

# RECLAMATION

*Managing Water in the West*

FONSI NO. 2016-01  
Project No. 2015-01

## Pueblo Hydropower Project Environmental Assessment

**Finding of No Significant Impact**

Approved: *J. Signe Swartzland* Date: *June 7, 2016*



U.S. Department of the Interior  
Bureau of Reclamation  
Great Plains Region  
Eastern Colorado Area Office

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# FINDING OF NO SIGNIFICANT IMPACT

In accordance with the National Environmental Policy Act of 1969, as amended, and the Council on Environmental Quality's Regulations for implementing the procedural provisions of the National Environmental Policy Act (40 CFR Part 1500-1508), the Bureau of Reclamation has prepared an environmental assessment for the Pueblo Hydropower Project of the Fryingpan-Arkansas Project. The environmental assessment analyzes a No Action and Proposed Action alternatives. Based on the following, Reclamation has determined that the Proposed Action will not result in a significant impact on the human environment.

## Background

Reclamation constructed the Fry-Ark Project as a multipurpose transmountain, transbasin water diversion and delivery project in Colorado. The Fry-Ark Project is divided into West-Slope and East-Slope components separated by the Continental Divide. Pueblo Reservoir provides terminal East-Slope storage for the Fry-Ark Project.

The Southeastern Colorado Water Conservancy District (SECWCD) was established in 1958 and assumed the responsibility to repay reimbursable costs associated with the construction, operation, and maintenance of the Fry-Ark Project. SECWCD holds most of the water rights for the Fry-Ark Project and annually allocates supplemental water from the Fry-Ark Project for use by:

- 1) Municipal and domestic water suppliers on the Eastern-Slope of Colorado, and
- 2) Various private and mutual ditch companies.

Reclamation owns and operates all Fry-Ark Project facilities. The U.S. Forest Service manages recreation, fish and wildlife facilities, and resources at Ruedi Reservoir, Turquoise Lake, and Twin Lakes. At Pueblo Reservoir, fish and wildlife, recreation and land-based resources are managed by the Colorado Division of Parks and Wildlife (CPW) under agreements between the State of Colorado and Reclamation.

## Purpose and Need

A Lease of Power Privilege (LOPP) is needed to permit a non-federal entity to use a Reclamation facility for electric power generation. The LOPP would ensure that the development and operation of hydropower will be implemented consistent with establish authorities, purposes, and water operations of the Fryingpan-Arkansas Project. Current Federal policy encourages non-Federal development of environmentally sustainable hydropower potential of Federal water resource related projects.

SECWCD, Board of Water Works of Pueblo, and Colorado Springs Utilities (collectively referred to as "Project Partners") have requested approval to develop hydropower at the federally-owned Pueblo Dam. Under the Proposed Action, Reclamation would execute a Lease of Power Privilege (LOPP) with the Project Partners. The LOPP would authorize the use of

federal lands, facilities, and Fryingpan-Arkansas Project water to construct, operate, and maintain a 7 megawatt (MW) hydropower plant and associated facilities at Pueblo Dam.

On February 27, 2012, a Preliminary Permit for Lease of Power Privilege (Preliminary LOPP) between Reclamation and the Project Partners was executed to formally recognize their priority for a LOPP while they conducted investigations and secured data to determine the feasibility of the Pueblo Hydropower Project. The Preliminary LOPP also provides for cost-reimbursement to Reclamation for NEPA compliance, engineering review, and development of the LOPP. The LOPP must accommodate existing contractual, water delivery, power generation, and environmental commitments associated with operations of Pueblo Dam and the Fry-Ark Project. The Preliminary Permit has been amended several times, and is valid through August 27, 2016, (see Attachment B). On February 18, 2016, SECWCD submitted a written request to Reclamation to extend the permit an additional 6 months.

## **Project Alternatives**

### No Action Alternative

Under the No Action Alternative, Reclamation would not issue a LOPP and hydropower development at Pueblo Dam would not occur at this time.

