

Electronic Submittal

March 5, 2026

Debbie-Anne A. Reese, Secretary
Federal Energy Regulatory Commission
888 1st Street, N.E.
Washington, DC 20426-0001

**Subject: Hawks Nest Hydroelectric Project (FERC No. 2512)
Modernization Project – Non-Capacity Amendment Application**

Dear Secretary Reese,

Hawks Nest Hydro LLC (Hawks Nest Hydro or Licensee) is the Licensee of the existing 102-megawatt Hawks Nest Hydroelectric Project (FERC Project No. 2512) (Project) on the New River in Fayette County, West Virginia. The Licensee proposes to initiate a modernization effort that will result in work at and changes to the Project. Therefore, Hawks Nest Hydro hereby submits for filing with the Federal Energy Regulatory Commission (Commission or FERC) an Application for Non-Capacity Amendment of License for the Project and asks for partial approval to allow minor grading and clearing to begin in March 2026 to support the overall modernization project schedule and timeline, which is critical to supplying power to the PJM electrical grid.

Proposed Action

The purpose of the modernization project is to convert Project energy generation and transmission from 25-hertz (Hz) to 60Hz. This frequency conversion will allow for the sale of Project power directly to the regional (PJM Interconnection, LLC) electric grid instead of to its direct-connected customer following the June 2026 expiration of the existing Power Purchase Agreement (PPA) with WVA Manufacturing, LLC (WVAM).

The modernization project includes:

- Turbine-generator replacements for Units 1 and 2. The new turbines will have higher ratings than the original Units 1 and 2 (28,750 kilowatt [kW] compared to 26,250 kW). The new 60Hz generators will also have higher ratings than the original Units 1 and 2 (37,000 kVA, Power Factor (P.F.) 0.85, compared to 30,000 kVA, P.F. 0.85). The authorized installed capacity of the Project, as defined by 18 Code of Federal Regulations (CFR) §11.1(i), will increase from 102 MW to 108.5 MW, a 6.4 percent increase. The maximum hydraulic capacity of the Project will increase by 2.2 percent.
- Construction of a new switchyard (Hawks Nest Frequency Converter Switchyard) near the Hawks Nest powerhouse including a 60Hz frequency converter (for Units 3 and 4).

- Conversion of existing 69-kilovolt (kV), 25Hz primary transmission line to 138-kV, 60Hz. The transmission line upgrade will use existing transmission towers and the existing transmission corridor.
- Reconfiguring of the substation at the Alloy facility so that a single transmission line will connect to the 138-kV bus, which would connect the Project to the existing 138-kV line between the existing American Electric Power and Alloy substations.
- A new access road in the vicinity of the Hawks Nest powerhouse to facilitate construction of the new substation.
- Construction of a 34-foot (ft) x 80-ft prefabricated metal building in the vicinity of the existing substation and Hawks Nest powerhouse, to contain personnel offices and locker room area displaced from the existing powerhouse by new electrical equipment associated with the plant modernization.
- Upgrades to ancillary equipment at other Project facilities, including the dam and surge basin, necessitated by the electrical frequency conversion.

The modernization project would add approximately 1.5 acres to the Project boundary, increase the Project's hydraulic capacity approximately 2 percent from 10,160 cubic ft per second (cfs) to 10,380 cfs, and increase the authorized installed generating capacity approximately 6.4 percent from 102 MW to 108.5 MW. In addition, Hawks Nest Hydro is proposing higher bypass minimum flows and additional recreational flow releases, which were developed in consultation with Project stakeholders. Because these proposed changes are below the threshold for a capacity-related amendment, the Licensee is applying for a Non-Capacity Amendment to the existing FERC License.

No temporary variances from license requirements are anticipated for the construction period, beyond normal short-term variances in recreation flow release or recreation facility availability authorized by the existing Recreational Flow Release Plan and Recreation Management Plan.

Construction Timeline

Major milestone and target dates for necessary sequencing of the modernization project are:

- March 2026 to December 2026: Grading, vegetation clearing, and installation of erosion control measures.
- June 2026: PPA with WVAM expires. Project generation ceases. Scheduled recreation flow releases continue to the extent they can be provided by prevailing natural inflow and powerhouse operating conditions.
- January 2027 to August 2027: Unit 1 replacement and frequency conversion occurs.
- August 24, 2027: PJM Commitment to have Unit 1 online.

- January 2027 to September 2027: Electrical / Hawks Nest Frequency Converter Switchyard installation.
- September 15, 2027: PJM Commitment to have new frequency converter online and Unit 3 and Unit 4 resume generation.
- November 2027 to June 2028: Unit 2 unit replacement and frequency conversion occurs.
- June 17, 2028: PJM Commitment to have Unit 2 online; scheduled recreational flow releases resume.

Consultation

FERC's regulations under 18 Code of Federal Regulations (CFR) § 4.38(a)(7) require the Licensee to consult with resource agencies and Indian Tribes, to the extent that the proposed amendment would affect their interests. Regulations also require a draft copy of the amendment application be provided for a 60-day review. Therefore, the Licensee provided a draft version of the Application for a Non-Capacity Amendment of License to federal, state, and local agencies, Tribes, and other interested parties on October 28, 2024, supplemented by additional information on December 17, 2024. The following agencies and organizations provided comments within the 60-day comment period:

- U.S. Fish and Wildlife Service (USFWS)
- National Park Service
- Catawba Indian Nation
- WV State Historic Preservation Office (WVSHPO)
- WV Division of Natural Resources (WVDNR)
- WV Department of Environmental Protection (WVDEP)
- ACE Adventure Resort
- American Whitewater
- New River Conservancy
- New River Alliance of Climbers
- WVAM
- WV Rivers Coalition

These comment letters and Hawks Nest Hydro's responses to these comments, as well as additional consultation following the comment period, are provided in Attachment 4.

Hawks Nest Hydro consulted extensively with Project stakeholders during development of this Non-Capacity Amendment Application. The proposed higher minimum bypass flow releases and additional recreation flow releases were developed during these discussions. While the proposed flow releases result in an overall reduction in annual Project generation, Hawks Nest Hydro has determined such flows balance competing resource interests at the Project.

Water Quality Certification

As documented and described in the enclosed application materials, Hawks Nest Hydro has consulted with WVDEP regarding consistency of this Non-Capacity Amendment Application with the existing water quality certificate issued for the Project on June 2, 2017, as amended on

August 14, 2017. WVDEP has stated it intends to modify the existing water quality certificate following Hawks Nest Hydro's submittal of this application. Hawks Nest Hydro will provide the amended water quality certificate to the Commission upon receipt.

Request for Expedited Processing and Partial Authorization for Site Preparation Work

The Licensee respectfully requests Commission staff's expedited processing of the enclosed Non-Capacity Amendment Application given the expiration of the PPA in June 2026 and the overall construction schedule, including required interconnection milestones. Beginning with the expiration of the PPA, until either a new Unit 1 has been commissioned or 60-Hz conversion equipment has been installed such that Unit 3 and Unit 4 generation can be connected to the regional electrical system, the Project cannot generate electricity. In addition, during this period, Hawks Nest Hydro will provide recreational flow releases only to the extent natural inflows allow for such releases. The inherent variability in bypass reach inflow during this period could affect the ability of local outfitters to schedule boating trips in the bypass reach until construction is completed. Accordingly, expedited processing of the application will significantly narrow the amount of time during which the Project cannot provide power as well as shorten the duration of time that recreational flows will be impacted.

Hawks Nest Hydro also requests partial authorization to commence site preparation activities pending the processing and issuance of the Non-Capacity Amendment. As described above and below, Hawks Nest Hydro has consulted with state and federal resource agencies regarding these activities and obtained their concurrence with this approach. It is necessary to commence this site preparation work in March 2026 to maintain the overall project schedule. This site preparation is a critical path item for the modernization project, and in the absence of timely partial authorization, the modernization project may be delayed by a year, resulting in an extended period of non-generation at the Project at a time of unique load pressure on the regional grid.

Hawks Nest Hydro specifically requests partial authorization to commence the activities listed below as soon as practicable:

- Clearing for the Hawks Nest Frequency Converter Switchyard (Pad and Building)
 - Vegetation clearing and grading of a 180-ft by 450-ft flat area and construction of a retaining wall for slope stability. The purpose of clearing in this area is to facilitate construction, following amendment of license, of a second substation near the Hawks Nest powerhouse.
 - Vegetation clearing and grading for the new 13.8kV, 69-kV, and 138-kV line sections from the existing Hawks Nest Switchyard to the new 138-kV Hawks Nest Frequency Converter Switchyard.
 - Installation of erosion control measures (e.g., silt fence and super silt fence, rock check dam, sedimentation trench, rock sedimentation trap, sediment control log, rock log/compost log) in cleared areas.

- Clearing for the new (<1-mile) access road
 - Vegetation clearing and grading to facilitate construction of a new access roadway and pad from U.S. Route 60 to facilitate substation construction. Installation of erosion control measures (e.g., silt fence and super silt fence, rock check dam, sedimentation trench, rock sedimentation trap, sediment control log, rock log/compost log) in cleared areas.

License Article 406 requires the Licensee to limit tree clearing associated with maintenance activities and recreation use enhancements at the Project to between November 15 and March 31, to minimize impacts to federally listed bat species, including the Indiana bat, northern long-eared bat, Virginia big-eared bat, and migratory bird species. Because clearing required for the modernization may be outside of this season, Hawks Nest Hydro coordinated with USFWS and WVDNR beginning in January 2025 regarding vegetation clearing for the modernization project. Hawks Nest Hydro subsequently submitted a Data Request to WVDNR and a query to the USFWS Information for Planning and Consultation (IPaC) online system¹ last spring (2025). On May 21, 2025, the USFWS WV Field Office notified Hawks Nest Hydro of the following finding and concurrence:

“Based upon best available information, the local geographic area where the project is proposed is not located within close proximity to any known occurrence records and will not affect any suitable caves or mines. Additionally, coordination with state agency experts has indicated that the project area lacks important factors related to landscape suitability for this species and thus has a low likelihood of being occupied. Therefore, the WVFO anticipates any associated effects to the Indiana bat will be insignificant and/or discountable.”

In accordance with the Project’s Historic Properties Management Plan, the Licensee also consulted with the WVSHPO regarding potential effects to archaeological and architectural resources. In its October 15, 2024 response to the Licensee’s request for concurrence, the WVSHPO stated, *“we concur that the proposed modernization project will not adversely affect”* the Hawks Nest Development Historic Site and that no further consultation is needed. The WVSHPO also concurred, *“that the proposed project will have no effect on archaeological historic properties.”*

In conducting work for Project modernization, Hawks Nest Hydro will implement reasonable measures to prevent soil erosion on lands adjacent to streams or other surface waters, stream sedimentation, and water or air pollution, as required by standard license Article 19.

¹ No changes to the IPaC species report (i.e., addition or removal of species) or status of designated critical habitat have occurred since the time of the consultation.

No other potential resource effects have been identified that would preclude grading and clearing activities beginning in March 2026. The proposed activities would not constitute any permanent modification to licensed Project facilities. This site prep work is critical path to meeting committed milestones of interconnection.

Hawks Nest Hydro notes that the activities described above—clearing for the Hawks Nest Frequency Converter Switchyard and clearing for the new access road—are consistent with the Tennessee Valley Authority (TVA) Categorical Exemptions (CEs) recently adopted for use by FERC, as described in the Commission’s February 19, 20226 order. Clearing associated with the access road is attributed to construction of a new access road less than 1 mile in length (TVA CE 17) and clearing associated with the Hawks Nest Frequency Converter Switchyard pad falls within site-development activities for buildings covered by TVA CE 38. The Commission has previously found that activities that fit within the TVA CEs “normally do not significantly affect the quality of the human environment” and therefore do not require preparation of an environmental document. Additionally, in the event Commission staff evaluate the applicability of the TVA CEs to the two activities described above, Hawks Nest Hydro notes that no extraordinary circumstances are present.

Closing

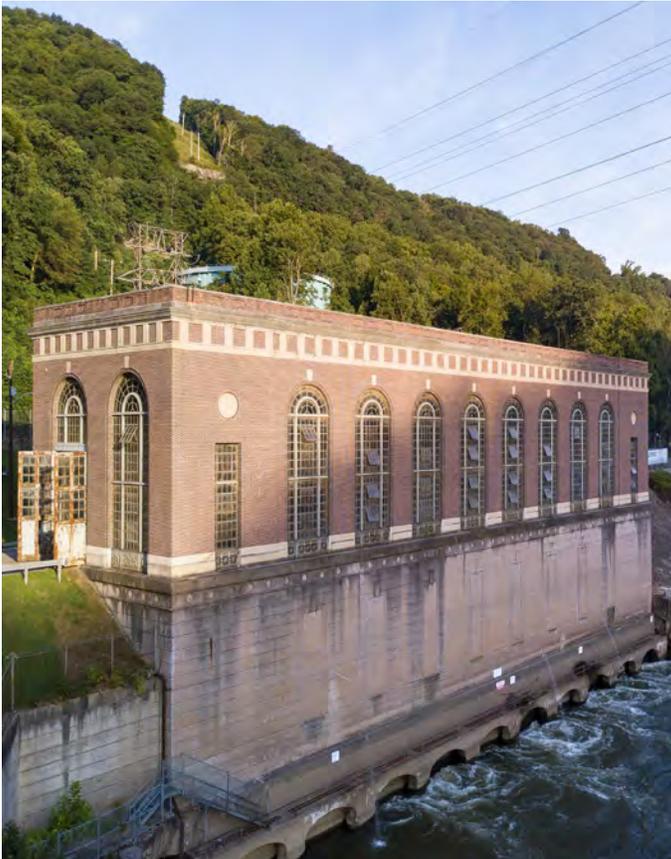
Thank you for your attention to this request. If you have questions about the enclosed Non-Capacity Amendment Application, please contact Ms. Katie Lester at Kathleen.Lester@BrookfieldRenewable.com or 570-226-1371.

