

Hydropower Project License Summary

MONONGAHELA RIVER, WV

MORGANTOWN LOCK AND DAM HYDROELECTRIC PROJECT (P-13762)
POINT MARION LOCK AND DAM HYDROELECTRIC PROJECT (P-13771)



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River Management Society

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DESCRIPTION:

The Monongahela River (“river”) is approximately 128 miles long and is formed by the confluence of the West Fork River and the Tygart Valley River near the town of Fairmont, WV. The river flows in a northern direction from its headwaters in north-central West Virginia before emptying into the Allegheny River in Pittsburgh, PA. The entire watershed encompasses much of northern West Virginia, southwestern Pennsylvania, and western Maryland.

A system of nine locks and dams owned by the Army Corps of Engineers (“Corps”) renders all 128 miles of the river navigable for commercial navigation. In their current form, the nine structures provide no hydroelectric generation. The Point Marion Lock and Dam Hydroelectric Project (P-13771) (“Point Marion”) and the Morgantown Lock and Dam Hydroelectric Project (P-13762) (“Morgantown”) FERC licenses allow for two of these current Corps facilities to be modified for hydropower generation.

A. SUMMARY

1. License application filed:
 - a. Morgantown – February 27, 2014
 - b. Point Marion – February 27, 2014
2. License Issued:
 - a. Morgantown – September 29, 2017
 - b. Point Marion – August 30, 2017
3. License expiration:
 - a. Morgantown – September 29, 2067
 - b. Point Marion – August 30, 2067
4. Capacity:
 - a. Morgantown – 5 MW
 - b. Point Marion – 5 MW
5. Waterway: Monongahela River

6. Counties:
 - a. Morgantown – Monongalia County, WV
 - b. Point Marion – Fayette County, PA
7. Licensee:
 - a. Morgantown – FFP Missouri 15 Hydroelectric, LLC (“FFP”)
 - b. Point Marion – Solia 8 Hydroelectric, LLC (“Solia”) (Owned by FFP)
8. Licensee Contact: Ramya Swaminathan, COO
Free Flow Power
239 Causeway Street
Boston, MA 02114-2130
9. Project area:
 - a. Morgantown
 - Located at river mile 102, the Morgantown project will be located in the City of Morgantown in Monongalia County, West Virginia and will occupy .99 acre of federal land administered by the Corps.
 - b. Point Marion
 - Located at river mile 90.8, the Point Marion project will be located near the Borough of Point Marion in Fayette County, PA and will occupy 1.44 acres of federal land administered by the Corps.
10. *Existing* Project Facilities:
 - a. Morgantown – Currently consists of a 410-foot-long, 20-foot-high concrete dam with a full length spillway equipped with six 60-foot-wide, 20-foot-high gates; and a 600-foot-long, 84-foot-wide navigational lock. The pool upstream of the dam is referred to as the “Morgantown Pool”.
 - b. Point Marion – Currently consists of a 560-foot-long, 20-foot-high concrete dam with a full length spillway equipped with six 60-foot-wide, 8.5-foot-high gates; a 65-foot-long, fixed-crest weir on the east side of the dam; a 720-foot-long, 84-foot-wide navigational lock on the west side of the dam; and a 110-foot-long, fixed-crest weir located between the gated spillway and the lock wall. The pool upstream of the dam is referred to as the “Point Marion Pool”.
11. *Proposed* Project Facilities: Because dams already exist at the project locations, no additional impoundment structures will need to be constructed. However, some of the existing infrastructure will need to be removed or modified to facilitate the implementation of the new hydropower facilities.
 - a. Morgantown – The Morgantown Project will include the following new facilities:

- an excavated intake channel;
- two spill gates;
- a powerhouse;
- an excavated tailrace channel;
- a substation;
- a transmission line; and
- an access road.

b. Point Marion – The Point Marion will include the following new facilities:

- an excavated intake channel;
- a powerhouse;
- an excavated tailrace channel;
- a substation;
- a transmission line; and
- an access road

Additionally, the project will modify the existing Corps’ dam by removing the fixed-crest weir at the end of the dam to accommodate a new intake channel and powerhouse.

B. IMPORTANT PROVISIONS AND REQUIREMENTS IN THE LICENSE(S)

Both newly issued licenses require a number of measures to protect or enhance water quality, fish, wildlife, recreational, and cultural resources at the project (see *Table 1*). As the dams at the project sites are owned and operated by the Corps, neither license contains any requirements as they relate to flow releases at the dams. Rather, the licenses stipulate that the projects shall operate in a “run-of-release” mode, meaning they will utilize flows that would normally be released through the Corps’ spillway gates.

In addition to the recommendations of the State Fish and Wildlife Agencies in accordance with Section 10(j) of the FPA, the requirements within both licenses were developed with consideration to the comments submitted by the Department of the Interior, US Fish and Wildlife Service (“FWS”), National Park Service, Corps, EPA, West Virginia DNR, Pennsylvania FBC, Upper Monongahela River Association, Inc., Monongahela River Trails Conservancy, Ltd., Ecosophic Strategies, LLC, National Road Heritage Corridor, and the Point Marion Borough.

