

Hydropower Project License Summary

ANIMAS RIVER, CO

TACOMA HYDROELECTRIC PROJECT (P-12589)



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Hydropower Reform Coalition

And

River Management Society

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TACOMA HYDROELECTRIC PROJECT (P-12589)

DESCRIPTION:

The Tacoma Hydroelectric Project is located in Southwestern Colorado, 20 miles north of Durango. The Project currently occupies lands within the San Juan National Forest. Water for operation of the facilities originates from three drainage basins: Cascade Creek, Little Cascade Creek, and Elbert Creek. The main water storage reservoir is Electra Lake. The project includes four dams: Cascade Creek Diversion Dam, Aspaas Dam, Stagecoach Dam, and Terminal Dam. The project is affected greatly by the amount of precipitation occurring during the winter months.

A. SUMMARY

1. License application filed: June 25, 2008
2. License issued: January 29, 2010
3. License expiration: July 1, 2050
4. Capacity: 12 MW
5. Waterway: Cascade Creek, Little Cascade Creek, and Elbert Creek
6. Counties: La Plata and San Juan Counties
7. Licensee: PSCo, a wholly-owned subsidiary of Xcel Energy, Inc.
8. Licensee contact: Public Service Company of Colorado (PSCo)
 4060 E Bijou St
 Colorado Springs, CO 80909
 Email: info@tacoma-ames.com
9. Project website: <http://www.tacoma-ames.com/tacoma/default.htm>
10. Project area: The existing project boundary encompasses a 1640 by 600 foot area on Cascade Creek, then follows a 100 foot right-of-way to Columbine Lake. There, the project boundary follows a 50-foot contour above the high water mark. From Columbine Lake, there is a 300-foot right-of-way along Little Cascade Creek to Aspaas Lake. The project encloses both Aspaas and Electra Lakes at a minimum of 400 feet above the normal maximum elevation. Along the floodgate from Terminal dam, the boundary again follows a 100-foot right-of-way, expanding around Forebay Lake (a small impoundment) to the powerhouse. There, the project encompasses an area of 800 by 800 feet and encloses part of the Animas River, a bridge across that river, and railroad tracks. PSCo conducted a detailed evaluation of its current project boundary, including surveys, and proposes to adjust its area for a net increase of 34.30 acres. With these modifications, the new project boundary would encompass 1,707.71 acres, of which 146.58 acres are federal lands within the San Juan National Forest.
11. Project facilities: The Tacoma powerhouse currently houses three generating units with a total installed capacity of 8 MW.

- Units 1 and 2, rated at 2.25 MW each, are driven by two Pelton turbines with a design hydraulic capacity of 37 cfs each.
- Unit 3, rated at 3.5 MW, was driven by a Pelton turbine and had a design hydraulic capacity of 65 cfs, until it failed in 2005.

A detailed description of all facilities can be found [here](#).

B. IMPORTANT PROVISIONS AND REQUIREMENTS IN LICENSE

The license requires a number of measures to protect and enhance fish, wildlife, recreation, and cultural resources at the project.

1. Flows [Reference: Appendix A, Forest Service 4(e) Condition 17, and License Articles 402 and 405]

From late April to July, the project operates at a constant daily output, i.e., on a base load schedule. During this period, base load generation is increased to match inflow into Electra Lake until the project reaches its maximum output and inflow exceeds project capacity, at which point flows in excess of project capacity are used to fill Electra Lake. Beginning in August, the project operates at a reduced capacity in base load mode to hold the lake level to within several feet of the spillway crest. In late August and September, project output is further reduced as stream flows subside, and the project operates on a peaking schedule from Monday through Friday—operations are maintained at a higher load on-peak (10 a.m. to 10 p.m.) and a lower load off peak (10 p.m. to 10 a.m.), with output adjusted to hold the lake level to within several feet of the normal maximum elevation. Beginning late November or early December, project output is increased to draw down the level of Electra Lake to its minimum operating level to prepare for spring runoff.