Respectfully,



Katie Lester
Senior Compliance Manager

Enclosure



Application for Non-Capacity Related Amendment of License

Hawks Nest Hydroelectric Project

FERC No. 2512

March 2026

Hawks Nest Hydro LLC

Fayette County, West Virginia

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Initial Statement (18 CFR §4.201(a))

**BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**HAWKS NEST HYDROELECTRIC PROJECT
(PROJECT NO. 2512)**

**APPLICATION FOR A NON-CAPACITY RELATED AMENDMENT OF LICENSE FOR MAJOR
PROJECT – EXISTING DAM**

1. Hawks Nest Hydro LLC (Hawks Nest Hydro, Licensee, or Applicant) applies to the Federal Energy Regulatory Commission (FERC or Commission) for a Non-Capacity Amendment of License for the Hawks Nest Hydroelectric Project (FERC No. 2512) (Project), an existing licensed major project. The current license for the Project was issued on December 22, 2017, and expires on January 31, 2064.
2. The exact name, business address, and telephone number of the applicant are:

Hawks Nest Hydro LLC
439 Elizabeth Way
Fayetteville, WV 25840
+1 304.574.8558

The name and business address of each person authorized to act as agent for the applicant in this application is:

Katie Lester
Senior Compliance Manager
Brookfield Renewable
439 Elizabeth Way
Fayetteville, WV 25840
(570) 226-1371
kathleen.lester@brookfieldrenewable.com

3. The applicant is a domestic corporation, licensee for the water power project, designated as Project No. 2512 in the records of the FERC, issued on the 22nd day of December 2017.
4. The amendment of license proposed and the reason(s) why the proposed changes are necessary are:

Hawks Nest Hydro is proposing a modernization project to convert energy generation and transmission from the Project from 25 hertz (Hz) to 60Hz, consistent with the frequency of the regional (PJM Interconnection, LLC [PJM]) electrical grid. The frequency conversion will allow for the sale of Project power directly to the PJM grid instead of to its direct-connected customer following the June 2026 expiration of the existing Power Purchase Agreement with WVA Manufacturing, LLC (WVAM). The modernization project includes:

- Turbine-generator replacements for Units 1 and 2. The new turbines will have higher ratings than the original Units 1 and 2 (28,750 kilowatt [kW] compared to 26,250 kW). The new 60Hz generators will also have higher ratings than the original Units 1 and 2 (37,000 kVA, Power Factor (P.F.) 0.85, compared to 30,000 kVA, P.F. 0.85). The authorized installed capacity of the Project, as defined by 18 Code of Federal Regulations (CFR) §11.1(i), will increase from 102 MW to 108.5 MW, a 6.4 percent increase. The maximum hydraulic capacity of the Project will increase by 2.2 percent.
- Construction of a new switchyard (Hawks Nest Frequency Converter Switchyard) near the Hawks Nest powerhouse including a 60Hz frequency converter (for Units 3 and 4).
- Conversion of existing 69-kilovolt (kV), 25Hz primary transmission line to 138-kV, 60Hz. The transmission line upgrade will use existing transmission towers and the existing transmission corridor.
- Additionally, Hawks Nest Hydro will reconfigure the substation at the Alloy facility so that a single transmission line will connect to the 138-kV bus, which would connect the Project to the existing 138-kV line between the existing American Electric Power and Alloy substations.
- A new access road in the vicinity of the Hawks Nest powerhouse to facilitate construction of the new substation.
- Construction of a 34-foot (ft) x 80-ft prefabricated metal building in the vicinity of the existing substation and Hawks Nest powerhouse, to contain personnel offices and locker room area displaced from the existing powerhouse by new electrical equipment associated with the plant modernization.

- Upgrades to ancillary equipment at other Project facilities, including the dam and surge basin, necessitated by the electrical frequency conversion.

These modifications are reflected in the revised Exhibit A (Attachment 1).

As described throughout this application, as part of its amendment proposal and based on extensive consultation with affected stakeholders, Hawks Nest Hydro proposes higher seasonal minimum flows to the bypass reach, as well as additional scheduled recreational flow releases that will take priority over commercial power generation. These new flow releases are described in the Environmental Review (Attachment 2).

A portion of the new switchyard and access road to the switchyard will occur outside the current Project boundary, so Hawks Nest Hydro is proposing to expand the Project boundary by approximately 1.5 acres.

5. (i) The statutory or regulatory requirements of West Virginia that affect the modernization project as proposed, with respect to stream bed and banks and to the appropriation, diversion, and use of water for power purposes, and with respect to the right to engage in the business of developing and transmitting power are:
 - a. Hawks Nest Hydro is a Delaware LLC, registered to do business in West Virginia, and, as such, can engage in the activities set forth in its organizational documents, which includes the generation, transmission, and distribution of electricity from the Project.
 - b. Section 401 of the Federal Clean Water Act, 33 USC §1341 requires that applicants for a federal license or permit to conduct an activity that will or may discharge into navigable waters must present the federal authority with a certification from the appropriate state agency. Pursuant to W. Va. Code §§22-1-6(d)(7), the West Virginia Department of Environmental Protection (WVDEP) is the state agency designated to carry out the certification requirements prescribed in Section 401 of the Clean Water Act for waters of West Virginia.
 - c. Water rights involved are merely the riparian rights appurtenant, under West Virginia law, to the various lands needed for dam site, flowage, and tailrace purposes.

(ii) The steps the applicant has taken or plans to take to comply with each of the laws cited above are:

- a. Applicant has complied with the requirements of the laws of the State of West Virginia with respect to the right to engage in the business of developing and transmitting power.
- b. Applicant received a Water Quality Certification (WQC) from WVDEP pursuant to Section 401 of the Federal Clean Water Act, 33 USC §1341 and W. Va. Code §§22-1-6(d)(7) and 22-11-7(a) and West Virginia Legislative Rule §47CSR5A on June 2, 2017, which was subsequently amended on August 14, 2017. As documented and described in this application, Applicant has consulted with WVDEP regarding consistency of this Non-Capacity Amendment Application with the existing WQC. Given Hawks Nest Hydro is proposing modified minimum bypass flow releases and additional recreational flow releases, Hawks Nest Hydro understands WVDEP plans to issue a minor modification to the Project's WQC and will file the amended WQC with the Commission upon receipt.
- c. Applicant possesses the necessary water rights under West Virginia law to the various lands needed for the dam site, flowage, and tailrace purposes, none of which are impacted by the proposed modernization project.
- d. Applicant performed studies associated with water quality, aquatic resources, terrestrial resources, wetlands, bypass reach flows, recreation, and cultural resources during the relicensing of the Project, which were analyzed by FERC during its environmental analysis. The proposed modernization project would not alter the findings of the studies and conclusion of the environmental analysis.

Exhibits Included in the Non-Capacity Amendment Application (18 CFR § 4.201(c))

Applications for non-capacity license amendments need include only those exhibits in the existing license applicable to the proposed amendment. The exhibits included in this application are:

- Exhibit A: Project Description (18 CFR §4.51(b)). Hawks Nest Hydro is providing a revised Exhibit A, including a strikethrough version, to include a description of the new substation, frequency converters, and replacement turbine-generators. (Attachment 1)

- Exhibit E: Environmental Review (18 CFR §4.51(f)). Hawks Nest Hydro is providing a summary of the anticipated effects of the proposed modification on environmental, recreational, cultural, aesthetic, and socioeconomic resources. Because of the number and extent of studies conducted during relicensing, the Environmental Review relies heavily on studies previously filed with the Commission. A milestone schedule for construction activities proposed in this Non-Capacity Amendment Application is included in Exhibit E. (Attachment 2)
- Exhibit G: Project Maps (18 CFR 4.41(h)): Hawks Nest Hydro is providing revised Exhibit G drawings of the proposed Project boundary incorporating the proposed switchyard and access road. A drawing showing the current and proposed Project boundaries is also included in Exhibit G. (Attachment 3)
- Consultation: Documentation of consultation conducted by the Applicant with resource agencies, Tribes, and other stakeholders during preparation of this non-capacity amendment application, as required by 18 CFR § 4.38. (Attachment 4)

Hawks Nest Hydro will provide revised Exhibits F (Site Drawings), as applicable, following construction to accurately reflect as-built conditions.

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Attachment 1:

Revised Exhibit A

Strikethrough and Final Versions

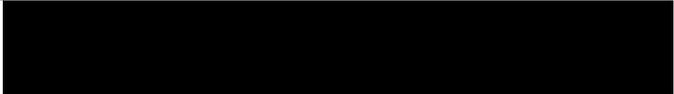
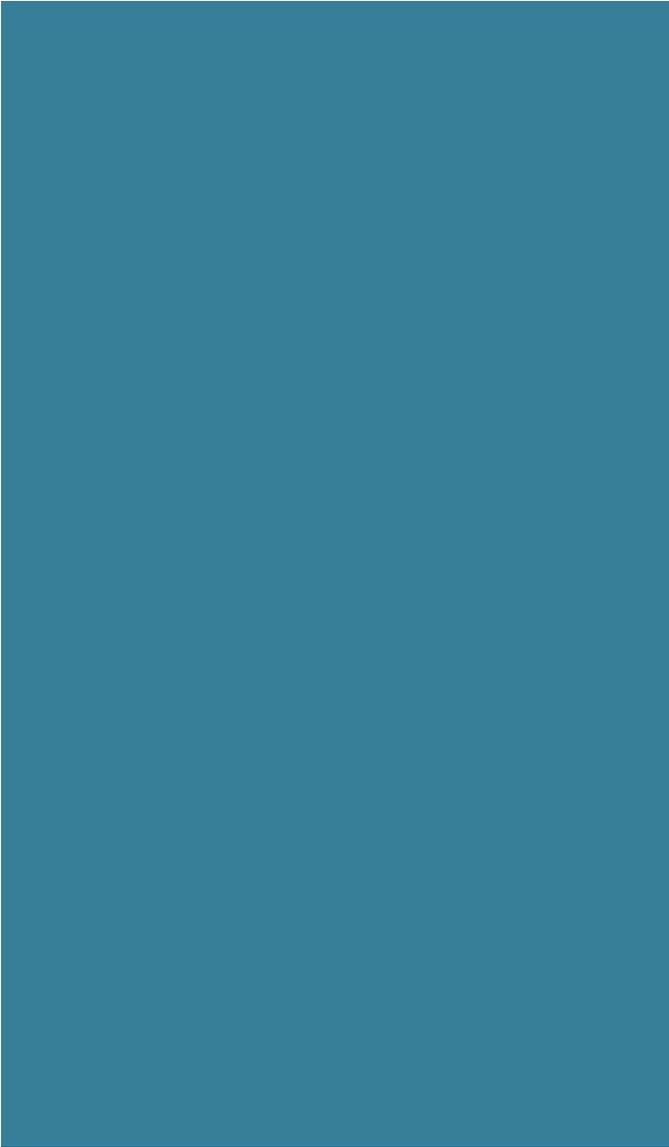


Exhibit A
Strikethrough Version

Exhibit A

Project Description (18 CFR §4.51(b))

A.1 PHYSICAL COMPOSITION, DIMENSIONS, AND GENERAL CONFIGURATION (18 CFR §4.51(b)(1))

The Hawks Nest Project is located upstream of the Glen Ferris Project, on the New River just upstream of the confluence of the New and Gauley Rivers. The Project is located in the towns of Ansted and Gauley Bridge, in Fayette County, West Virginia. As described in detail below, the Hawks Nest Project generally consists of a concrete gravity dam with 14 spillway bays, each with a steel crest gate, a power tunnel intake structure with intake gate, trashracks and a trash rake, a water-conducting tunnel, a surge basin, a surge tank, four water-conveying penstocks and one bulkheaded penstock, a manifold, and a powerhouse containing four turbine-generator units. A 5.5-mile long segment (“bypass reach”) of the New River extends between Hawks Nest Dam and the powerhouse. The bypass reach occupies a narrow gorge, with heavily wooded mountainsides forming the channel walls. The Cotton Hill Bridge crosses the bypass reach at a point 4.2 miles upstream of the powerhouse. With the exception of an access area in the vicinity of the Cotton Hill Bridge and a few informal trails, access to the bypass reach is mostly precluded by steep slopes and vegetation.

A.1.1 Dam

The dam is a concrete gravity structure (mostly a spillway). The dam is approximately 948 feet long (from left abutment to right abutment¹) oriented along a generally northwest-southeast axis, with a permanent crest elevation of 795.0 feet. The operating deck above the spillway is at elevation 832.0 feet mean sea level (msl²) with upstream and downstream concrete walls extending

¹ Throughout this volume, all references to “left” and “right” are defined from the perspective looking downstream.

² All elevations in this license application are based on the msl National Geodetic Vertical Datum of 1929 (NGVD29), unless otherwise noted.

to elevation 835.5 feet. The maximum height of the dam from the deepest part of the foundation to the operating deck is about 90 feet. There is a drainage and inspection gallery that runs the entire length of the dam with a floor elevation at 773.25 feet. There are 16 relief wells and 9 piezometers located in the drainage gallery.

The normal pool elevation of the reservoir is elevation 819.0 feet.

The 14 ogee-type spillway bays are each 50 feet wide and have a 25-foot-high by 50-foot-wide Stoney-type vertical lift gate. Each gate, including roller trains, weighs 73.3 tons. The concrete crest elevation of each bay is at elevation 795.0 feet and the top elevation of the gates is at elevation 820.0 feet in the closed position. Separating each spillway gate bay is a 9-foot-wide concrete pier.

The crest gates are operated by two gantry cranes on rails running the entire length of the dam. Each crane has a lifting capacity of 100 tons. Each crane has a lifting beam with an automatic device for engaging and disengaging the gate to be moved. The gates can be latched open at various heights of lift. The two cranes are equipped with electric controls so that all 14 gates may be raised or lowered by remote control from the powerhouse control room (gates 1 through 7 are on one trolley power system, and gates 8 through 14 are on a second trolley power system).

In 2013-2014, 49 post-tension anchors were installed in the 31 monoliths comprising the 14 spillway bays of the ogee spillway structure, with each monolith getting one or two 28- to 50-strand anchors with design loads ranging from 987 kips to 1762 kips, respectively. The encapsulated anchors with grout encased epoxy strands extend the full length of each strand. Documentation of completion of the post-tension anchor installation is contained in the final project completion report filed by Hawks Nest Hydro on March 9, 2015, with the Commission and subsequently approved by the Commission on April 16, 2015.

Located between the main spillway section and the right abutment is a 10-foot-wide trash spillway which is equipped with steel stoplogs and has a sill elevation of 810.0 feet. The trash spillway stoplogs (“trash gate”) are operated by an electric motor, as required, to pass debris and to maintain the required minimum flow.

The dam has non-overflow sections which adjoin each abutment. On the right abutment, the non-overflow section extends to the bedrock abutment, and is about 30 feet long with a 15-foot cutoff wall to the bedrock abutment. The left non-overflow section is about 30 feet long with a core wall that is 105 feet long and ends with a vertical wall about 7 feet high.

An earthen embankment dike is located upstream of the left abutment. A buried concrete core wall with a crest elevation of approximately 832.0 feet extends into the abutment.