### Proposed Action

Under the Proposed Action, Reclamation would execute a LOPP to permit the Project Partners to construct a 7 MW hydropower plant and associated facilities at Pueblo Dam. Project Partners also propose to execute an operations and maintenance contract with Colorado Springs Utilities to provide all necessary personnel for operation, maintenance activities, and facilitate coordination between Reclamation and the Project Partners. The hydropower plant would use flows as they are released from Pueblo Dam's north outlet works, generate power, and immediately return these flows to Arkansas River downstream of the dam. The hydropower plant would be constructed along the north bank of the Arkansas River approximately 500 feet (ft.) downstream of Pueblo Dam. About 1.4 miles of new power and fiber-optic lines would also be constructed to connect the hydropower plant to the existing Black Hill's Pueblo Reservoir Substation.

## **Findings**

In the attached environmental assessment, Reclamation evaluated the environmental consequences associated with implementing the Proposed Action. A brief summary of the environmental effects of the Proposed Action is listed below.

There would be no impacts to Fryingpan-Arkansas Project operations and water resources, threatened and endangered species, historic properties, paleontological resources, environmental justice, and Indian trust assets. The Proposed Action would have no effect to known historic properties and paleontological resources. The environmental commitments include "stop work" clauses in the event resources are discovered during construction.

Energy and Socioeconomic Conditions—The Proposed Action will produce about 19,000 megawatt-hours of clean, renewable energy per year to meet current and future energy demands within the Mountain Parks’ service area. The Proposed Action would provide for a temporary increase in construction jobs, increases in employment/tax revenues, and provide long-term benefits to Project Partners resulting from the sale of power.

Water Quality and Wetlands—The Proposed Action will result in minor impacts to water quality during construction of the hydropower plant and associated facilities. A temporary cofferdam would be constructed to isolate and dewater the construction area. The Army Corps of Engineers has authorized the Pueblo Hydropower Project under Nationwide Permit No 17. National Pollutant Discharge Elimination System (NPDES) permitting would also be required for construction and possibly for sump and stormwater discharges to the Arkansas River. Implementation of best management practices (BMPs) and NPDES permit conditions would minimize and/or eliminate any temporary changes to water quality. The Proposed Action would have no effect on jurisdictional wetlands.

The Project Partners will also monitor dissolved oxygen (DO) in the Arkansas River immediately downstream of the hydropower plant. Baseline DO concentrations will be monitored prior to operating the hydropower plant in consultation with CPW. The DO monitoring site will be downstream of the hydropower project’s construction footprint at a mutually acceptable location. Although not anticipated, if hydropower operations cause DO concentrations to drop below baseline concentrations, immediately downstream of the hydropower plant, the project proponents would install and operate an aeration system to mitigate the decreased DO.

Fisheries Resources—The volume and pattern of releases from Pueblo Dam will not change. As a “run of dam” operation, the hydropower facility would utilize the existing Pueblo Dam outlet structure and draw water at the same location.

There would be no changes in available habitat downstream of the Juniper Road Bridge. When the hydropower plant is the sole discharge downstream, water would back up in the outlet channel and fluctuate based on water surface elevations in the hydropower facility afterbay. The range of the hydropower plant operation elevations and flows are 4,738.5 ft. to 4,740.7 ft. and 65 cubic feet per second (cfs) to 734 cfs. This would result in a small reduction of available habitat immediately downstream of the dam outlet works and the hydropower plant’s afterbay.

Neither the proposed Francis turbines nor the existing fixed-cone valve dam outlet structure are particularly fish friendly. Studies suggest that dam releases through the proposed hydropower plant may reduce existing fish mortality by as much as 40 percent when compared to existing releases made through the fixed-cone valve. This could benefit the downstream fisheries and the Proposed Action is predicted to have minor effects to fisheries resources.

Wildlife and Vegetation Resources—The Proposed Action would result in temporary and minor impacts to wildlife and vegetation. Approximately 12 acres of vegetation and wildlife habitat would be temporarily disturbed during construction of the hydropower plant and associated facilities and would result in the permanent loss of about 1 acre for structures and other related

facilities. An additional 8.5 acres would be temporarily disturbed during construction of power and fiber optic lines. Where possible, new lines would be placed on existing poles. Project Partners would work directly with Reclamation and Colorado Parks and Wildlife to revegetate disturbed area and develop appropriate seed mixtures.

