



**COLORADO**  
**Colorado Water Conservation Board**  
Department of Natural Resources

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**TO:** Colorado Water Conservation Board Members

**FROM:** Alexander Funk, Agricultural Water Resources Specialist  
Interstate, Federal, and Water Information Section

**DATE:** May 1, 2019

**AGENDA ITEM:** 9. Paonia Dam Outlet Works Modification MOA Reallocation Request

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#### Background:

In 2011, the Upper Colorado River Division States (Colorado, Wyoming, Utah, and New Mexico), the United States Bureau of Reclamation (Reclamation), the United States Department of Energy Western Area Power Administration, and the Colorado River Energy Distributors Association (CREDA) signed a Memorandum of Agreement (MOA) authorizing the use of the Upper Colorado River Basin Fund (Basin Fund) to further the purposes of the 1956 Colorado River Storage Project (CRSP) Act (Public Law 485). The MOA created a mechanism for the Upper Division States to access excess hydropower revenues for operations, maintenance and replacement costs (OM&R) for congressionally authorized CRSP Participating Projects (herein "Participating Projects") and to reduce the impact on the CRSP firm power rate by eliminating the collection of power revenues beyond that amount needed to repay the costs of the existing projects through Fiscal Year (FY) 2025. The Colorado Water Conservation Board (CWCB) represents Colorado in the implementation of the MOA and is responsible for ongoing project evaluation and prioritization.

At the March 2019 Board Meeting, the Board approved the CRSP MOA Project Budget Adjustment Guidance (attached). This document outlines the process for CWCB staff to apply when considering project budget adjustment requests moving forward. When a Participating Project has an approved project budget that requires additional CRSP MOA funds, Reclamation must obtain Colorado's approval. The CWCB Board must approve any budget adjustment in excess of \$250,000 due to the potential for impacting other approved MOA projects and Colorado's unobligated MOA funds.

#### Discussion:

The CRSP Paonia Project includes Paonia Dam and Reservoir and enlargement and extension of Fire Mountain Canal. The Paonia Project provides full and supplemental irrigation water supplies for 15,300 acres of land in the vicinity of Paonia and Hotchkiss. Paonia Dam and Reservoir are located on Muddy Creek, a tributary of the North Fork Gunnison River. Based on recent surveys, the estimated average annual rate of sedimentation has been 101 acre-feet per year. Since 1962, nearly 25% of the reservoir's original capacity has been lost to sediment deposition, leaving less room to capture water for storage or for flood prevention.

In 2010, the dam outlet works intake structure became plugged with sediment and debris and sustained significant damage, which impacts the operation and maintenance of the reservoir. In 2017, repairs



were made to the intake structure, but these repairs only provided a means to temporarily stabilize the intake structure until a longer-term solution is implemented.

Reclamation approved \$7,800,000 in MOA funds for modification of the outlet works to improve sediment removal and maintenance and provide access to the intake structure to allow for easier maintenance of the structure. The scope of the project includes: installing four high-pressure gates and an air relief vent system, installation of bulkhead gate to facilitate construction, installation of a new trashrack on top of the intake structure inlet, and repair any damaged concrete in the upstream tunnel and downstream of the gate chamber. The new high-pressure gates and air relief vent system will help restore the full function of reservoir releases, which are currently limited due to the damage to the outlet works. These improvements will also minimize damage at the inlet structure at low reservoir levels and provide the opportunity of altering future reservoir release operations in order to minimize further sediment accumulation and reduction in further storage.

Following 90% design, project stakeholders determined that the estimated construction contract would range between \$6.2 and \$7.6 million. In addition, remaining non-contract/administrative costs were estimated at \$1.3 million. Collectively, the new estimated total cost is \$10.7 million, an increase of \$2.9 million, with a remaining balance of \$8.9 million (includes expenditures to date). Following a phone discussion with CWCB staff, Reclamation, the Colorado River Water Conservation District, North Fork Water Conservancy District, and Fire Mountain Canal and Reservoir Company, all stakeholders agreed that the outlet works project is a top priority based on criteria developed by the Board and to reallocate funds from other previously approved Paonia MOA projects. On April 18<sup>th</sup>, Reclamation sent CWCB staff a written request to reallocate \$2.9 million from previously approved MOA projects for the Paonia Dam Outlet Works Modification project. This reallocation will have no to little impact on previously approved MOA projects outside of the Paonia CRSP system or Colorado's remaining MOA allocation.

