA	NA
2010	156,291	363,810	520,101	NA	NA
2011	147,304	307,955	455,259	NA	NA
2012	157,716	238,568	396,284	NA	NA

2013	141,568	226,607	368,175	NA	NA
2014	140,115	342,317	482,432	(12,251)	65,401
2015	151,478	404,265	555,743	(888)	127,349
2016	145,482	362,893	508,375	(6,884)	85,977
Average	150,826	298,357	449,182		
Median	151,478	342,317	482,432		
Standard Deviation	9,289	78,494	76,784		

Pre-Project period of Record (2004 - 2013)

Average	152,366	276,916	429,282
Median	156,995	273,262	425,772
Standard Deviation	9,768	76,279	75,313

Post-Project Period of Record (2014 -2016)

Average	145,692	369,825	515,517
Median	145,482	362,893	508,375
Standard Deviation	4,641	25,761	30,352

Delta (Post-Project minus Pre-Project)

Average	(6,674)	92,909	86,235
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