Recreation Resources—Reclamation’s issuance of the LOPP to Project Partners would have no long-term effects on recreation resources. The NOW and outlet channel downstream to the Juniper Bridge would be closed to public access during construction when necessary for public safety. All closures would be coordinated with CPW and incorporate signage as appropriate. Project Partners are also required to coordinate construction and maintenance activities with Pueblo Lake State Park staff to minimize potential conflicts with recreational users. Short-term affects to recreation resources would be negligible.

Historic Properties—Under Section 106 of the Historic Preservation Act, Reclamation made a determination that no historic properties would be affected by the Proposed Action. The Colorado State Historic Preservation Officer concurred with Reclamation’s determination on September 1, 2015. In the event that human remains or culture/paleontological resources are discovered during construction, the environmental commitments require ground disturbing activities to stop immediately and notification is made to Reclamation.

Air Quality and Noise—Minor changes in air quality associated with fugitive dust during construction may occur, but an active dust abatement program will be implemented to keep any changes to insignificant levels. The offset emissions associated with the reduction of carbon dioxide from and other greenhouse gases for hydropower power production are estimated between 39,439,710 and 41,345,010 pounds per year.

A temporary increase in noise levels associated with construction is anticipated. During operations, the turbines and generators will produce machinery noise, representing a new optional noise source. However, all equipment will be fully enclosed and is located at a considerable distance from recreation areas. When construction is complete, any changes in noise would be below detectable levels. The Proposed Action will not result in any significant long-term effects.

Visual Resources—Visual resources from Pueblo Reservoir and adjacent developed recreation areas would not be affected. Pueblo Hydropower Project effects on visual resources from downstream looking at Pueblo Dam would be negligible due to the relative size of the construction activities in the view, and the presence of other existing facilities and activities. A majority of the constructed hydropower plant would be below grade, blend in with the background, and would not significantly impact views of Pueblo Dam.

Cumulative Impacts—Cumulative impacts associated with continued operations and actions associated with Pueblo Dam, the Fry-Ark Project and Southern Delivery System were included in the analysis. This included contracts and actions associated with the Fry-Ark Excess Capacity, Winter Water Storage, Upper Arkansas Voluntary Flow Management, and Pueblo Flow Management programs. Reasonably foreseeable future actions include execution of the Master Contract with SECWCD and construction of the Arkansas Valley Conduit (AVC) Project

as a described in the AVC/Master Contract Environmental Impact Statement (EIS) and Record of Decision. The AVC Project includes the Pueblo Dam North-South Outlet Works Interconnect Conveyance Contract.

It is predicted that Proposed Action when added to these existing and future actions would not result in significant environmental effects. Construction, operation, and maintenance of the Pueblo Hydropower Project would not result in significant cumulative impacts.

The Proposed Action will result in providing an additional source of renewable energy, provide an increase in temporary construction jobs, and provide long-term benefit to Project Partners from the sale of approximately 19,000 MWH of power per year generated by the Pueblo Hydropower Project.

## **Environmental Commitments**

The following measures would be implemented and followed by Project Partners and their contractors. The LOPP will require that these commitments be followed and met. An environmental commitment plan will be prepared by Reclamation to document how environmental commitments and mitigation measures will be implemented during design, construction, and operation of the Pueblo Hydropower Project.

### General Commitments

1. There will be no changes in water releases from the Pueblo Dam solely for hydropower uses permitted under the LOPP. The hydropower plant will be operated as a “run of dam” facility based on dam release requirements and operations.
2. Existing access roads will be used to access the construction areas. No new access roads will be constructed.
3. Pueblo County Stipulations contained in the January 7, 2015, 1041 Permit FONSI are incorporated as environmental commitments. Any material change in the construction, use, or operation of the Pueblo Hydropower Project may require reconsideration of Pueblo County’s FONSI and a determination that a 1041 Permit is required.
4. Project Partners will request and receive permission from Reclamation a minimum of 5 working days prior to any earth disturbing activities to insure that all environmental commitments have been met or are in compliance.

### Fryingpan-Arkansas Project Operations and Water Resources

5. The construction and operation of the Pueblo Hydropower Project is required to be operated in a manner that does not interfere with operation and maintenance of Pueblo Dam, the Fry-Ark Project and its operating principles, and other existing contract obligations.
6. The Pueblo Hydropower Project is required to maintain Reclamation’s existing unrestricted access to the dam during both construction and operation.