There are six steel-lined low level sluices located beneath gates 5, 6, and 7 in the spillway. Each sluice is 7 feet 8 inches in diameter and controlled by a 9-foot butterfly valve, with operating gear contained in the drainage and inspection tunnel that runs longitudinally through the dam. The sluice inlets are equipped with steel trashracks and stoplog slots. The low level sluices have not been regularly operated historically and are not presently operable.

A.1.2 Intake

The intake to the water-conducting tunnel is located along the right shoreline of the reservoir just upstream from the dam. The opening is rectangular in shape with dimensions of 111.5 feet wide and 52.5 feet high, tapering in a distance of 58 feet, 8 inches to a section 34 feet square. The intake is equipped with trashracks and a Stoney-type bulkhead intake gate, which is located approximately 50 feet from the opening where the ~~trashrack~~trash racks are located. The gate and lift structure are situated in front of a near vertical rock face. The gate is operated from an overhead steel frame by electric motors that ~~can be~~are controlled ~~either by~~at the ~~local operator or by remote control from the powerhouse control room~~dam. The gate has dimensions of 42 feet high by 34.5 feet wide, with two internal 4.5-foot-square “filler” gates that can be independently operated. The tunnel headgate is located within the 34-foot-square section. A transition from the 34-foot-square section to the 31-foot circular tunnel section ends at a distance of 101 feet, 6 inches from the entrance.

The intake trashracks are 110 feet wide and 51 feet high and have bar spacing of 3.5 inches on center.

A.1.3 Tunnel

The underground tunnel extends from the end of the intake transition to the penstock system, a distance of 16,240 feet. Of this total length, 10,230 feet is lined, and the remaining portion is unlined through bedrock. The lined sections are circular, while the unlined sections are more oval in shape. The unlined sections are located upstream of the surge basin in the vicinity of Big Creek (about 1,300 feet), and between the surge basin and the surge tank (about 4,700 feet). The tunnel lining is generally concrete, but in the vicinity of the surge tank, an approximately 2,600-foot-long, 30-foot-diameter section is steel-lined.

A.1.4 Surge Basin

The surge basin is a large concrete-lined pool at the ground surface with a tunnel adit (a gently sloping tunnel shaft) connection from one end of the basin to the water-conducting tunnel. At a point approximately 60 percent of the distance from the intake to the powerhouse, the tunnel connects to the surge basin through the adit. The adit is also concrete-lined. The basin is approximately 600 feet long and 170 feet wide. The bottom of the basin is at elevation 800.0 feet, and the top of the parapet wall around the basin is at elevation 830.0 feet. Along one side of the basin is an approximately 150-foot-wide overflow spillway. The crest of the spillway is at elevation 820.0 feet and discharges to the New River bypass reach. Steel ~~trashrack~~[trash racks](#) are installed at the portal of the adit to prevent objects from entering the tunnel from the surge basin. Steel stoplogs for sealing off the tunnel from the surge basin are stored at the adit.

A.1.5 Surge Tank

The tunnel connects through a vertical shaft to the surge tank just upstream of where the tunnel reaches the manifold. The steel differential surge tank is located at the downstream end of the water-conducting tunnel just upstream of the manifold and the penstocks. The ~~riveter~~[riveted](#) steel surge tank is 116 feet in diameter and 56 feet high and is located on the hillside east of the powerhouse. The base of the surge tank is at elevation 787.0 feet, and the rim is at elevation 843.0 feet. The surge tank is connected to the tunnel by a 28-foot-diameter, steel-lined vertical riser. The

tunnel at this point is also steel-lined and has a diameter of 30 feet. The centerline of the tunnel directly beneath the surge tank is at elevation 716.0 feet.

A.1.6 Penstocks and Manifold

As the water-conducting tunnel nears the powerhouse, the penstock to each turbine generator successively exits the tunnel and the tunnel diameter reduces to 30 feet. The penstock system includes a main penstock 30 feet in diameter and 107 feet long, a manifold, and five (5) penstocks, each 14 feet in diameter, with varying lengths of 42 feet to 132 feet, leading from the manifold to four (4) turbines in the powerhouse. The penstocks and manifold are of welded steel reinforced with concrete and heavy steel circumferential rods. The fifth penstock, which was built for an additional generating unit, is bulkheaded off with a steel and concrete bulkhead and the downstream end is filled in with approximately 10 feet of concrete. There are four butterfly penstock valves, one for each turbine unit, located at the end of the penstocks where they enter the powerhouse. The entire penstock system is located in an underground chamber, situated beneath the outdoor switchyard.

A.1.7 Powerhouse

The 210-foot-long by 50-foot-high by 74.5-foot-wide powerhouse substructure is constructed of mass and reinforced concrete and is founded on solid bedrock. The powerhouse is a multistory brick and concrete structure with five generation bays but only four turbine-generators. ~~Each turbine generator is rated at 25.5 MW.~~ The centerline of the scroll cases for each generating unit is at elevation 663.0 feet, which is 157 feet below the normal pool at Hawks Nest Dam. Discharge from the turbine-generators is through submerged draft tubes into the New River.

A.1.8 Tailrace

During original Project construction, a ledge was excavated for a short distance downstream of the powerhouse to improve flows out of the powerhouse. This excavation runs beneath the Chesapeake and Ohio Railway Bridge.

A.2 IMPOUNDMENT SPECIFICATIONS (18 CFR §4.51(b)(2))

The 6.9-mile-long reservoir for Hawks Nest Dam is situated in a narrow valley with an average width of approximately 500 feet. The reservoir extends from approximately the Marr Branch confluence, located downstream of the New River Gorge Bridge, to Hawks Nest Dam. The total length of the impoundment shoreline is approximately 15.7 miles. The drainage area at the reservoir is 6,913 square miles. At normal pool, the reservoir has a surface area of 243 acres and a gross storage capacity of 7,323 acre-feet. Because the Project is operated as run-of-river as further explained below, the reservoir has no significant usable storage capacity.

As presently constructed, the maximum reservoir elevation is 820.0 feet. The Hawks Nest Project operates in a run-of-river mode, with inflow to the Project approximating outflow, with an approved seasonal ramping rate. The surface of the reservoir is typically operated at 819.0 feet. Operation of the Project below 818.50 feet would require notification to [WVDNR, West Virginia Division of Natural Resources \(WVDNR\)](#). The reservoir does not typically rise above 819.5 feet during normal operations. Operation of the Project in this range provides a minimum of 0.5 feet of freeboard to provide limited storage (approximately 122 acre-feet) to decrease the risk of overtopping the dam in the event of a typical powerhouse load rejection event and to facilitate implementation of the seasonal ramping rate requirement for the protection of downstream public safety and aquatic resources, as described more fully in Exhibit B.

A.3 TURBINE AND GENERATOR SPECIFICATIONS (18 CFR §4.51(b)(3))

The Hawks Nest powerhouse contains four [units. Unit 1 and Unit 2 are identical to each other, and Unit 3 and Unit 4 are identical to each other.](#)

A.3.1 Unit 1 and Unit 2

[Units 1 and 2 are identical vertical Francis turbines manufactured by ~~I. Litostroj~~. Each turbine has a nameplate rating of 38,333 ~~P. Morris~~. The turbines are rated at 35,000 horsepower \(hp\) \(28,750 kilowatt \[kW\]\) at 157 feet of net head and a speed of 150 rotations per minute \(rpm\). The runners are fabricated of stainless steel. The distributor centerline is located at an elevation of 663.0 feet, which is approximately 7.3 feet above tailwater at 10,000 cubic feet per second \(cfs\)](#)

discharge from the station. The minimum and maximum hydraulic capacities of each turbine are 250 cfs (with smoothing air admission) and 2,650 cfs, respectively. The turbines generally operate over this full range of flows. Turbine details are summarized in Table A-1.

The generators are Indar generators with a 37,000 kVA rating and 0.85 power factor (31,450 kW), 3-phase, frequency of 60 Hz, voltage 13,800, and speed of 150 rpm. 13.8 kilo-volt (kV) generator leads are included as part of the Project. Generator details are summarized in Table A-2.

A.3.2 Unit 3 and Unit 4

Units 3 and 4 are the original identical vertical Francis turbines manufactured by I. P. Morris. The turbines are rated at 35,000 hp (26,250 kW) at 157 feet of net head and a speed of 150 rpm. The runners are fabricated of cast steel with a throat diameter of 125 inches. The distributor centerline is located at an elevation of 663.0 feet, which is approximately 7.3 feet above tailwater at 10,000 cubic feet per second (cfs) discharge. The minimum and maximum hydraulic capacities of each turbine are 800 cfs and 2,540 cfs, respectively. The turbines generally operate over this full range of flows. Turbine details are summarized in Table A-1.

The ~~four~~ identical original generators are Westinghouse ~~Umbrella~~umbrella-type generators with a 30,000 kVA rating, ~~and~~ 0.85 power factor, ~~(25,500 kW)~~, 3-phase, frequency of 25 Hz, voltage 6,900, and speed of 150 rpm. 6.9 kilovolt (kV) generator leads are included as part of the Project. Unit 4 suffered a generator failure in 2013 and was subsequently reassembled, refurbished, and rewound to match its original specifications. Generator details are summarized in Table A-2.

A.3.3 The Hawks Nest turbine units have a total installed capacity of 105.0 MW, and the generators have a total installed capacity of 102.0 MW. Because Unit Capacities

As defined by FERC, the authorized installed capacity means for each unit is the lesser of the ratings of the ~~generators~~generator or turbine units, ~~the~~. The authorized installed capacity for each turbine-generator unit, and for the entire Hawks Nest Project, is ~~considered by FERC to have~~ aprovded in Table A-3. With Units 1 and 2 upgraded (estimated in service date 2028), the total

authorized capacity of ~~102.0~~the Project will be 108.5 MW, and at this output, the ~~nominal design~~maximum hydraulic capacity of the Project is considered to be 10,~~000~~380 cfs.

TABLE A-1 HAWKS NEST PROJECT TURBINE SPECIFICATIONS

	Unit 1	Unit 2	Unit 3	Unit 4
Type	Vertical, Francis	Vertical, Francis	Vertical, Francis	Vertical, Francis
Manufacturer	I.P. Morris <u>Litostroj</u>	I.P. Morris <u>Litostroj</u>	I.P. Morris	I.P. Morris
Year installed	1931-1933 ⁺ <u>2027</u> ¹	1931-1933 ⁺ <u>2028</u> ¹	1931- 1933 ⁺ <u>1933</u> ²	1931- 1933 ⁺ <u>1933</u> ²
Last overhaul date	2027 ¹ <u>None</u>	1999 <u>2028</u> ¹	None	None
Rated capacity (hp)	35,000 <u>38,333</u>	35,000 <u>38,333</u>	35,000	35,000
<u>Rated capacity (kW)</u>	<u>28,750</u>	<u>28,750</u>	<u>26,250</u>	<u>26,250</u>
Rated head (ft)	157	157	157	157
Speed (rpm)	150	150	150	150
Runner replacement date	N/A - Original <u>2027</u> ¹	N/A - Original <u>2028</u> ¹	N/A - Original	N/A - Original
Runner material	Cast <u>Stainless Steel</u>	Cast <u>Stainless Steel</u>	Cast Steel	Cast Steel
Runner Manufacturer	Original <u>Litostroj</u>	Original <u>Litostroj</u>	Original	Original
Minimum hydraulic capacity	800 <u>250</u> cfs <u>with air admission</u>	800 <u>250</u> cfs <u>with air admission</u>	800 cfs	800 cfs
Maximum hydraulic capacity	2,540 <u>650</u> cfs	2,540 <u>650</u> cfs	2,540 cfs	2,540 cfs
Governor Type	Woodward GS Electro- mechanical <u>hydraulic</u>	Woodward GS Electro- mechanical <u>hydraulic</u>	Woodward GS Electro-mechanical	Woodward GS Electro-mechanical
Governor Installation Date	Upgrade 1972-1973 <u>2027</u> ¹	Upgrade 1972-1973 <u>2028</u> ¹	Upgrade 1972-1973	Upgrade 1972-1973

¹ Proposed operation dates

² Hawks Nest began partial commercial operation in 1936 and full operation in 1937. The units were installed between 1931 and 1933. Plant operation was delayed until 1936 due to an earlier penstock collapse requiring redesign, major repairs, and addition of the surge tank.

TABLE A-2 HAWKS NEST PROJECT GENERATOR SPECIFICATIONS

	Unit 1	Unit 2	Unit 3	Unit 4
Type	Vertical	Vertical	Vertical	Vertical
Manufacturer	<u>WestinghouseIndar</u>	<u>WestinghouseIndar</u>	Westinghouse	Westinghouse (refurbished by NEC)
Year installed	<u>1931-1933</u> <u>2027</u> ¹	<u>1931-1933</u> <u>2028</u> ¹	1931-1933	1931-1933 (refurbished 2014)
Rating (kVA)	<u>30</u> <u>37,000</u>	<u>30</u> <u>37,000</u>	30,000	30,000
Power Factor	0.85	0.85	0.85	0.85
Rating (kW)	<u>31,450</u>	<u>31,450</u>	<u>25,500</u>	<u>25,500</u>
Phases	3	3	3	3
Frequency (Hz)	<u>25</u> <u>60</u>	<u>25</u> <u>60</u>	25	25
Speed (rpm)	150	150	150	150
Voltage (V)	<u>6,900</u> <u>13,800</u>	<u>6,900</u> <u>13,800</u>	6,900	6,900
Last rewind	None	<u>None</u> <u>1999</u>	None	2014

¹ Proposed operation dates

TABLE A.4—3 HAWKS NEST PROJECT AUTHORIZED INSTALLED CAPACITIES

Unit	Existing				Proposed			
	<u>Turbine Rating (kW)</u> ¹	<u>Generator Rating (kW)</u> ²	<u>AIC (kW)</u> ³	<u>Maximum Hydraulic Capacity (cfs)</u>	<u>Turbine Rating (kW)</u> ¹	<u>Generator Rating (kW)</u> ²	<u>AIC (kW)</u> ³	<u>Maximum Hydraulic Capacity (cfs)</u>
<u>1</u>	<u>26,250</u>	<u>25,500</u>	<u>25,500</u>	<u>2,540</u>	<u>28,750</u>	<u>31,450</u>	<u>28,750</u>	<u>2,650</u>
<u>2</u>	<u>26,250</u>	<u>25,500</u>	<u>25,500</u>	<u>2,540</u>	<u>28,750</u>	<u>31,450</u>	<u>28,750</u>	<u>2,650</u>
<u>3</u>	<u>26,250</u>	<u>25,500</u>	<u>25,500</u>	<u>2,540</u>	<u>26,250</u>	<u>25,500</u>	<u>25,500</u>	<u>2,540</u>
<u>4</u>	<u>26,250</u>	<u>25,500</u>	<u>25,500</u>	<u>2,540</u>	<u>26,250</u>	<u>25,500</u>	<u>25,500</u>	<u>2,540</u>
Total	105,000	102,000	102,000	10,160	110,000	113,900	108,500	10,380