**Staff recommendation:**

Staff recommends that the CWCB Board approve the proposed Paonia Dam Outlet Works Modification Project MOA reallocation request.

**Attachments:** CRSP MOA Project Budget Adjustment Guidance, Paonia Dam Outlet Works Modification Project Reallocation Request



***CRSP MOA Project Budget Adjustment Guidance***  
*CWCB's Process for Addressing MOA Project Budget Increases*  
*Colorado Water Conservation Board Approved on March 21, 2019*

***Introduction***

Colorado has 39 approved MOA projects that were approved between 2012 and 2016. These projects were often submitted and approved with budgets that are now out of date or failed to account for Reclamation's non-contract and administrative costs to be charged to the projects. Eight years into implementation, materials are more costly than originally estimated. Additionally, Reclamation's design and technical services have proved more expensive than private sector alternatives and subject to lengthy delays, further increasing costs. These factors—along with project-specific nuances—have resulted in many MOA projects exceeding their budgets and requiring more funds than originally anticipated. This has placed considerable pressure on Colorado's overall MOA allocation and the ability to implement priority projects.

This document outlines the process for CWCB staff to apply when considering project budget adjustment requests going forward.

***Guidelines for MOA Project Budget Adjustments***

When a Participating Project has an approved project budget that requires additional CRSP MOA funds, Reclamation must obtain Colorado's approval. The steps set forth below provide a sequence for CWCB staff to follow when considering project budget adjustments.

- (1) CWCB staff will first confirm that the project remains a priority by consulting Colorado's MOA project prioritization list, a document that is updated annually and in accordance with the criteria adopted by the CWCB Board in March 2015 and as amended in March 2019.
- (2) If the project is determined by CWCB staff to still be a priority to be funded using MOA funds, CWCB will work with Reclamation and the appropriate Project Beneficiaries to determine if the project design or scope can be revised in order to remain within the budget originally approved by Reclamation.
- (3) If the project design and scope have been revised and there is still a need for a budget adjustment and/or if Reclamation's budget adjustment request to the originally approved budget is determined by CWCB staff to be necessary, reasonable and within the scope of the project as submitted by CWCB and approved by Reclamation, CWCB

staff will then assess whether the budget adjustment request could be met by reallocating the Participating Project's unobligated funds from that Participating Project's other pending or active, approved MOA projects. CWCB staff will consult Participating Project representatives and Project Beneficiaries as needed regarding any potential reallocation of unobligated funds as needed. If unobligated funds exist within the subject Participating Project's pending or active approved projects, CWCB staff may first look to redirect such unobligated funds from the pending or active projects to cover the requested budget adjustment. If the unobligated funds from pending or active approved projects within the subject Participating Project are insufficient to cover the entire requested budget adjustment, unobligated funds remaining from any completed but not yet closed projects within the subject Participating Project that have not yet been returned to the State of Colorado's general MOA allocation will then be considered. If CWCB staff determines that unobligated funds from the completed but not yet closed project(s) are available, CWCB staff may elect to redirect those excess funds to cover the budget adjustment request.

- (4) If CWCB has evaluated and/or taken all the actions identified above and determined Reclamation has acted in good faith to avoid or reduce the amount of the requested budget adjustment, and there still exists a reasonable and necessary request for all or some portion of said budget adjustment, CWCB will once again consult with Reclamation and the appropriate Project Beneficiaries to determine where project scope can be revised or other cost savings can be found and/or, identify alternate funding sources.
- (5) If no alternate funding sources are identified and all of these steps have been taken, CWCB staff will evaluate the availability of Colorado's general MOA allocation. If CWCB staff determines that there are sufficient unobligated funds from Colorado's general MOA allocation for the requested budget adjustment and circumstances warrant accessing these funds, CWCB staff may elect to allocate those funds to the project.
- (6) If all previous steps have been taken and are not sufficient to ensure successful completion of the project, CWCB staff will consult with Reclamation and Project Beneficiaries to discuss the possibility that work may need to cease until additional sources of funds are identified and secured.