7. Water released to deliver irrigation and M&I supplies, dam releases, and dam maintenance access will be maintained during construction at all times.

#### Water Quality & Wetlands

8. Erosion-control BMPs for drainage and sediment control will be implemented to prevent or reduce non-point source pollution during and following construction. Examples are included in the Final Environmental Assessment as Attachment H.
9. Fuel storage, equipment maintenance, and fueling procedures will be developed to minimize the risk of spills and the impacts from these incidents. No fuel storage, equipment maintenance, or fueling will occur within 100 ft. of wetlands or waters of the U.S. A Spill Prevention Control and Countermeasure Plan will be prepared prior to construction.
10. Prior to construction, Project Partners will be responsible for obtaining all required federal, state, or local permits to construct and operate the project, including permits under the Clean Water Act (Section 402 and 404 permits) which may be needed for dewatering and other discharge activities during construction and operations.
11. Project Partners will install and operate a monitoring station in the Arkansas River immediately downstream of the hydropower plant. The station will monitor DO concentrations before and after construction. If hydropower plant operations cause DO concentrations to drop below baseline conditions, Project Proponents would install and operate an aeration system to mitigate decreased DO concentrations, after additional consultation with Reclamation and CPW.

#### Wildlife & Vegetation

12. Project Partners will be responsible for noxious weed control within the limits of the facility for the life of the project. Project Partners are responsible for consultation with Reclamation for acceptable weed control methods, including pesticides/herbicides approved for use on public land. Use of herbicides will comply with the applicable federal and state laws. Herbicides will be used only in accordance with their registered uses and within limitations imposed by the Secretaries of the Interior and Agriculture. Disturbance to nearby shrubs and other ground cover will be kept to a minimum, with disturbance occurring only in those areas which are absolutely necessary for project construction. Project Partners will provide a report to Reclamation on the brands and quantities of pesticides/herbicides used. The Project Partners will submit copies of State of Colorado pesticide/herbicide application forms to Reclamation on a quarterly basis, after initiation of construction.
13. All construction equipment shall be power-washed and free of soil and debris prior to entering the construction site to reduce the spread of noxious and unwanted weeds.
14. Topsoil, where available, will be stockpiled during construction for later use in re-vegetation. Disturbed areas will be contoured to reduce erosion and facilitate re-vegetation. Disturbed areas will be re-seeded. The plan for re-vegetation and related

erosion control/re-contouring will be coordinated with CPW and require approval by Reclamation.

15. All new power lines and power poles will follow the recommended standards as outlined in the *Avian Protection Plan Guidelines* developed by the U.S. Fish and Wildlife Service and Industry (Edison Electric Institute 2005).
16. Reclamation and the Project partners will coordinate activities with the CPW biologist to determine if any identified osprey nest is active prior to commencing with construction of the underground power and fiber-optic line and determine if timing restrictions are appropriate. Typical timing restrictions include no construction within 0.25 miles of an active osprey nest between May 1<sup>st</sup> and September 1st.

#### Threatened & Endangered Species

17. In the event of discovery of threatened or endangered species, Project Partners and their contractors will immediately cease all ground-disturbing activities in the vicinity and notify Reclamation. Work will not be resumed until approved by Reclamation.

#### Recreation

18. Project partners will coordinate construction and maintenance activities with Pueblo Lake State Park staff to minimize potential conflicts between recreational users.

#### Historic Properties

19. In the event that possible human remains or cultural/paleontological resources are discovered during ground-disturbing activities associated with the Proposed Action, whether on the surface or subsurface, all ground-disturbing activities in the vicinity of the discovery shall cease and Reclamation's Eastern Colorado Area Office archaeologist shall be notified immediately. Ground-disturbing activities in the vicinity of the discovery shall not be resumed until approved by Reclamation.
20. If any additional areas of impact (for example: borrow pits or waste areas) are identified during the course of construction, additional National Historic Preservation Act compliance may be required prior to the approval of any ground-disturbing activities.

#### Air Quality & Noise

21. Dust abatement BMPs will be undertaken in all areas disturbed during construction (See Attachment H of the Final Environmental Assessment).

#### Visual Resources

22. Powerhouses and substations will be non-reflective and painted to blend with the project area background and meet Reclamation and CPW requirements.