To enhance aquatic habitat for trout and other aquatic resources in the bypassed reach of Cascade Creek, Forest Service 4(e) Condition 17 requires PSCo to provide a year-round continuous minimum flow downstream of the project diversion dam as follows:

Flows Upstream of Diversion Dam	Release Flow Downstream
≥ 9 cfs	Instantaneous instream, 7 cfs
< 9 cfs ≥ 3 cfs	Instream, equal to inflow < 2 cfs
> 3 cfs	No minimum flow required

Forest Service Condition 18 requires PSCo to install a guaranteed flow release device to ensure that the flows are provided and to develop an operational compliance monitoring plan to demonstrate compliance with the required flows.

To protect trout in Little Cascade Creek during scheduled flume maintenance activities requiring > 10 days cessation of flows to Little Cascade Creek, Article 402 requires PSCo

to gradually reduce the flows over a seven-day period, survey the stream for stranded fish, and relocate these fish as practicable to Aspaas Lake. When scheduled maintenance does not necessitate the extended cessation of flows, PSCo is required to operate the flowline on a 12-hour-off/on schedule until maintenance or repairs are complete.

To protect aquatic resources in Elbert Creek, the license Article 405 requires PSCo to provide a continuous minimum flow of 0.25 cfs to Elbert Creek below Terminal dam.

2. Water Quality Monitoring Plan [Reference: License Articles 305, 406, 404, and 410]

This license also requires the rehabilitation of the Canyon Creek diversion for the limited purpose of supplying potable water, emergency cooling water, and fire protection to the Tacoma powerhouse (Article 305).

To provide for the future protection of the water quality of Electra Lake, this license requires PSCo to monitor nutrient loading, chlorophyll a, and dissolved oxygen (DO) in Electra Lake in July and August at 5-year intervals; to monitor nuisance aquatic plants and aquatic invasive species in Electra Lake in late summer at 5-year intervals; and to monitor water temperature in Little Cascade Creek, in Elbert Creek just upstream of Electra Lake, in Electra Lake, and in the Animas River downstream of the powerhouse. To further protect the water quality of project waters, Article 404 requires PSCo to allow Colorado Department of Public Health & Environment (Colorado Health & Environment) personnel access to the project, notify Colorado Health & Environment and the Commission of any hazardous substance spills, handle chemicals in accordance with manufacture specifications, store toxic materials in a manner that prevents their spillage into state waters, and use certified weed-free seed and mulch.

FERC deemed the Colorado Health & Environment's water quality certification for the project waived because it was filed beyond the one-year time frame established by the Clean Water Act.

3. Whitewater Recreation [Reference: License Article 410]

By January 28, 2011 PSCo must, in consultation with Forest Service and American Whitewater, formalize existing informal whitewater boating take-out on the Animas River near the Tacoma powerhouse by installing signage that designates the whitewater boating take-out area. PSCo must also allow public use of the existing Tacoma Bridge across the Animas River in order to provide public access to National Forest system lands and trails.

4. Public Access and Recreation [Reference: License Article 410]

PSCo shall accommodate public fishing from Memorial Day weekend through Labor Day weekend as follows:

- (a) 50 passes on weekdays,

(b) 60 passes on weekend days, and

(c) 65 passes on Memorial Day weekend, Father's Day, Independence Day, and Labor Day weekend.

PSCo shall also allocate 14 boating passes each day during the recreation season for the general public to access Electra Lake.

PSCo shall develop and maintain signage at all boat launches and public recreation sites at Electra Lake to educate lake users about invasive aquatic species and ways to prevent introductions of the species. Article 410 also requires PSCo to continue to provide a boat wash-down area, located adjacent to the gate house at Electra Lake, to minimize the spread of invasive aquatic species.