¹ At best efficiency gate position under 157 feet of net head

² At 0.85 power factor

³ Authorized Installed Capacity (AIC) - the lesser of the ratings of the generator or turbine units, as defined by 18 CFR § 11.1(i)

A.4 TRANSMISSION LINES AND EQUIPMENT SPECIFICATIONS (18 CFR §4.51(b)(4-5))

A.4.1 Transmission Lines

~~Each generating unit has a dedicated step-up transformer (unit type topology) with a generator breaker at 69 kilovolts (kV) (25 Hz). The length of each generator lead is approximately 200 feet. The Hawks Nest switchyard has double 69 kV busses (bus A and B). Each generating unit can be switched to bus A or bus B. Both 69 kV lines can also be switched on both busses through a pair of line breakers. The normal operating topology is two generating units and one outgoing line per 69 kV bus. The switchyard is designed to accommodate one additional transmission line at 69 kV and one additional generating unit.~~

~~A 6.9 kV (25 Hz) transmission line provides station power from the Hawks Nest powerhouse to the Hawks Nest Dam. This approximately 3.1 mile long overhead transmission line follows the course of the power tunnel. The Hawks Nest Project also includes two parallel, approximately 5.5-mile long, 69 kV transmission lines that connect the substation at the Hawks Nest powerhouse to the Alloy Substation. (The transmission lines run in parallel with the one 13.8 kV Glen Ferris Project transmission lines that connect the Glen Ferris substation with the Alloy Substation.) No other transmission lines are included in the Project.~~

~~A.4.2—The Hawks Nest Project features two switchyards that contain both 25Hz and 60Hz infrastructure, one 25Hz to 60Hz Frequency Converter, and transmission lines as described below.~~

~~The four generating units are connected to the Hawks Nest Switchyard located directly behind the Hawks Nest powerhouse. The Hawks Nest Switchyard contains **three** transformers, SF6 circuit breakers, disconnecting switches, lightning arrestors, and bus bars on the high tension side of the transformers. There are two main power transformers for Units 3 and 4, each rated at 30,000 kVA, 3 phase, 25Hz, which step voltage up from 6,900 volts to 69,000 volts. A third main power transformer for Units 1 and 2, rated 80,000 kVA, 3 phase, 60Hz steps up the voltage from 13,800 volts to 138,000 volts. A single auxiliary power transformer in the powerhouse steps down the 13,800 volt generator voltage on Units 1 and 2 to auxiliary bus voltage of 480 volts. Additionally,~~

an auxiliary dam feeder transformer, supplied from 60Hz switchgear, increases the voltage from 480V on the 60Hz bus to a 3.1-mile-long, 6,900 volt, 3-phase service line that carries energy from the Hawks Nest Station auxiliary power bus to electrical equipment at Hawks Nest Dam. The voltage at the dam is then stepped down by a station service transformer to 480 volts.

Unit 1 and Unit 2 are connected to 13.8kV 60Hz generator switchgear located within the powerhouse. The generator switchgear is connected to a common step-up transformer located within the Hawks Nest Switchyard which is then connected to the Hawks Nest Frequency Converter Switchyard via an approximately 500-foot-long 138kV 60Hz overhead transmission line (Line G12).

Unit 3 and Unit 4 are each directly connected to an independent step-up transformer located within the Hawks Nest Switchyard, both of which connect to the 25Hz 69kV bus. A 69kV 25Hz overhead transmission line (Line 2) is routed approximately 500 feet from the Hawks Nest Switchyard to the Hawks Nest Frequency Converter Switchyard. The output of Unit 3 and Unit 4 is stepped down to 13.8kV at the Hawks Nest Frequency Converter Switchyard via a transformer and connected to the Frequency Converter for conversion to 60Hz.

The Hawks Nest Frequency Converter Switchyard contains the Frequency Converter and marshals the output of the four Hawks Nest Units as well as the eight Glen Ferris Project Units to the overall power grid. It houses a 53-MVA General Electric static frequency converter. The output of the Frequency Converter is connected to a 13.8kV 60Hz switchgear co-located with the Frequency Converter. The 60Hz Frequency Converter output is then stepped up to 138kV via a transformer in the Hawks Nest Frequency Converter Switchyard and connected to the 138kV 60Hz bus.

An approximately 6-mile-long 138kV 60Hz overhead (primary) transmission line connects the Hawks Nest Frequency Converter Switchyard 138kV bus to a 138kV breaker in the Alloy substation (Line 3).

A.5 APPURTENANT EQUIPMENT (18 CFR §4.51(b)(5))

The turbine-generators are controlled by digital governors rated at 30,000 foot-pounds. Each governor is equipped with a solenoid-operated shutdown system, oil pressure relays, and limit switches.

Each turbine is provided with a 15-foot-diameter hydraulically operated, butterfly style, shutoff valve. ~~Each valve has its own hydraulic system with pressure tank, pressure pumps and motors.~~ Units 1 and 2 each have a High Pressure Control System to control the butterfly valve and Units 3 and 4 have a common low pressure accumulator system that includes common motors, pumps, and pressure tank for butterfly valve control.

The governor hydraulic oil system for Units 1 and 2 was installed in 2027-2028. It is a high-pressure system with two main circulating oil pumps, one main and one standby. Each pump has sufficient capacity to handle the complete circulating oil requirements from the unit.

The governor hydraulic oil system for Units 3 and 4 contains most of the original hydraulic components although the governors ~~for all four units~~ were upgraded to Woodward Type GS actuator in 1972 to 1973. The governor oil system for Units 3 and 4 is a low-pressure system with a normal operating pressure of 175 pounds per square inch gauge (psig). Each unit has a 25 hp electric motor driven rotary oil pump, unloader valve and sump tank. There is a common pressure (accumulator) tank for ~~each pair of units. The pressure tanks, oil pumps and motors are located on the operating floor. The sump tank is located on the floor below the operating floor.~~ Units 3 and 4.

The air system consists of two 10 hp electric motor driven air compressors, two receiver tanks, and two refrigerated air driers. The normal air system operating pressure is 175 psig. Air is supplied to the governor and accumulator tanks to provide the pressure cushion and to the generator air brake mechanisms. Air is also supplied for the general plant air system for maintenance uses.

The basement elevation includes a small sump pit for accumulating and discharging accumulated station leakage to the tailrace. The sump pit contains two vertical shaft sump pumps each rated at 200 gallons per minute. There is an emergency sump pump rated at 400 gallons per minute. The

sump includes an oil detector which alarms to the plant control room plus a closed-circuit TV camera for the operator to monitor the sump.

Service water is normally supplied off head pressure with takeoffs at each penstock. The normal water pressure is approximately 60 to 65 psig. There are also two emergency service water pumps tied into the service water system rated at 125 gallons per minute (gpm). Each generator is equipped with a water-based fire suppression system. All four units are equipped with a water-based fire suppression system. ~~The transformer yard includes an automatic deluge system for the four transformers. This system works off static penstock pressure, but also includes a motor-driven pump for emergency water supply.~~

~~The Hawks Nest facility is equipped with an oil storage and purification system which is used during unit outages. The system consists of two large oil tanks of approximately 1,800 gallon capacity each, one for storing dirty oil and the other clean oil. The system also includes a centrifuge style oil purifier with two rotary pumps.~~

Each generator has a shaft mounted exciter rated at ~~100 kilowatt (kW).~~ 100kW.

The generator room is spanned by an overhead ~~traveling~~bridge crane with a main hoist of 175 tons capacity and two auxiliary hoists of 35 tons each. The crane is operated by ~~2560~~ Hz, ~~440~~480 volt motors.

The Hawks Nest facility is monitored and operated from the control desk located in the control room in the powerhouse. The control room contains the main and auxiliary switchboards, water level recording instruments, and ~~an annunciator panel alarm system panel.~~ a Human to Machine interface (HMI) control. The main switchboard has a panel for each of the four turbine-generators, and one for each of the two connected transmission lines ~~and one for redac supervisory remote control of the Hawks Nest Hydro Station.~~

~~The outdoor switchyard contains transformers, oil circuit breakers, disconnecting switches, lightning arrestors, and duplicate bus bars on the high tension side of the transformers.~~

~~There are four main power transformers, each rated at 30,000 kVA, 3 phase, 25 Hz, which step voltage up from 6,900 volts to 69,000 volts. These transformers are protected by an automatic fire protection sprinkler system connected to an adjacent pump house which contains appropriate pumps, deluge valves, alarms, and automatic control devices. Duplicate auxiliary power transformers in the switchyard step down the 6,900 volt generator voltage to auxiliary bus voltage of 460 volts. Additionally, an auxiliary dam feeder transformer increases the voltage from the bus to the 6,900 volt and a 3 phase 25 hertz service line that carries energy from the Hawks Nest Station auxiliary power bus to electrical equipment at Hawks Nest Dam. The voltage at the dam is then stepped down by a service transformer to 440 volts.~~

~~A 28 conductor remote control and communication cable is installed from the powerhouse to the dam. Also installed is a multiplex tone operated system with transmitters and receivers at the dam and at the powerhouse control room.~~

A.6 ~~A.5~~—UNITED STATES LANDS WITHIN PROJECT BOUNDARY (18 CFR §4.51(b)(6))

There are no lands of the United States included within the project boundary of the Hawks Nest Project.

Exhibit A
Revised Version

Exhibit A

Project Description (18 CFR §4.51(b))

A.1 PHYSICAL COMPOSITION, DIMENSIONS, AND GENERAL CONFIGURATION (18 CFR §4.51(b)(1))

The Hawks Nest Project is located upstream of the Glen Ferris Project, on the New River just upstream of the confluence of the New and Gauley Rivers. The Project is located in the towns of Ansted and Gauley Bridge, in Fayette County, West Virginia. As described in detail below, the Hawks Nest Project generally consists of a concrete gravity dam with 14 spillway bays, each with a steel crest gate, a power tunnel intake structure with intake gate, trashracks and a trash rake, a water-conducting tunnel, a surge basin, a surge tank, four water-conveying penstocks and one bulkheaded penstock, a manifold, and a powerhouse containing four turbine-generator units. A 5.5-mile long segment (“bypass reach”) of the New River extends between Hawks Nest Dam and the powerhouse. The bypass reach occupies a narrow gorge, with heavily wooded mountainsides forming the channel walls. The Cotton Hill Bridge crosses the bypass reach at a point 4.2 miles upstream of the powerhouse. With the exception of an access area in the vicinity of the Cotton Hill Bridge and a few informal trails, access to the bypass reach is mostly precluded by steep slopes and vegetation.

A.1.1 Dam

The dam is a concrete gravity structure (mostly a spillway). The dam is approximately 948 feet long (from left abutment to right abutment¹) oriented along a generally northwest-southeast axis, with a permanent crest elevation of 795.0 feet. The operating deck above the spillway is at elevation 832.0 feet mean sea level (msl²) with upstream and downstream concrete walls extending to elevation 835.5 feet. The maximum height of the dam from the deepest part of the foundation

¹ Throughout this volume, all references to “left” and “right” are defined from the perspective looking downstream.

² All elevations in this license application are based on the msl National Geodetic Vertical Datum of 1929 (NGVD29), unless otherwise noted.

to the operating deck is about 90 feet. There is a drainage and inspection gallery that runs the entire length of the dam with a floor elevation at 773.25 feet. There are 16 relief wells and 9 piezometers located in the drainage gallery.

The normal pool elevation of the reservoir is elevation 819.0 feet.

The 14 ogee-type spillway bays are each 50 feet wide and have a 25-foot-high by 50-foot-wide Stoney-type vertical lift gate. Each gate, including roller trains, weighs 73.3 tons. The concrete crest elevation of each bay is at elevation 795.0 feet and the top elevation of the gates is at elevation 820.0 feet in the closed position. Separating each spillway gate bay is a 9-foot-wide concrete pier.

The crest gates are operated by two gantry cranes on rails running the entire length of the dam. Each crane has a lifting capacity of 100 tons. Each crane has a lifting beam with an automatic device for engaging and disengaging the gate to be moved. The gates can be latched open at various heights of lift. The two cranes are equipped with electric controls so that all 14 gates may be raised or lowered by remote control from the powerhouse control room (gates 1 through 7 are on one trolley power system, and gates 8 through 14 are on a second trolley power system).

In 2013-2014, 49 post-tension anchors were installed in the 31 monoliths comprising the 14 spillway bays of the ogee spillway structure, with each monolith getting one or two 28- to 50-strand anchors with design loads ranging from 987 kips to 1762 kips, respectively. The encapsulated anchors with grout encased epoxy strands extend the full length of each strand. Documentation of completion of the post-tension anchor installation is contained in the final project completion report filed by Hawks Nest Hydro on March 9, 2015, with the Commission and subsequently approved by the Commission on April 16, 2015.

Located between the main spillway section and the right abutment is a 10-foot-wide trash spillway which is equipped with steel stoplogs and has a sill elevation of 810.0 feet. The trash spillway stoplogs (“trash gate”) are operated by an electric motor, as required, to pass debris and to maintain the required minimum flow.

The dam has non-overflow sections which adjoin each abutment. On the right abutment, the non-overflow section extends to the bedrock abutment, and is about 30 feet long with a 15-foot cutoff

wall to the bedrock abutment. The left non-overflow section is about 30 feet long with a core wall that is 105 feet long and ends with a vertical wall about 7 feet high.

An earthen embankment dike is located upstream of the left abutment. A buried concrete core wall with a crest elevation of approximately 832.0 feet extends into the abutment.

There are six steel-lined low level sluices located beneath gates 5, 6, and 7 in the spillway. Each sluice is 7 feet 8 inches in diameter and controlled by a 9-foot butterfly valve, with operating gear contained in the drainage and inspection tunnel that runs longitudinally through the dam. The sluice inlets are equipped with steel trashracks and stoplog slots. The low level sluices have not been regularly operated historically and are not presently operable.

