

RESOURCE AND ENGINEERING PLANNING COMMITTEE

MINUTES August 6, 2020

A meeting of the Resource and Engineering Planning Committee was held on Thursday, August 6, 2020 at 10:00 a.m. at the District Office, 31717 United Avenue, Pueblo, Colorado via video conferencing.

Chairman Mitchell announced a quorum was present.

COMMITTEE MEMBERS PRESENT:

Curtis Mitchell – Chairman, Seth Clayton – Vice-Chairman, Andy Colosimo, Pat Edelmann, Tom Goodwin, and James Broderick

COMMITTEE MEMBERS ABSENT AND EXCUSED:

None

OTHERS PRESENT:

Jenny Bishop, Colorado Springs Utilities; Paul Warren, Dave Jurich, John Dawson, and John Chesterton, Mott MacDonald; Mike Carnevale, Carnevale Environmental Consulting, LLC; Greg Felt, Alan Hamel, Mark Pifher and Dallas May, Southeastern Colorado Water Conservancy District (District) Board; Kevin Meador, Garrett Markus, Margie Medina, Lee Miller, Leann Noga, Patty Rivas, and Chris Woodka, District staff.

APPROVAL OF MINUTES:

Chairman Mitchell asked for approval of the July 9, 2020 minutes, and if there were any corrections or additions. Hearing none, Seth Clayton moved, seconded by Tom Goodwin to approve the minutes. Motion passed unanimously.

PRESENTATIONS:

JAMES W. BRODERICK HYDROPOWER PLANT UPDATE

Kevin Meador reported, the James W. Broderick Hydropower Plant (JWBHP) generated at 90 percent of full capacity in June 2020. Following is a summary of the operations:

Month	Scheduled (MWh)	Delivered (MWh)
Jan	744	732
Feb	696	556
Mar	1,860	2,169
Apr	3,544	3,500
May	5,012	4,021
June	5,232	5,122
July	5,030	4,836

The average daily generation in July was 6.8 MWh (scheduled) and 6.5 MWh (delivered) MWh per day compared to the average expected output for July of 5.0 MWh per day or 136 percent and 130 percent of average capacity, respectively.

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Flows during June were in the range of 650-920 cubic feet per second (cfs). Flows are expected to decrease in August as the dam releases begin to decrease.

Revenue generated in July are estimated at \$255,200 compared to an average July generation of \$187,000 or 136 percent of average. Cumulative revenue through July was \$1,114,100 compared to average budgeted revenue of \$839,700 or 133 percent of average. The figures were shown of the actual generation compared to the average generation for the year and the cumulative generation for the year-to-date.

RECOVERY OF STORAGE STUDY UPDATE

Mott MacDonald's firm presented findings in the draft final report to the Committee for review and will discussed methods and cost ranges to recover storage and prevent more losses in the future. The team worked with staff during the month of July to review engineering data and field investigations.

Chris Woodka introduced John Dawson, Engineering Manager, with Mott MacDonald. David Jurich who provided bac ground of the firm and introductions of those that worked on the study, Warren Paul, Project Manager; Tom Coultas, Cost Estimating, subcontractors Mike Carnevale with Carnevale Environmental Consulting, LLC, permitting expert; ERC provided aquatic ecology and biology expertise; and Anderson Consulting Engineers, Inc. providing geomorphology expertise. Mott MacDonald's expertise is exposed to dams and rivers; buildings; water resources; tunnels; posts and costal; environment; highways and bridges; rail and transit; aviation; power; oil and gas; water and wastewater.

Paul Warren, Chief Engineer for dams and hydroelectric, provided the overview broken into 10 tasks:

- Task 1: Project Management
- Task 2: Initiation Kick-off Meeting
- Task 3: Document Review and Data Gaps Analysis
- Task 4: Project Site Visit and Field Investigation
- Task 5: Project Baseline
- Task 6: Formal Progress Update
- Task 7: Environmental Assessment
- Task 8: Engineering Assessment
- Task 9: Review Meeting
- Task 10: Final Report

John Dawson gave the Basis of Assessment regarding **Task 5**, Capacity Loss by Storage Allocation using the Bureau of Reclamation Area-Capacity Analysis Program (ACAP) ultimately indicating a 19,747 acre-foot capacity loss within flood control, joint use pool, active conservation, inactive pool and dead space. The ACAP data applied top of pool elevation, original capacity, 1993 capacity, 2012 capacity, and 2015 capacity. In another graph the data was presented using the Bureau of Reclamation Bathymetric Survey Data Analysis of Pueblo Reservoir Longitudinal Profiles Original 1993 and 2012 Comparison. Sediment Yield/Annual Sediment Loss using two periods, January 1974 to May 1993-Period 1, and May 1993 to May 2012-Period 2, indicated approximate sediment volume deposited per annum (cubic yards) of 800,000.