2. Terrestrial Resource Measures [Reference: License Article 409; Forest Service Conditions 15, 16]

To protect wildlife habitat within and adjacent to the project, this license requires PSCo to implement wildfire fuels reduction measures within the developed portions of the project boundary around Electra Lake (Article 409); develop and implement a vegetation management plan that provides for prevention, eradication, or containment (in order of preference) of invasive plants and ensures coordination of vegetation management with adjacent land owners and managers (Forest Service Condition 15); and develop and implement a sensitive species management plan that provides for monitoring known sensitive plant occurrences and evaluating the effects of any new ground-disturbing activities or substantive changes in project operation on sensitive plants prior to implementation of the activities or changes in operation (Forest Service Condition 16).

To protect fish and wildlife resources on National Forest lands during any future land-disturbing activities, Forest Service Condition 7 requires PSCo to develop and implement site-specific erosion control measures and to identify and implement measures to protect any threatened or endangered species that may be in the area of disturbance.

3. Recreation and Land Use Measures [Reference: License Articles 411, 410, 412; Forest Service Condition 8]

PSCo shall file a revised recreation and land management plan that (1) consolidates and updates the existing recreation and land management plan and shoreline plan; (2) defines and identifies areas that are needed to meet project purposes; (3) removes from the project boundary lands underlying private structures and lands proposed for future private development; (4) precludes future private development on certain project lands; and (5) defines standards for construction and maintenance of shoreline structures (i.e., docks, piers, boathouses). Article 410 requires enhancing the existing project recreation facilities.

The most significant measures include provisions for: (1) developing a new barrier-free fishing dock and path at the Nunn/Mears Picnic and Parking Area; (2) upgrading the fish

cleaning station as a barrier-free facility at the Nunn/Mears Picnic and Parking Area; (3) repairing and painting the storm shelter at the Westinghouse Picnic and Parking Area; and (4) repairing and rehabilitating the 0.3-mile-long, non-motorized shoreline trail at the Edison Picnic and Parking Area.

Article 410 also requires PSCo to increase the allotment of public fishing passes at Electra Lake to 60 passes on weekend days and 65 passes on Memorial Day weekend, Father's Day, Independence Day, and Labor Day weekend to meet existing and projected future fishing demand at the lake. Article 412 requires PSCo to monitor the amount and type of recreational use occurring at Electra Lake for 10 years, after which PSCo would conduct a demand and capacity assessment to determine if the recreational experience and needs at the project have changed.

To enhance and protect the aesthetic resources at the project, Forest Service Condition 8 requires PSCo to maintain all of its improvements on national forest lands to standards acceptable to the Forest Service. Article 413 requires PSCo to provide vegetative screening around its material storage yard near the Cascade Creek diversion.

4. Threatened and Endangered Species Protection Plan [Reference: License Article 421]

Seven federally-listed species occur in the vicinity of the Tacoma Hydroelectric Project or may be affected by its operations: razorback sucker (endangered); Colorado pikeminnow (endangered); bonytail chub (endangered), humpback chub (endangered); southwestern willow flycatcher (endangered); Canada lynx (threatened); and Uncompahgre fritillary butterfly (endangered). Forest Service required that PSCo prepare a Threatened, Endangered, Proposed for Listing and Sensitive Species Plan approved by the Forest Service at least 60 days prior to any ground disturbing activity that may affect a federally listed or proposed species and their critical habitat, or US Forest Service sensitive species and their habitat. At a minimum, the plan shall:

- Develop procedures to minimize adverse effects to listed species;
- Ensure Project-related activities shall meet restrictions included in site management plans for listed species;
- Develop implementation and effectiveness monitoring of measures taken or employed to reduce effects to listed species;
- Update the Plan as new information is obtained in consultation with the agencies and submitting the updated Plan to the Commission for approval; and
- Identify required elements contained within a biological assessment and evaluation.

C. MAP

There are two convenient ways to become familiar with this project on the Hydropower Reform Coalition website, www.hydroreform.org.

- Go directly to the project [page](#).
- To understand the geographical context of the project, visit the *On Your River* section of the site. This [link](#) will take you to the section for rivers in the West. Zoom in until you can see the Durango area of Colorado. Mouse over the marker due north of Durango—this is P-12589, the Tacoma Hydroelectric Project.



- See the full list of published hydropower license and settlement summaries [here](#).