A.1.2 Intake

The intake to the water-conducting tunnel is located along the right shoreline of the reservoir just upstream from the dam. The opening is rectangular in shape with dimensions of 111.5 feet wide and 52.5 feet high, tapering in a distance of 58 feet, 8 inches to a section 34 feet square. The intake is equipped with trash racks and a Stoney-type bulkhead intake gate, which is located approximately 50 feet from the opening where the trash racks are located. The gate and lift structure are situated in front of a near vertical rock face. The gate is operated from an overhead steel frame by electric motors that are controlled at the dam. The gate has dimensions of 42 feet high by 34.5 feet wide, with two internal 4.5-foot-square “filler” gates that can be independently operated. The tunnel headgate is located within the 34-foot-square section. A transition from the 34-foot-square section to the 31-foot circular tunnel section ends at a distance of 101 feet, 6 inches from the entrance.

The intake trashracks are 110 feet wide and 51 feet high and have bar spacing of 3.5 inches on center.

A.1.3 Tunnel

The underground tunnel extends from the end of the intake transition to the penstock system, a distance of 16,240 feet. Of this total length, 10,230 feet is lined, and the remaining portion is unlined through bedrock. The lined sections are circular, while the unlined sections are more oval

in shape. The unlined sections are located upstream of the surge basin in the vicinity of Big Creek (about 1,300 feet), and between the surge basin and the surge tank (about 4,700 feet). The tunnel lining is generally concrete, but in the vicinity of the surge tank, an approximately 2,600-foot-long, 30-foot-diameter section is steel-lined.

A.1.4 Surge Basin

The surge basin is a large concrete-lined pool at the ground surface with a tunnel adit (a gently sloping tunnel shaft) connection from one end of the basin to the water-conducting tunnel. At a point approximately 60 percent of the distance from the intake to the powerhouse, the tunnel connects to the surge basin through the adit. The adit is also concrete-lined. The basin is approximately 600 feet long and 170 feet wide. The bottom of the basin is at elevation 800.0 feet, and the top of the parapet wall around the basin is at elevation 830.0 feet. Along one side of the basin is an approximately 150-foot-wide overflow spillway. The crest of the spillway is at elevation 820.0 feet and discharges to the New River bypass reach. Steel trash racks are installed at the portal of the adit to prevent objects from entering the tunnel from the surge basin. Steel stoplogs for sealing off the tunnel from the surge basin are stored at the adit.

A.1.5 Surge Tank

The tunnel connects through a vertical shaft to the surge tank just upstream of where the tunnel reaches the manifold. The steel differential surge tank is located at the downstream end of the water-conducting tunnel just upstream of the manifold and the penstocks. The riveted steel surge tank is 116 feet in diameter and 56 feet high and is located on the hillside east of the powerhouse. The base of the surge tank is at elevation 787.0 feet, and the rim is at elevation 843.0 feet. The surge tank is connected to the tunnel by a 28-foot-diameter, steel-lined vertical riser. The tunnel at this point is also steel-lined and has a diameter of 30 feet. The centerline of the tunnel directly beneath the surge tank is at elevation 716.0 feet.

A.1.6 Penstocks and Manifold

As the water-conducting tunnel nears the powerhouse, the penstock to each turbine generator successively exits the tunnel and the tunnel diameter reduces to 30 feet. The penstock system

includes a main penstock 30 feet in diameter and 107 feet long, a manifold, and five (5) penstocks, each 14 feet in diameter, with varying lengths of 42 feet to 132 feet, leading from the manifold to four (4) turbines in the powerhouse. The penstocks and manifold are of welded steel reinforced with concrete and heavy steel circumferential rods. The fifth penstock, which was built for an additional generating unit, is bulkheaded off with a steel and concrete bulkhead and the downstream end is filled in with approximately 10 feet of concrete. There are four butterfly penstock valves, one for each turbine unit, located at the end of the penstocks where they enter the powerhouse. The entire penstock system is located in an underground chamber, situated beneath the outdoor switchyard.

A.1.7 Powerhouse

The 210-foot-long by 50-foot-high by 74.5-foot-wide powerhouse substructure is constructed of mass and reinforced concrete and is founded on solid bedrock. The powerhouse is a multistory brick and concrete structure with five generation bays but only four turbine-generators. The centerline of the scroll cases for each generating unit is at elevation 663.0 feet, which is 157 feet below the normal pool at Hawks Nest Dam. Discharge from the turbine-generators is through submerged draft tubes into the New River.

A.1.8 Tailrace

During original Project construction, a ledge was excavated for a short distance downstream of the powerhouse to improve flows out of the powerhouse. This excavation runs beneath the Chesapeake and Ohio Railway Bridge.

A.2 IMPOUNDMENT SPECIFICATIONS (18 CFR §4.51(b)(2))

The 6.9-mile-long reservoir for Hawks Nest Dam is situated in a narrow valley with an average width of approximately 500 feet. The reservoir extends from approximately the Marr Branch confluence, located downstream of the New River Gorge Bridge, to Hawks Nest Dam. The total length of the impoundment shoreline is approximately 15.7 miles. The drainage area at the reservoir is 6,913 square miles. At normal pool, the reservoir has a surface area of 243 acres and a gross storage capacity of 7,323 acre-feet. Because the Project is operated as run-of-river as further explained below, the reservoir has no significant usable storage capacity.

As presently constructed, the maximum reservoir elevation is 820.0 feet. The Hawks Nest Project operates in a run-of-river mode, with inflow to the Project approximating outflow, with an approved seasonal ramping rate. The surface of the reservoir is typically operated at 819.0 feet. Operation of the Project below 818.50 feet would require notification to West Virginia Division of Natural Resources (WVDNR). The reservoir does not typically rise above 819.5 feet during normal operations. Operation of the Project in this range provides a minimum of 0.5 feet of freeboard to provide limited storage (approximately 122 acre-feet) to decrease the risk of overtopping the dam in the event of a typical powerhouse load rejection event and to facilitate implementation of the seasonal ramping rate requirement for the protection of downstream public safety and aquatic resources, as described more fully in Exhibit B.

A.3 TURBINE AND GENERATOR SPECIFICATIONS (18 CFR §4.51(b)(3))

The Hawks Nest powerhouse contains four units. Unit 1 and Unit 2 are identical to each other, and Unit 3 and Unit 4 are identical to each other.

A.3.1 Unit 1 and Unit 2

Units 1 and 2 are identical vertical Francis turbines manufactured by Litostrój. Each turbine has a nameplate rating of 38,333 horsepower (hp) (28,750 kilowatt [kW]) at 157 feet of net head and a speed of 150 rotations per minute (rpm). The runners are fabricated of stainless steel. The distributor centerline is located at an elevation of 663.0 feet, which is approximately 7.3 feet above tailwater at 10,000 cubic feet per second (cfs) discharge from the station. The minimum and maximum hydraulic capacities of each turbine are 250 cfs (with smoothing air admission) and 2,650 cfs, respectively. The turbines generally operate over this full range of flows. Turbine details are summarized in Table A-1.

The generators are Indar generators with a 37,000 kVA rating and 0.85 power factor (31,450 kW), 3-phase, frequency of 60 Hz, voltage 13,800, and speed of 150 rpm. 13.8 kilo-volt (kV) generator leads are included as part of the Project. Generator details are summarized in Table A-2.

A.3.2 Unit 3 and Unit 4

Units 3 and 4 are the original identical vertical Francis turbines manufactured by I. P. Morris. The turbines are rated at 35,000 hp (26,250 kW) at 157 feet of net head and a speed of 150 rpm. The runners are fabricated of cast steel with a throat diameter of 125 inches. The distributor centerline is located at an elevation of 663.0 feet, which is approximately 7.3 feet above tailwater at 10,000 cfs discharge. The minimum and maximum hydraulic capacities of each turbine are 800 cfs and 2,540 cfs, respectively. The turbines generally operate over this full range of flows. Turbine details are summarized in Table A-1.

The identical original generators are Westinghouse umbrella-type generators with a 30,000 kVA rating and 0.85 power factor (25,500 kW), 3-phase, frequency of 25 Hz, voltage 6,900, and speed of 150 rpm. 6.9 kilovolt (kV) generator leads are included as part of the Project. Unit 4 suffered a generator failure in 2013 and was subsequently reassembled, refurbished, and rewound to match its original specifications. Generator details are summarized in Table A-2.

A.3.3 Unit Capacities

As defined by FERC, the authorized installed capacity for each unit is the lesser of the ratings of the generator or turbine. The authorized installed capacity for each turbine-generator unit, and for the entire Hawks Nest Project, is provided in Table A-3. With Units 1 and 2 upgraded (estimated in service date 2028), the total authorized capacity of the Project will be 108.5 MW, and at this output, the design maximum hydraulic capacity of the Project is considered to be 10,380 cfs.

TABLE A-1 HAWKS NEST PROJECT TURBINE SPECIFICATIONS

	Unit 1	Unit 2	Unit 3	Unit 4
Type	Vertical, Francis	Vertical, Francis	Vertical, Francis	Vertical, Francis
Manufacturer	Litostroj	Litostroj	I.P. Morris	I.P. Morris
Year installed	2027 ¹	2028 ¹	1931-1933 ²	1931-1933 ²
Last overhaul date	2027 ¹	2028 ¹	None	None
Rated capacity (hp)	38,333	38,333	35,000	35,000
Rated capacity (kW)	28,750	28,750	26,250	26,250
Rated head (ft)	157	157	157	157
Speed (rpm)	150	150	150	150
Runner replacement date	2027 ¹	2028 ¹	N/A - Original	N/A - Original
Runner material	Stainless Steel	Stainless Steel	Cast Steel	Cast Steel
Runner Manufacturer	Litostroj	Litostroj	Original	Original
Minimum hydraulic capacity	250 cfs with air admission	250 cfs with air admission	800 cfs	800 cfs
Maximum hydraulic capacity	2,650 cfs	2,650 cfs	2,540 cfs	2,540 cfs
Governor Type	Electro-hydraulic	Electro-hydraulic	Woodward GS Electro-mechanical	Woodward GS Electro-mechanical
Governor Installation Date	2027 ¹	2028 ¹	Upgrade 1972- 1973	Upgrade 1972- 1973

¹ Proposed operation dates

² Hawks Nest began partial commercial operation in 1936 and full operation in 1937. The units were installed between 1931 and 1933. Plant operation was delayed until 1936 due to an earlier penstock collapse requiring redesign, major repairs, and addition of the surge tank.

TABLE A-2 HAWKS NEST PROJECT GENERATOR SPECIFICATIONS

	Unit 1	Unit 2	Unit 3	Unit 4
Type	Vertical	Vertical	Vertical	Vertical
Manufacturer	Indar	Indar	Westinghouse	Westinghouse (refurbished by NEC)
Year installed	2027 ¹	2028 ¹	1931-1933	1931-1933 (refurbished 2014)
Rating (kVA)	37,000	37,000	30,000	30,000
Power Factor	0.85	0.85	0.85	0.85
Rating (kW)	31,450	31,450	25,500	25,500
Phases	3	3	3	3
Frequency (Hz)	60	60	25	25
Speed (rpm)	150	150	150	150
Voltage (V)	13,800	13,800	6,900	6,900
Last rewind	None	None	None	2014

¹ Proposed operation dates

TABLE A-3 HAWKS NEST PROJECT AUTHORIZED INSTALLED CAPACITIES

Unit	Existing				Proposed			
	Turbine Rating (kW) ¹	Generator Rating (kW) ²	AIC (kW) ³	Maximum Hydraulic Capacity (cfs)	Turbine Rating (kW) ¹	Generator Rating (kW) ²	AIC (kW) ³	Maximum Hydraulic Capacity (cfs)
1	26,250	25,500	25,500	2,540	28,750	31,450	28,750	2,650
2	26,250	25,500	25,500	2,540	28,750	31,450	28,750	2,650
3	26,250	25,500	25,500	2,540	26,250	25,500	25,500	2,540
4	26,250	25,500	25,500	2,540	26,250	25,500	25,500	2,540
Total	105,000	102,000	102,000	10,160	110,000	113,900	108,500	10,380

¹ At best efficiency gate position under 157 feet of net head

² At 0.85 power factor

³ Authorized Installed Capacity (AIC) - the lesser of the ratings of the generator or turbine units, as defined by 18 CFR § 11.1(i)

A.4 TRANSMISSION LINES AND EQUIPMENT SPECIFICATIONS (18 CFR §4.51(b)(4))

The Hawks Nest Project features two switchyards that contain both 25Hz and 60Hz infrastructure, one 25Hz to 60Hz Frequency Converter, and transmission lines as described below.

The four generating units are connected to the Hawks Nest Switchyard located directly behind the Hawks Nest powerhouse. The Hawks Nest Switchyard contains three transformers, SF6 circuit breakers, disconnecting switches, lightning arrestors, and bus bars on the high tension side of the transformers. There are two main power transformers for Units 3 and 4, each rated at 30,000 kVA, 3 phase, 25Hz, which step voltage up from 6,900 volts to 69,000 volts. A third main power transformer for Units 1 and 2, rated 80,000 kVA, 3 phase, 60Hz steps up the voltage from 13,800 volts to 138,000 volts. A single auxiliary power transformer in the powerhouse steps down the 13,800 volt generator voltage on Units 1 and 2 to auxiliary bus voltage of 480 volts. Additionally, an auxiliary dam feeder transformer, supplied from 60Hz switchgear, increases the voltage from 480V on the 60Hz bus to a 3.1-mile-long, 6,900 volt, 3-phase service line that carries energy from the Hawks Nest Station auxiliary power bus to electrical equipment at Hawks Nest Dam. The voltage at the dam is then stepped down by a station service transformer to 480 volts.

Unit 1 and Unit 2 are connected to 13.8kV 60Hz generator switchgear located within the powerhouse. The generator switchgear is connected to a common step-up transformer located within the Hawks Nest Switchyard which is then connected to the Hawks Nest Frequency Converter Switchyard via an approximately 500-foot-long 138kV 60Hz overhead transmission line (Line G12).

Unit 3 and Unit 4 are each directly connected to an independent step-up transformer located within the Hawks Nest Switchyard, both of which connect to the 25Hz 69kV bus. A 69kV 25Hz overhead transmission line (Line 2) is routed approximately 500 feet from the Hawks Nest Switchyard to the Hawks Nest Frequency Converter Switchyard. The output of Unit 3 and Unit 4 is stepped down to 13.8kV at the Hawks Nest Frequency Converter Switchyard via a transformer and connected to the Frequency Converter for conversion to 60Hz.