At no time are funds for all approved projects to exceed Colorado's entire MOA allocation.

CWCB staff will require that all budget adjustment requests are submitted in writing, via email and that no verbal or text requests for budget adjustments in any amount will be considered.

CWCB staff, based on the direction of the Board, has the discretion to render decisions for any budget adjustment requests that are less than \$250,000.00. For those budget adjustment requests in excess of \$250,000.00, approval must first be obtained from the CWCB Board. CWCB staff will require that all budget adjustment requests will be submitted by Reclamation no less than five days after Reclamation first learns of the potential need for any proposed budget adjustment. Budget reallocation requests greater than \$250,000, requiring Board approval will require additional time for approval and must be made at least a month in advance of a regularly scheduled CWCB Board meeting.

In no case shall funds in excess of the originally approved amounts will be applied to projects until the necessary project review and approvals have been obtained.

*North Fork Water Conservancy District and Fire Mountain Canal Company*

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PROPOSED PROJECT JUSTIFICATION

**Item/Activity:** Paonia Dam Outlet Works Modification: Modification to previously approved project for increased costs.

**State:** Colorado

**Project Manager:** Ed Warner, Western Colorado Area Manager

**Federal Project or Program:** Paonia Project, a CRSPA project

**Legislative Authority:** (P.L. 84-485, Colorado River Storage Project Act; April 11, 1956 )

**Origination Date:** September 15, 2011 (Original Date Justification was prepared)

**Revision Date:** April 17, 2019 (Modification to FY2016 Approved Proposal)

**Estimated Cost:** The request is to re-allocate funds from previously approved projects such as “Fire Mountain Canal Safety Improvements” or “Replace Fire Mountain Canal Diversion Structure” listed in the Paonia project’s FY2016 approved proposal. The following table is the estimated cost for the outlet works modification. It does not include any costs for additional sediment monitoring, which will need to be included in a future project revision.

Estimated Construction Contract	Range \$6,200,000 to \$7,600,000
Non-contract cost for construction	\$1,300,000
Approximate Costs to Date (April 2019)	\$1,800,000
Total	\$10,700,000

**Project Type:** The proposal is for a change in cost of the original project, which had minimal description and cost details.

**Description of Item:** The scope for this project includes: furnishing/installing 4 high pressure gates; furnishing/installing air trap and air relief piping; furnish/install bulkhead gate to facilitate construction; furnish/install new trashrack on top of inlet (side trashracks not being replaced); repair any damaged concrete in upstream tunnel; repair damaged concrete downstream of gate chamber; remove gate chamber wall and replace with aluminum barrier for access to gate chamber; install concrete platform downstream of gate chamber to facilitate construction; replace damaged ladders and air vent in gate chamber and access shaft.

**Construction/Installation Schedule:** The construction for the project will take place between November 1, 2019 and May 1, 2021, during the non-irrigation seasons. We anticipate contract award prior to October 2019.

**Condition:** The Paonia Dam needs “extraordinary maintenance” related to water delivery and modernization. The existing high pressure gates have had problems and have not been upgraded since original project construction over 50 years ago. There is one gate that has been taken out of operation due to concerns of its’ viability and potentially getting stuck in the closed position.

**Cost Effectiveness:** Not applicable

**Benefits:** Provide new high pressure gates and an air relief vent system in order to restore the full function of reservoir releases. This will also minimize damage to the inlet structure at low reservoir levels and provide the opportunity of altering future reservoir release operations in order to minimize further silt accumulation (maintain current reservoir storage capacity) in the reservoir.

**Alternatives Considered:** Evaluated repairing the high pressure gates, but opted to replace the gates as there is very little cost difference.

**Recommended Alternative:** Proceed with existing design and revised cost estimate.

**Impacts if Schedule Delayed:** Delays would result in construction being postponed and further the risk level of the remaining 3 gates becoming inoperable.