Task 7 the Environmental Assessment Report Overview and Conclusions used documents assembled to supplement Engineering Assessment and assess potential permitting frameworks, environmental

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impacts, costs, and timeline are developed for permitting two general alternatives. Agencies involved in this assessment are Bureau of Reclamation, Army Corps of Engineers (USACE), Environmental Protection Agency (USEPA), Fish and Wildlife Service (USFWS), Colorado Parks and Wildlife (CPW), Colorado Department of Public Health and Environment (CDPHE), and State Historic Preservation Offices (SHPO). Alternative 1, Storage Recovery via dredging and excavation indicated up to \$10 million in cost, up to 3 to 5 years to complete. Alternative 2, Reservoir Expansion via Dam raise anticipated costs to be \$10-30 million taking 10-15 years to complete.

Task 8 of the Engineering Assessment used four main methodologies within SRAR for the Pre-screening Process:

- Reservoir Storage Recovery
- Reservoir Sustainability
- Reservoir Expansion
- Reservoir Storage Operations

Postponed Alternatives for Future Consideration and Study were categorized by storage recovery, reservoir sustainability and new storage identifying an alternative/methodology and reason(s) for Postponement.

Selected Alternative for Assessment for Storage Recovery/Reservoir Sustainability:

Alternative 1 – no action

Alternative 2 – dredging for complete storage recovery of the active conservation and inactive storage pools, approximately 17,630 acre-feet increase.

Alternative 3 – dredging for partial storage recovery and sediment passthrough (turbid density current venting), approximately 2,850 acre-feet increase

Selected Alternative for Assessment for Reservoir Expansion:

Alternative 4 – dam raise to achieve approximately 25,000 acre-feet increase

Alternative 5 – dam raise to achieve approximately 65,000 acre-feet increase

Alternative 6 – dam raise to achieve approximately 75,000 acre-feet increase

Pueblo Reservoir water surface (forebay) elevation timeframe of January 2015 to June 2020 figures produced timeseries plot of all data, exceedance curve utilized all data, exceedance curve utilities all work window data. Graph's and images of the reservoir show elevation data, and dredging/excavation zones of the thalweg area. Dredge volume as an Alternative 2 for Example Storage Analysis was presented for dry excavation, hydraulic cutterhead (highest volume), and cable rig.

Lastly, preliminary cost and schedule assessment results were presented for alternatives 1-6.

Alternative 1 – No Action \$0,

Alternative 2 – complete storage recovery via dredging and excavation \$840.6M,

Alternative 3 – partial storage via dredging and excavation with density current venting through Pueblo Dam \$108.4M,

Alternative 4 – dam raise to achieve 25,000 acre-feet increase in storage capacity \$85.1M,

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Alternative 5 – dam raise to achieve 60,000 acre-feet increase in storage capacity \$127.3M,
Alternative 6 – dam raise to achieve 75,000 acre-feet increase in storage capacity \$157.0M.

There was discussion about combining alternatives, and developing an emergency action plan regarding forest fires.

ACTION ITEMS:

PHASE 1 FEATURE (ASSET) VALUATION DRAFT REPORT APPROVAL

Garrett Markus informed the Committee that at the July 9, 2020 Committee meeting, *The Phase 1 Feature Valuation* draft report was with the comments addressed from the previous meeting.

Pat Edelman moved to recommend the Enterprise Board approve the Phase 1 Feature Valuation draft report as final upon suggested edits. Tom Goodwin seconded the motion. Motion passed unanimously.

INFORMATION ITEMS:

None

OTHER BUSINESS

None

NEXT MEETING

September 10, 2020 at 10:00 a.m.

ADJOURN

Chairman Mitchell adjourned the meeting at 11:04 a.m.

Respectfully submitted,

Garrett J. Markus, P.E.

Water Resources Engineer