The Hawks Nest Frequency Converter Switchyard contains the Frequency Converter and marshals the output of the four Hawks Nest Units as well as the eight Glen Ferris Project Units to the overall power grid. It houses a 53-MVA General Electric static frequency converter. The output of the Frequency Converter is connected to a 13.8kV 60Hz switchgear co-located with the Frequency Converter. The 60Hz Frequency Converter output is then stepped up to 138kV via a transformer in the Hawks Nest Frequency Converter Switchyard and connected to the 138kV 60Hz bus.

An approximately 6-mile-long 138kV 60Hz overhead (primary) transmission line connects the Hawks Nest Frequency Converter Switchyard 138kV bus to a 138kV breaker in the Alloy substation (Line 3).

A.5 APPURTENANT EQUIPMENT (18 CFR §4.51(b)(5))

The turbine-generators are controlled by digital governors rated at 30,000 foot-pounds. Each governor is equipped with a solenoid-operated shutdown system, oil pressure relays, and limit switches.

Each turbine is provided with a 15-foot-diameter hydraulically operated, butterfly style, shutoff valve. Units 1 and 2 each have a High Pressure Control System to control the butterfly valve and Units 3 and 4 have a common low pressure accumulator system that includes common motors, pumps, and pressure tank for butterfly valve control.

The governor hydraulic oil system for Units 1 and 2 was installed in 2027-2028. It is a high-pressure system with two main circulating oil pumps, one main and one standby. Each pump has sufficient capacity to handle the complete circulating oil requirements from the unit.

The governor hydraulic oil system for Units 3 and 4 contains most of the original hydraulic components although the governors were upgraded to Woodward Type GS actuator in 1972 to 1973. The governor oil system for Units 3 and 4 is a low-pressure system with a normal operating pressure of 175 pounds per square inch gauge (psig). Each unit has a 25 hp electric motor driven rotary oil pump, unloader valve and sump tank. There is a common pressure (accumulator) tank for Units 3 and 4.

The air system consists of two 10 hp electric motor driven air compressors, two receiver tanks, and two refrigerated air driers. The normal air system operating pressure is 175 psig. Air is supplied to the governor and accumulator tanks to provide the pressure cushion and to the generator air brake mechanisms. Air is also supplied for the general plant air system for maintenance uses.

The basement elevation includes a small sump pit for accumulating and discharging accumulated station leakage to the tailrace. The sump pit contains two vertical shaft sump pumps each rated at 200 gallons per minute. There is an emergency sump pump rated at 400 gallons per minute. The sump includes an oil detector which alarms to the plant control room plus a closed-circuit TV camera for the operator to monitor the sump.

Service water is normally supplied off head pressure with takeoffs at each penstock. The normal water pressure is approximately 60 to 65 psig. There are also two emergency service water pumps tied into the service water system rated at 125 gallons per minute (gpm). Each generator is equipped with a water-based fire suppression system. All four units are equipped with a water-based fire suppression system.

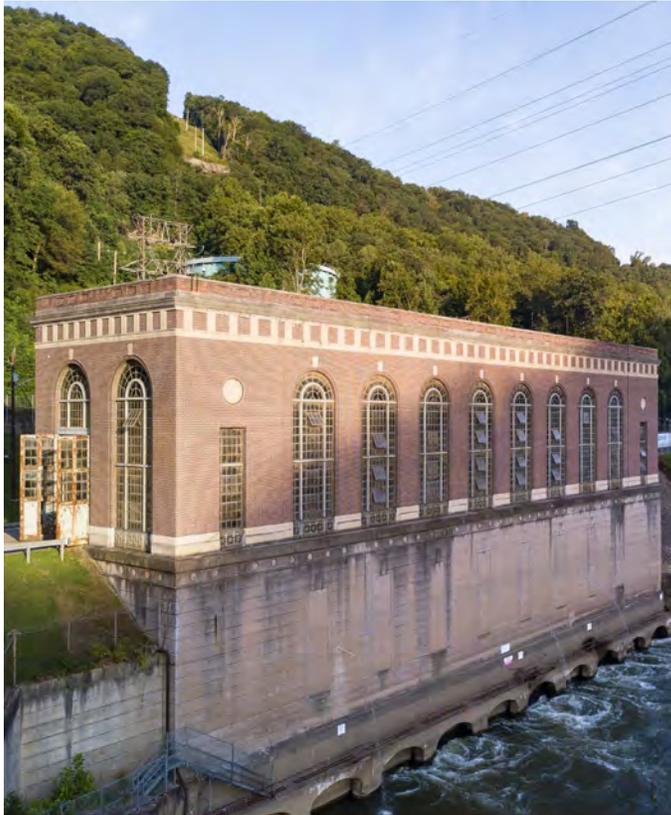
Each generator has a shaft mounted exciter rated at 100kW.

The generator room is spanned by an overhead bridge crane with a main hoist of 175 tons capacity and two auxiliary hoists of 35 tons each. The crane is operated by 60 Hz, 480 volt motors.

The Hawks Nest facility is monitored and operated from the control desk located in the control room in the powerhouse. The control room contains the main and auxiliary switchboards, water level recording instruments, and a Human to Machine interface (HMI) control. The main switchboard has a panel for each of the four turbine-generators, and one for each of the two connected transmission lines.

A.6 UNITED STATES LANDS WITHIN PROJECT BOUNDARY (18 CFR §4.51(b)(6))

There are no lands of the United States included within the project boundary of the Hawks Nest Project.



Attachment 2: Environmental Review

*Application for Non-Capacity
Related Amendment of License*

**Hawks Nest Hydroelectric
Project**

FERC No. 2512

March 2026

Hawks Nest Hydro LLC

Fayette County, West Virginia

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Acronyms and Abbreviations

APE	Area of Potential Effect
cfs	cubic feet per second
ESA	Endangered Species Act
FC	frequency converter
FERC	Federal Energy Regulatory Commission
ft	feet/foot
Hawks Nest Hydro or Licensee	Hawks Nest Hydro LLC
HN FC Switchyard	Hawks Nest Frequency Converter Switchyard
HPMP	Historic Properties Management Plan
Hz	hertz
IPaC	Information for Planning and Consultation
kV	kilovolt
MW	megawatt
MWh	megawatt-hours
MVA	megavolt ampere
NPS	National Park Service
NRHP	National Register of Historic Places
O&M	Operation & Maintenance
PJM	PJM Interconnection, LLC
PPA	power purchase agreement
Project	Hawks Nest Hydroelectric Project
SHPO	State Historic Preservation Office
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	water quality certification
WUA	Weighted Usable Area
WVAM	WVA Manufacturing, LLC
WVDEP	West Virginia Department of Environmental Protection
WVDNR	West Virginia Division of Natural Resources

1.0 Executive Summary

Hawks Nest Hydro LLC (Hawks Nest Hydro or Licensee) is the Licensee, owner, and operator of the Hawks Nest Hydroelectric Project (Federal Energy Regulatory Commission [FERC] No. 2512; Project) in Fayette County, West Virginia. The Project recently underwent relicensing following FERC's Integrated Licensing Process with a new license effective as of January 1, 2018, which expires on January 31, 2064.

The Licensee is planning Project modifications that will require FERC authorization in the form of a Non-Capacity Amendment of License. As such, the Licensee has prepared this Non-Capacity Amendment Application in accordance with FERC regulations. To facilitate FERC staff's assessment of the proposal, the Licensee is providing this environmental review of the potential effects of proposed Project modifications on environmental, recreational, socioeconomic, aesthetic, cultural, and developmental resources.

The Licensee is proposing a life extension and modernization project to allow the Project to generate power for the regional (PJM Interconnection, LLC [PJM]) electric grid. The modernization project includes:

- Turbine-generator replacements for Units 1 and 2
 - Replacement of all components, including new turbine, shaft, rotor, generator, governor, exciter, controls, and main power circuit.
 - New 13.8-kilovolt (kV) 60-hertz (Hz) generator switchgear internal to the powerhouse.
- Construction (including vegetation clearing and grading of a 180-foot (ft) by 450-ft flat area and construction of a retaining wall for slope stability) of a second substation near the Hawks Nest powerhouse including an enclosed (230-ft by 50-ft pre-engineered metal building) 60Hz frequency converter (for Units 3 and 4).
- Conversion of the existing station service 6.9-kV transmission line from the powerhouse to the dam and a 69-kV primary transmission line from the HN FC Switchyard to Alloy Substation to 60Hz. The transmission line upgrades will use existing transmission towers and the existing transmission corridors.
- A new paved access road from U.S. Route 60 in the vicinity of the Hawks Nest powerhouse to facilitate construction of the second substation.
- Construction of a new Operation & Maintenance (O&M) building (prefabricated metal building, 34-ft x 80-ft) between the existing powerhouse parking area and storage yard.
- Establishment of a new laydown area north of the surge tank with crane pad to service the surge tank.
- Various electrical system modifications to support frequency conversion including replacement of electrical and control systems at Hawks Nest Dam.

As developed through consultation with Project stakeholders, the Licensee is also proposing to increase minimum bypass flows and increase the number and magnitude of annual recreational flow releases to the bypass reach.

Little or no effects to geological and soil resources, water quality and quantity, federally protected species, or archaeological or architectural resources are anticipated as a result of construction or operation of the upgraded Project. During the construction period for the proposed Project modifications, minor effects to fisheries resources, socio-economic resources, recreational resources, aesthetic resources, and developmental resources may occur. These are expected to be associated with temporary inflow diversions to the bypass reach (i.e., more spill at the dam than typical), suspension of recreational flow releases while the powerhouse is offline or partially offline, temporary closure of the Bike-Hike Trail for equipment access to the dam, visual effects of temporary construction activities, and suspension of power generation pending extension of the existing power purchase agreement (PPA) or connection to the regional (PJM) electric grid.

Following construction of the Project modifications, negligible to minor effects to fisheries resources would occur due to the increased minimum bypass flow releases and minor increase in maximum hydraulic capacity of the new units. The U.S. Fish and Wildlife Service (USFWS) determined that no effects would occur to federally protected species except “insignificant” effects to bats as a result of 10 acres of summer roosting habitat removal. Local socio-economic and recreational resources would see beneficial effects due to the increase in the number, magnitude, and predictability of annual recreational flows, however the Licensee would see negative developmental effects due to the loss of generation associated with elevated minimum bypass flows and recreational releases.

2.0 Background

The Licensee’s operations of the Project began upon acquiring the Project in 2006. The Project was built in the 1930s to provide 25 hertz (Hz) power for the smelter furnaces at the Union Carbide ferroalloy plant near Alloy, West Virginia. Today, the Project generates an average of 534,100 megawatt-hours (MWh) of renewable energy annually that is provided solely to the ferroalloy plant, currently owned by WVA Manufacturing, LLC (WVAM), pursuant to a power purchase agreement (PPA) that expires on June 30, 2026. The Licensee is proposing a life extension and modernization project, including generating unit and electrical system updates, to allow the Project to generate power at 60Hz for the regional (PJM Interconnection, LLC [PJM]) electric grid following expiration of the PPA.

The proposed life extension and modernization project is indicative of the Licensee’s continued long-term commitment to renewable generation at the Project. In addition to implementing protection, mitigation, and enhancement measures required by the new license, over the past decade the Licensee has been investing in life extension and modernization activities at the Project to provide continued safe, reliable, and economical energy generation through the new license term. Past activities have included refurbishment of the Unit 4 generator, post-tension anchoring of the dam to meet modern design criteria, a dewatered tunnel inspection, crest gate

rehabilitation, projects to rehabilitate and upgrade the spillway gantry cranes, rehabilitation of the surge tank, and rehabilitation of the surge basin. The current life extension and modernization capital project would convert energy generation and transmission from the Project from 25Hz to 60Hz.

The proposed modifications at the Project require Federal Energy Regulatory Commission (FERC) authorization in the form of a Non-Capacity Amendment of License. As such, the Licensee has prepared this Non-Capacity Amendment Application in accordance with FERC regulations. To facilitate FERC staff's assessment of the proposal, the Licensee is providing this brief environmental review of the potential effects of the proposed Project modifications to the Project on environmental, recreational, socioeconomic, aesthetic, cultural, and developmental resources. As documented herein, the proposed action will not have any significant effects on non-power resources at the Project. Hawks Nest Hydro has consulted with a broad group of stakeholders to reach agreement on the proposed changes to bypass reach minimum flows and recreational flow releases which will further enhance these resources.

The effects of the proposed action are well understood and previously evaluated during the recent relicensing. For a comprehensive overview of issues studied and resulting recommendations from the relicensing effort, refer to the previous Final Environmental Assessment (FERC 2017) and the new license order.¹

2.1 Description of Existing Conditions

2.1.1 Regional Overview

The Project is located in the Kanawha section of the Appalachian Plateaus Physiographic Province (Covington 2005; U.S. Department of Agriculture [USDA] 2006; Fenneman 1917). The Appalachian Plateaus Province is part of the Appalachian Highlands, a major physiographic division that includes the Appalachian Mountains and is bordered on the east by the Ridge and Valley Province. The Kanawha section is a mountainous highland region occurring as a series of long side slopes between narrow ridgetops (USDA 2006; Messinger and Hughes 2000).

The Project is located within the New-Kanawha River basin. The Kanawha River and its major tributary, the New River, drain 12,223 square miles in North Carolina, Virginia, and West Virginia (Paybins et al. 2000). The New River originates in North Carolina at the confluence of the North Fork New River and the South Fork; the New River then flows northward for 320 miles through Virginia before entering West Virginia. The 6,964.6-square mile New River watershed in West Virginia lies mostly within Fayette, Mercer, Monroe, Raleigh, and Summers counties (NPS 2025).

Five large dams are present upstream of the Project on the New River, the nearest being Bluestone Dam, located in the City of Hinton, West Virginia. Most of the New River between Bluestone Dam and Hawks Nest Dam is encompassed within the National Park Service (NPS)-protected New River Gorge National Park and Preserve, however the protected portion of the

¹ 161 FERC ¶ 62,228, Hawks Nest Hydro LLC, Project No. 2512-075, Order Issuing New License (December 22, 2017).

river reach ends at the upstream extent of the Hawks Nest reservoir/Project boundary. Upstream of the Project, the New River Gorge is a prominent physiographic feature characterized by exposed cliffs, rock cities, massive boulders, rock overhangs, exposed coal-bearing sediments, and unique formations caused by spheroidal weathering of the surrounding rock (NPS 2009).

Downstream of Hawks Nest Dam, the New River follows a narrow valley to its confluence with the Gauley River where the rivers combine to form the Kanawha River. The Kanawha River empties into the Ohio River which eventually drains into the Gulf of Mexico via the Mississippi River.