*Table 1: Morgantown and Point Marion License Requirements**

Plan	License Reference	
	Morgantown	Point Marion
<i>Regulating (or Operating) Plan</i>	Article 311	Article 312
<i>Project Operation</i>	Article 402	Article 403
<i>Operational Compliance Monitoring Plan</i>	Article 403	Article 404
<i>Erosion and Sediment Control Plan</i>	Article 404	Article 405
<i>Sediment Testing and Disposal Plan</i>	Article 405	Article 406
<i>Spill Prevention, Containment, and Countermeasures Plan</i>	Article 406	N/A
<i>Water Quality Monitoring Plan</i>	Article 407	Article 407
<i>Trash Rack Design</i>	Article 408	Article 408
<i>Vegetation Management Plan</i>	Article 409	Article 409
<i>Avian Protection Plan</i>	Article 410	Article 410
<i>Recreation Plan</i>	Article 411	N/A
<i>Fishing Access Plan</i>	N/A	Article 411
<i>Construction Access Plan</i>	Article 412	Article 412
<i>Debris Management Plan</i>	Article 413	Article 413
<i>Historic Properties Management Plan</i>	Article 414	Article 414
<i>Post-construction Stormwater Management Plan</i>	N/A	Pennsylvania DEQ Condition 2
<i>Aid to Navigation Plan</i>	N/A	Pennsylvania DEQ Condition 14
<i>Fish and Mussel Survey Plan</i>	N/A	Pennsylvania DEQ Conditions 21 & 22
<i>Stream and Habitat Mitigation Plan</i>	N/A	Pennsylvania DEQ Condition 25
<i>Fish Mitigation Plan</i>	N/A	Pennsylvania DEQ Condition 28
<i>Fish and Mussel Salvage Plan</i>	N/A	Pennsylvania DEQ Condition 29
<i>Preparedness, Prevention, and Contingency Plan</i>	N/A	Pennsylvania DEQ Condition 33
*noteworthy requirements are summarized below		

1. *Regulating (or Operating) Plan* [Reference: Morgantown License Article 311, Point Marion License Article 312]

At least 60 days prior to the start of construction, the licensees must submit a plan to the Corps that describes:

- the designed mode of hydropower operation;
- reservoir flow diversion and regulation requirements for operation of the Corps project during construction (established by the Corps); and
- integration of the hydroelectric facilities operation into the Corps' emergency action plan.

2. *Project Operation* [Reference: Morgantown License Article 402, Point Marion License Article 403]

According to Articles 402 and 403 for each project, FFP and Solia, respectively, must operate the project in a run-of-release mode. The licensees must not deviate from the flow constraints, including flow releases, established by the Corps according to articles 311 and 312 for the Morgantown and Point Marion projects.

Project Operation may, however, be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon mutual agreement between the the licensee and the corps

3. *Operational Compliance Monitoring Plan* [Reference: Morgantown License Article 403, Point Marion License Article 404]

At least 90 days prior to the start of project operation, Solia and FFP must file Operation Compliance Monitoring plans with FERC to document compliance with the operational requirements of the licenses. Notable required elements of the plans are listed below:

- a description of the steps the licensees will take to ensure run-of-release operation continues during planned and emergency shutdowns;
- a description of all gages or recording devices that will be used to monitor operation compliance;
- the method of calibration of each gage and/or measuring device;
- the frequency of recording for each gage and/or measuring device;
- a provision to maintain a log of project operation;
- procedures for recording, maintaining, and reporting the monitoring data to

the Commission; and

- a provision for measuring approach velocities at the project's trash rack

4. *Water Quality Monitoring Plan* [Reference: Morgantown License Article 407, Point Marion License Article 407]

At least 90 days prior to the start of any land-disturbing or in-water construction activities, the licensees must file a Water Quality Monitoring Plan for FERC approval. The purpose of this plan is to ensure that turbidity levels do not drastically increase compared to pre-project levels, and to ensure that the water remains oxygenated at sufficient levels. Notable required elements of the plans are listed below:

- a detailed description of the licensee's proposed water quality monitoring locations;
- a detailed description of the licensee's proposed water quality monitoring methods, including equipment, and data recording procedures;
- a schedule for monitoring turbidity levels, water temperature, and dissolved oxygen levels during project construction;
- continuous, real-time monitoring of water temperature and dissolved oxygen levels from June 1 through October 15 each year for three years following the commencement of project operation; and
- a provision to file annual reports with the Commission for each year that monitoring is conducted

If any deviations from the specific water quality standards occur, the licensee must file a report to the FERC within 10 days of the event. Within 120 days of the end of the three-year monitoring period, the licensee must file a summary report that documents the three-year history, and should make recommendations on whether additional monitoring is needed and whether any changes in monitoring protocols is recommended.