2.1.2 Existing Project Facilities

The Project consists of a concrete gravity dam with 14 gated spillway bays, a power tunnel intake structure with intake gate, trashracks and a trash rake, water conveyance tunnel, surge basin, surge tank, four water-conveying penstocks and one bulkheaded penstock, manifold, the reservoir, and a powerhouse containing four turbine-generator units (Figure 2-1). As described in the Project's license, licensed transmission facilities consist of an outdoor substation located next to the powerhouse containing transformers (Hawks Nest Switchyard), circuit breakers, and disconnecting switches. A 3.1-mile-long, 6.9-kV (25Hz) transmission line provides station power from the powerhouse to the dam. Two parallel, approximately 5.5-mile-long, 69-kV (25Hz) transmission lines (which run partly in parallel with one transmission line associated with the Glen Ferris Project) connect the Hawks Nest Switchyard at the powerhouse to the Alloy Substation located at WVAM's alloy plant in Alloy, West Virginia.

2.1.3 Relevant Studies from Relicensing

Hawks Nest Hydro followed the Integrated Licensing Process for the Project relicensing, which spanned 2012-2017. Relevant Project-specific license articles are summarized in Section 3.0. The relicensing process afforded opportunity for robust consultation with diverse stakeholders and also required significant investment by the Licensee in required studies to address stakeholder and Commission staff requests and concerns. Studies conducted for the relicensing are listed below; final study reports were filed with the final license application in December 2015. Findings from these studies remain relevant to the scope of activities and potential resource impacts evaluated in this environmental review.

- Water Quality Study
- Fish Entrainment Study
- Aquatic Species Composition and Abundance Survey
- Rare, Threatened, and Endangered Aquatic Species Study
- Bypass Reach Aquatic Habitat Use and Instream Flow Study
- Wetland and Riparian Habitat Survey
- Rare, Threatened, and Endangered Terrestrial Species Survey
- Recreation Flow Assessment
- Recreation Use and Needs Assessment
- Cultural Resources Study

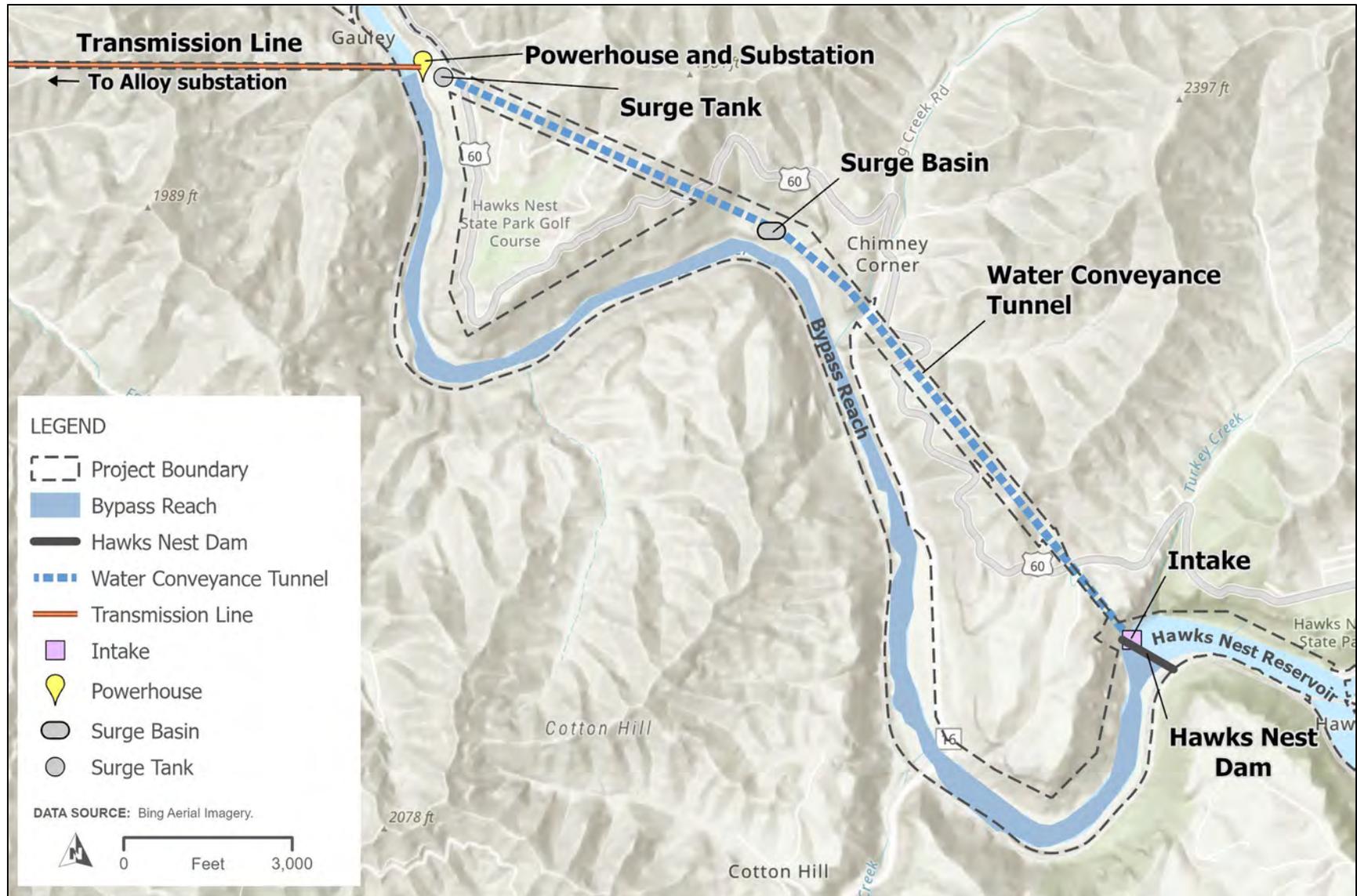


Figure 2-1. Hawks Nest Project Layout

2.2 Description of Proposed Modifications

2.2.1 Proposed Facility Modifications

The modernization project includes multiple phases to complete civil, electrical, and mechanical engineering scopes of work to modernize the Project and convert two of the four units and one transmission line from 25Hz to 60Hz, along with associated electrical system modifications.

Proposed modifications include:

- Replacement of Units 1 and 2 turbines and generators with two new turbine-generators.
- Construction of a new substation (Hawks Nest Frequency Converter Switchyard [HN FC Switchyard]) near the powerhouse, an access road to the HN FC Switchyard, and a 13.8-kV line (generator lead) from the powerhouse to the new HN FC Switchyard.
- Installation of a new 53-megavolt ampere (MVA) 60Hz frequency converter (FC) in the HN FC Switchyard for Units 3 and 4.
- Conversion of existing 25Hz transmission lines to 60Hz.
- Relocation of the break room, locker room, shop, and office area from the powerhouse to a new prefabricated metal building, 34-ft x 80-ft, (“O&M Building”), near the powerhouse. This relocation of personnel facilities is necessary to accommodate new 480-volt switchgear inside the powerhouse.
- Modifications to the electrical system at the Hawks Nest Dam including relocation of the standby generator from the dam mezzanine to an exterior location and replacing the existing 25Hz switchgear with 60Hz switchgear.
- Transfer ownership of four existing FCs in the Alloy Substation from the Licensee to WVAM.
- Reconfiguring of the Alloy Substation so a Hawks Nest primary transmission line connects to the 138-kV bus.

These modifications are described below. Construction of the proposed modifications will add 1.53 acres of land, entirely previously disturbed and owned by Hawks Nest Hydro, to the Project boundary, as depicted in Exhibit G of this application (Attachment 3).

Concurrent with the filing of the Non-Capacity Amendment Application, Hawks Nest Hydro is filing a design package for the proposed facility modifications with the FERC Division of Dam Safety and Inspections-New York Regional Office for review and approval. The design package includes drawings and specifications that provide additional detail about the work summarized in this Environmental Review, including environmental protection measures during construction (e.g., Storm Water Pollution Prevention Plan).

2.2.1.1 Units 1 and 2 Turbine-Generators Replacements

Units 1 and 2 turbines and generators are at the end of their service life. The existing vertical Francis turbines (I.P. Morris, installed 1931-1933) would be replaced with new vertical Francis turbines. The existing 25Hz generators (Westinghouse, installed 1931-1933) would be replaced by new 60Hz generators, which would allow for a combined 57.5 MW of 60Hz generation from Units 1 and 2. The scope of work for the unit upgrades includes replacement of all components

of Unit 1 and 2 generators including new turbine, shaft, rotor, generator, governor, exciter, controls, and main power circuit. New 13.8kV 60Hz generator switchgear internal to the powerhouse will also be installed. The replacement units would have slightly higher hydraulic and generating capacities as described in Exhibit A of this application. Additional details are provided in Exhibit A of this Non-Capacity Amendment Application. No significant changes are planned for the exterior of the powerhouse that would change the look of the historic structure.

The upgrades for Units 1 and 2 will require retrofitting new 138-kV equipment, including a new 83MVA oil-filled step-up transformer and gas insulated breaker, into the existing Hawks Nest 69-kV Switchyard.

2.2.1.2 New HN FC Switchyard and Access Road

The HN FC Switchyard would be constructed southeast of the Project powerhouse (Figure 2-2). It would include a new 53MVA 13.8-kV 25Hz/13.8-kV 60Hz static FC enclosed within a 51-ft x 250-ft prefabricated metal building; two new approximately 500-foot [ft]-long 13.8-kV lines (generator leads) from the powerhouse to the HN FC Switchyard; a 0.7-acre temporary laydown area for use during construction; a turnaround area for delivery trucks, cranes, and other maintenance vehicles; an area for a mobile 150-ton crane near the locations of the transformers; crane pad in the vicinity of the existing surge basin approximately 60 ft by 40 ft in size; smaller pad areas and temporary access paths for the construction of new transmission line structures; and a new access road.

A new paved road would be needed for access to the HN FC Switchyard (Figure 2-3). The new access road would extend from Highway 60 to the HN FC Switchyard, including one crossing of the Project's underground water-conveyance tunnel. The road would be 20 ft wide with 2.5-ft shoulders on each side and a maximum 10 percent slope along the roadway. It would be constructed in a manner that minimizes stress on the Project underground water conveyance tunnel. Similarly, the Licensee would restrict the weight of vehicles using the road to limit potential effects to the tunnel. Hawks Nest Hydro will consult with the FERC Division of Dam Safety and Inspections-New York Regional Office regarding construction activities associated with the access road.

Construction of the new HN FC Switchyard and access road will require the following activities:

- Clearing of up to 10 acres of vegetation to facilitate construction of roadway and pad (Figure 2-2).
- Civil site works including cuts up to approximately 35 ft and fills up to 40 ft to establish final project grades for the new roadways and HN FC Switchyard pad.
- Construction of earth retention systems to support the proposed cuts and fills.
- Site flatwork improvements to include paved parking/turn around area, drainage aprons, and/or sidewalks, and deep foundations for HN FC Switchyard and ancillary structures.
- Establishment of new transmission right of way for the generator leads and installation of associated poles and transmission lines.
- New area drainage connecting to existing outlet.
- Modification to the existing Hawks Nest Switchyard to facilitate new interconnection.

- As necessary, other site improvements such as retaining walls, drainageway crossings, and drainage features may be supported on shallow foundations, deep foundations, or a combination of foundation types.