5. *Vegetation Management Plan* [Reference: Morgantown License Article 409, Point Marion License Article 409]

To protect botanical resources and limit the establishment and spread of invasive plants during construction of the projects, the licenses require FFP and Solia to develop vegetation management plans. At least 90 days before the start of any land-disturbing or land-clearing activities, the licensees must file plans that address the following:

- a provision to use native seeds or plants to revegetate disturbed areas;
- a description of the procedures that will be used to revegetate disturbed areas;
- a description of the procedures that will be implemented to monitor revegetated areas to ensure success of the revegetation efforts;
- a description of the procedures to be implemented if monitoring indicates that revegetation is not successful;
- a description of the best management practices to be followed to minimize the introduction and spread of invasive plant and noxious weed species within the project boundary during construction of the project;
- a reporting schedule for filing monitoring results and progress reports with the Commission, the U.S. Army Corps of Engineers (Corps), U.S. Fish and Wildlife Service (FWS), Pennsylvania Department of Conservation and Natural Resources (Pennsylvania DCNR), and Pennsylvania Game Commission; and
- an implementation schedule.

6. *Avian Protection Plan* [Reference: Morgantown License Article 410, Point Marion License Article 410]

At least 90 days before the start of any land-disturbing or land-clearing activities, the licensees must file an Avian Protection for FERC approval. The plans will serve to minimize construction and operation related impacts to bald eagles and other raptors and to protect birds from collision and electrocution hazards resulting from interaction with the project's transmission lines and switchyard equipment. The plan must address the following:

- design plans that minimize avian death or injury as a result of contact with the transmission lines;
- a provision to survey areas where tree-clearing will occur for bald eagle and other raptor nests, before tree-clearing occurs. If any are found, the licensees must consult with the Pennsylvania Game Commission or WV DNR (depending on project) and the FWS; and

- A provision to notify Pennsylvania Game Commission or WV DNR and the USFWS if nests are found within either project's boundary; and
- an implementation schedule.

7. *Fishing Access* [Reference: Point Marion License Article 411]

The dam is currently a popular fishing location for anglers. To compensate for lost access, Solia must develop a plan to compensate for the loss of recreational fishing opportunities. The plan must include the following provisions:

- a description of parking area(s) available to anglers and others that will use the recreation facilities;
- a shoreline angler path 450 feet downstream of the dam consisting of a trail and stairs leading from a parking area to the river; and
- a fishing platform at the end of the angler path, adjacent to the project tailrace.

8. *Recreation Plan* [Reference: Morgantown License Article 411]

At least 90 days prior to the start of any land-disturbing or in-water construction activities, FFP must file a plan to mitigate project impacts on angler access and enhance recreation opportunities at the project. The plan must include the following:

- a parking area(s) available to anglers and others that will use the recreation facilities;
- a portable restroom;
- two shoreline angler paths, one downstream of the dam and one upstream of the dam, leading from the Caperton Trail to the river;
- a fishing platform at the end of the angler path located downstream of the dam; and
- up to five rock vanes located downstream of the powerhouse extending approximately 25-35 feet from the shore.

9. Construction Access Plan [Reference: Morgantown License Article 412, Point Marion License Article 412]

At least 90 days prior to the start of any land-disturbing or in-water construction activities, both licensees must file Construction Access Plans that minimize disturbing access to local trails surrounding the project areas. The plans must include following:

Morgantown

- a description of any restrictions on access of the Caperton Trail and Mountaineer Heritage Park that will be necessary during project construction;
- signage to inform the public about the project's construction and when recreation use restrictions along the Caperton Trail and Mountaineer Heritage Park will occur;
- specific construction mitigation measures such as flaggers, crosswalks, detours, barriers, and other measures that address public use, safety, and access to the Caperton Trail and Mountaineer Heritage Park during construction; and
- a map containing the specific location of all project facilities, construction routes, and parking and staging areas in relation to the Caperton Trail and Mountaineer Heritage Park.

Point Marion

- a description of any restrictions on access of the Sheepskin Trail that will be necessary during project construction;
- signage to inform the public of the project intent and when recreation use restrictions along the Monongahela River and Sheepskin Trail will occur;
- specific construction mitigation measures such as flaggers, crosswalks, detours, barriers, and other measures that address public use, safety, and access to the Sheepskin Trail during construction; and
- a map containing the specific location of all project facilities, construction routes, and parking and staging areas in relation to the Sheepskin Trail.

C. MAP

To understand the geographical context of the project, visit the following links:

- Point Marion – [Map](#)
- Morgantown – [Map](#)

To view other license summaries, visit the River Management Society website at: www.river-management.org/hydropower-projects.

You can also view a list of the summaries at the Hydropower Reform Coalition website at: <http://www.hydroreform.org/hydropower-license-summaries> and learn more about other hydropower developments at www.hydroreform.org.