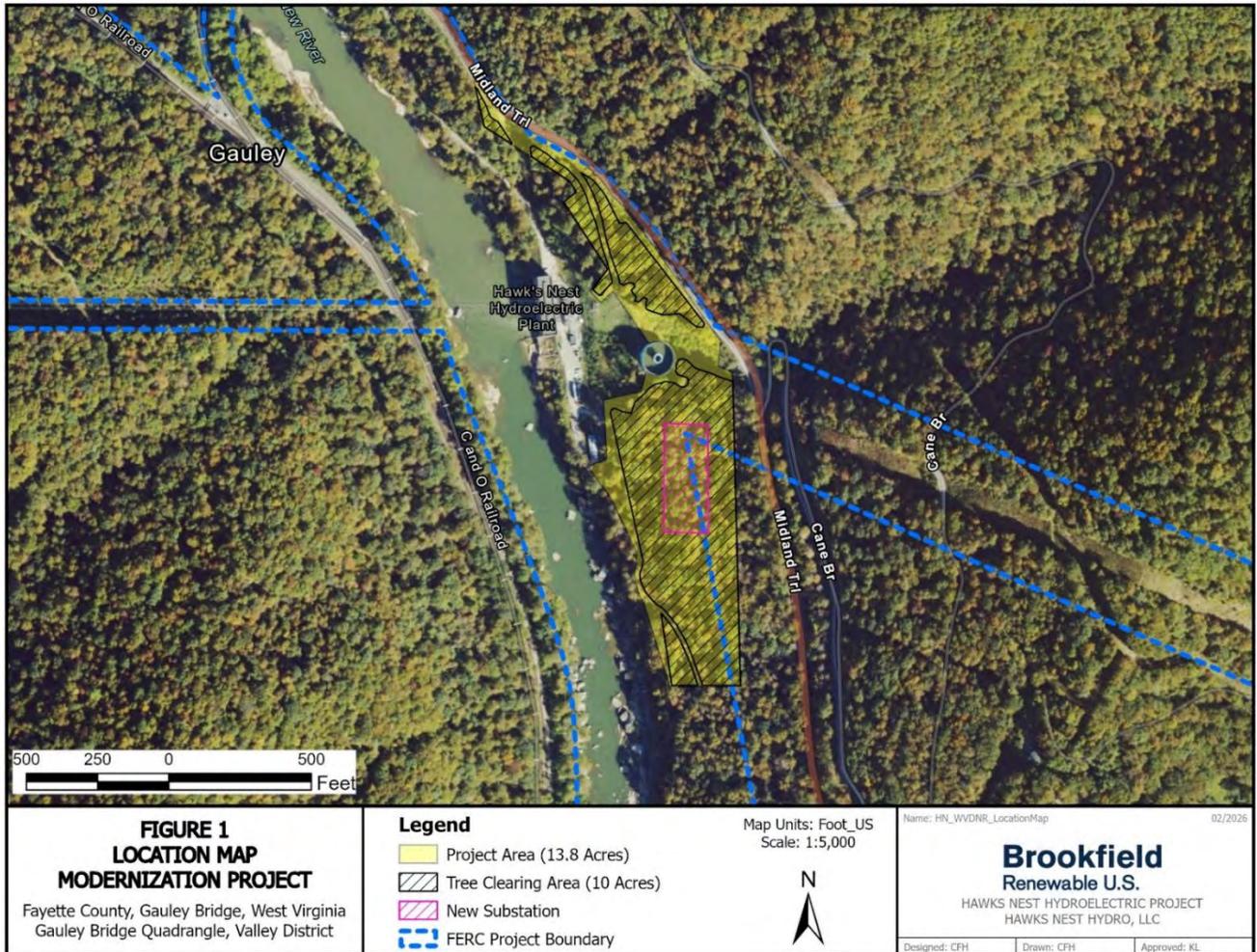


Figure 2-2. Project Area and Tree Clearing Area

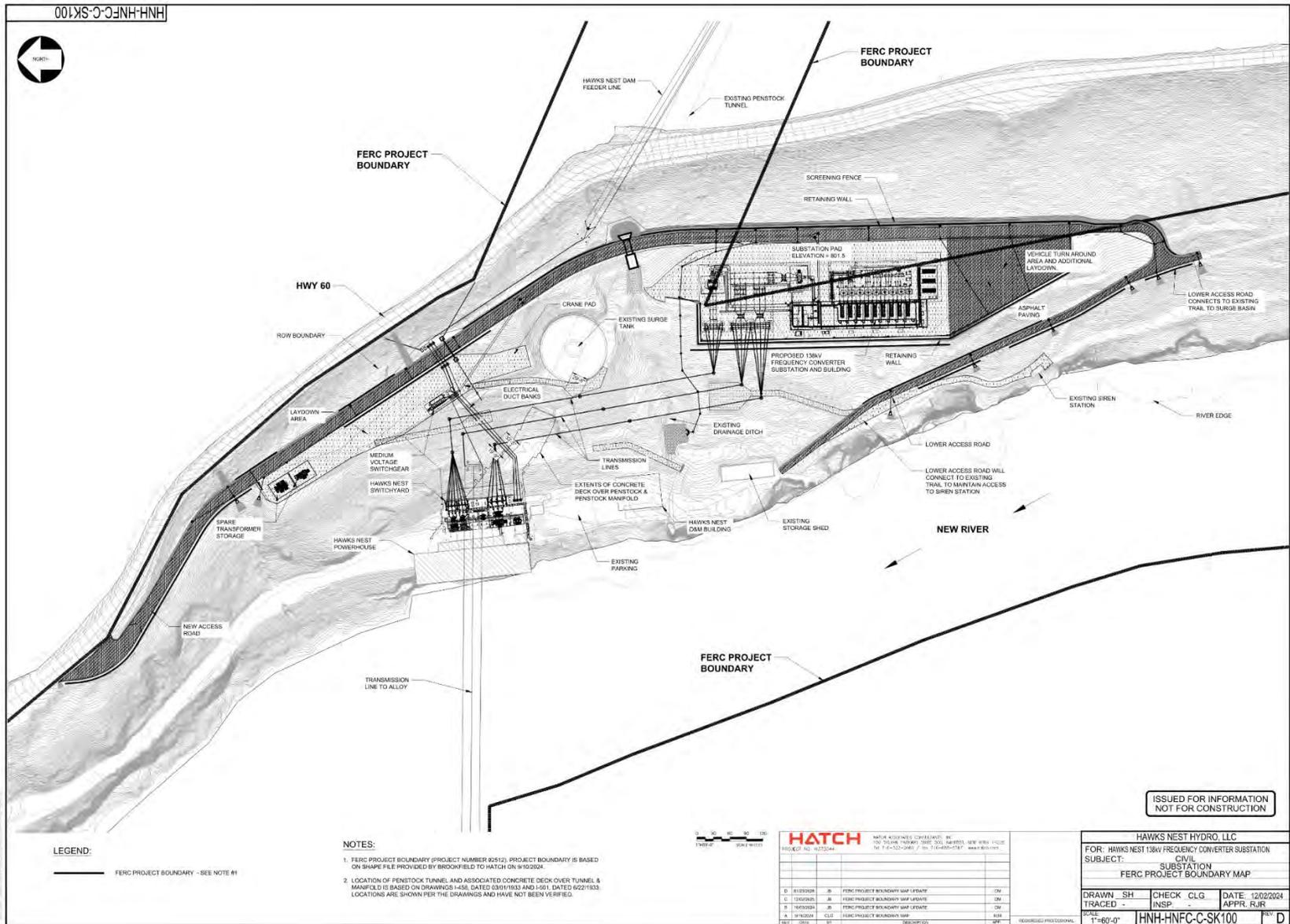


Figure 2-3. Proposed Powerhouse Area Modifications

2.2.1.3 Units 3 and 4 Frequency Converter

A new FC would be installed in the HN FC Switchyard which would allow for the 25Hz generation from Units 3 and 4 to be converted from 25Hz to 60Hz for generation sales into the PJM market. (There would be no change to the generators for Units 3 and 4, which would provide the maximum output of the converter.) Following completion of this work, 25Hz power would no longer be transmitted to WVAM; the 69kV, 25Hz power would be fed from the existing Hawks Nest Switchyard to the new FC in the HN FC Switchyard via a 500-ft-long, 138-kV, 60Hz transmission line.

2.2.1.4 Primary Transmission Lines

One of the existing primary transmission lines would be converted to 138kV, 60Hz operation and used to connect the new 138kV Hawks Nest bus in the HN FC Switchyard to a new 138kV breaker in the Alloy Substation. The other existing 69-kV, 25Hz primary transmission line will be disconnected at both Alloy and Hawks Nest and retired in place.

2.2.1.5 Alloy Substation Reconfiguration

A new 138-kV substation will be constructed to facilitate interconnection of Project generation to the PJM market via the existing 138-kV line. A new breaker in the Alloy Substation would be connected to the existing 138kV Alloy bus which connects to the existing 138kV 60Hz AEP (American Electric Power) Kanawha River-Alloy transmission line. There will be no change to the point of interconnection with the grid.

2.2.1.6 Hawks Nest Dam 60Hz Conversion

The existing 25Hz auxiliary switchgear at the dam will be replaced with new 60Hz equipment and a new duct bank will be routed from the west abutment electrical room to the intake gate. Both gantry crane power rail supply systems will be converted to 60Hz switchgear and the existing intake gate motor will be replaced. A new standby diesel generator will be installed between the intake gate and trash racks. The new standby generator will have a concrete foundation with secondary containment.

2.2.1.7 Hawks Nest 60Hz Auxiliary Conversion

Additional system and Project upgrades to ancillary equipment will be necessitated by conversion of the energy generated at the Project to 60Hz. This includes replacement of the existing facility 25Hz, 460V power distribution system with a new 60Hz, 480V system at the powerhouse, surge basin, and dam. This upgrade of antiquated 25Hz distribution equipment with modern, safer, and standard 60Hz equipment will increase system reliability through diversification of power sources, installation of new standby generators, use of standard equipment, and additional emergency power supply means. The Licensee will consult with and provide construction plans, specifications, and procedures to FERC Division of Dam Safety and Inspections-New York Regional Office regarding excavation required at the Hawks Nest Dam west abutment to install the generator foundation and electrical duct bank and temporary impacts to gate operations. Additionally, the Licensee will notify the FERC Division of Hydropower Administration and Compliance and Project stakeholders regarding temporary closure(s) of the Bike-Hike Trail in accordance with the Recreation Management Plan.

2.2.1.8 Proposed Project Operations during Construction

During construction, reservoir elevations would be maintained consistent with current License requirements. Following expiration of the PPA with WVAM until the new Unit 1 begins operation or the Hawks Nest FC Switchyard is constructed, allowing for the resumption of operation of Units 3 and 4, all reservoir inflow would be spilled into the bypass reach except for approximately 250 cubic ft per second (cfs) used for station auxiliary needs. The Project would not generate electricity except for station auxiliary needs. Following resumption of hydroelectric generation, construction activities could necessitate planned temporary powerhouse outages such that all reservoir inflow would be spilled into the bypass reach. Temporary changes to operations and flows would be updated on the Safe Waters website² maintained by Brookfield, consistent with the West Virginia Department of Environmental Protection (WVDEP) water quality certification (WQC) Special Condition No. 3.

2.2.2 Proposed Project Operations

Following construction, the Project would continue its run-of-river operations, maintain reservoir elevations consistent with existing reservoir elevations, and continue its flow ramping. The Project powerhouse has historically been prone to frequent unscheduled outages due to alloy plant furnace load rejections or other conditions forcing trips in the 25Hz closed electrical system. Modifying the Project to provide power to the regional grid instead of a single direct-connected customer is expected to reduce the number of unscheduled generation outages, thereby reducing the frequency and magnitude of unplanned releases to the bypass reach.

Bypass flows would be increased as set forth in Table 2-1.

Table 2-1. Existing and Proposed Minimum Bypass Flow Releases by Month

Time of Year	Existing (cfs)	Proposed (cfs)
January - February	250	700
March - April	300	1,000
May	300	600
June	300	400
July - December	250	300

Recreational flow releases would also be revised as follows.

- The Licensee proposes to eliminate the 1,600 cfs reservation for 25Hz power production.
- The Licensee proposes to increase the number of recreational flow releases from 9 to 32 per year to occur on the following days:
 - The final full week of June: Saturday, Sunday, Tuesday, and Thursday
 - July weeks 1 and 2: Saturday, Sunday, Tuesday, and Thursday
 - July weeks 3 and 4: Sunday, Tuesday, and Thursday
 - August weeks 1 and 2: Saturday, Sunday, Tuesday, and Thursday
 - August weeks 3 and 4: Sunday, Tuesday, and Thursday
- The Licensee proposes to decrease the duration of each release from six hours to four hours.

² <https://www.safewaters.com/facility/hawks-nest>

- The Licensee proposes to increase the target release from 2,200 cfs to 2,500 cfs (releases ranging from 2,200 cfs to 3,000 cfs).
- The Licensee proposes to reserve up to 500 cfs for station auxiliary power needs during recreational flow releases; this reservation would not apply to minimum bypass flow releases.

The proposed changes to the minimum bypass flow releases and recreation flow releases would necessitate modifications to the FERC-approved Operation Compliance Monitoring Plan required by Article 402 (approved by FERC by order dated August 9, 2018) and the Recreation Flow Release Plan required by Article 407 (approved by FERC by order dated April 5, 2019). Hawks Nest Hydro proposes to update these plans as discussed further in Section 3.2.2 and Section 3.7.2.

2.2.3 Milestone Schedule

A schedule for major milestones follows.³

The Licensee is requesting partial approval to initiate grading and vegetation clearing for the new HN FC Switchyard prior to FERC's full approval of this Non-Capacity Amendment Application. As discussed in Section 3.0, Hawks Nest Hydro has already consulted with USFWS and West Virginia Division of Natural Resources (WVDNR) about land clearing activities, and there would be no adverse effects on Project resources associated with this early site preparation work.

- March 2026: Commence grading and clearing⁴ for the new short 13.8-kV, 69-kV, and 138-kV line sections extending from the existing Hawks Nest Switchyard to the new 138-kV HN FC Switchyard where the proposed FC would be installed. Installation of erosion control measures begins.
- June 2026: PPA with WVAM expires; Project generation ceases; Hawks Nest Hydro would provide scheduled recreation flow releases to the extent they can be provided by prevailing inflow and powerhouse operating conditions.⁵
- January 2027 to August 2027: Unit 1 replacement
- August 2027: PJM Commitment to have Unit 1 online
- January to September 2027: Electrical / HN FC Switchyard installation
- September to October 2027: New FC comes online; Unit 3 and Unit 4 resume operation
- November 2027 to June 2028: Unit 2 replacement
- June 2028: Unit 2 begins operation; scheduled recreational flow releases resume

³ Schedule is subject to adjustment.

⁴ Vegetation removal will occur during the summer roosting season for Indiana and northern long-eared bats. However, as discussed in Section 3.4.1.3, USFWS has found that associated effects, if any, will be insignificant and/or discountable. See USFWS determination dated May 21, 2025, in Attachment 4.

⁵ Confirmation and cancellation of scheduled recreation flow releases during the construction period would continue to follow the procedures detailed in the Recreation Flow Release Plan.

3.0 Effects of Proposed Modifications

The Licensee is proposing facility modifications, higher minimum bypass flows, and increased quantity and magnitude of recreational flow releases. Therefore, potential effects are limited to the effects of these modifications on resources that would be directly affected by construction activities and resources affected by flow releases in the bypass reach.

The Project is operated consistent with the requirements of the new FERC and the WVDEP WQC. FERC license requirements, WQC Special Conditions, and the potential effects of the proposed facility modifications are summarized in Table 3-1 and Table 3-2.

Table 3-1. Summary of FERC License Requirements 401 through 410 and Potential Modernization Project Effects

Article No.	Description	Potential Effects
401	Submit the Recreation Management Plan and Report of Short Duration Spiking Flows in the Bypassed Reach	No effect.
402	Operation Compliance Monitoring	Construction phase: No effect; the Licensee would continue to monitor and report Project operation activities during construction. Post-construction phase: increased minimum bypass flow releases and recreation flow releases. Hawks Nest Hydro would update the approved Operation Compliance Monitoring Plan; see discussion in Section 3.2.2.
403	Fishways reservation	No effect.
404	Bald Eagle Protection Plan	No effect; the Licensee would implement the protection measures in the Bald Eagle Protection Plan prior to, during, and after construction.
405	Running Buffalo Clover Management Plan ⁶	No effect; running buffalo clover is not present within areas of proposed modifications. This species was delisted from the Endangered Species Act on September 7, 2021.
406	Timing of Tree Clearing	No effect; see discussion in Section 3.4.
407	Recreation flow releases	Construction phase: Temporary effects; see Section 3.7.2. Post-construction phase: increase in number of recreation flow releases from 9 to 32 per year. Hawks Nest Hydro would update the approved Recreation Flow Release Plan; see discussion in Section 3.7.2.
408	Recreation management	Construction phase: Temporary effects to the Bike-Hike Trail; see Section 3.7. Post-construction phase: No effect

⁶ During relicensing, running buffalo clover was listed as federally endangered. By final rule issued by the U.S. Fish and Wildlife Service on September 7, 2021, it has since been de-listed.

Article No.	Description	Potential Effects
409	Historic Properties	No effect; see Section 3.5.
410	Use and Occupancy	No effect; the Licensee owns or has easements for all areas where proposed modifications would occur.

Table 3-2. Summary of WQC Special Conditions and Potential Modernization Project Effects

Special Condition No.	Summary of Special Condition	Potential Effects
1	Operate in “run-of-the-river” mode.	No effect; the Project would continue to operate in run-of-the-river mode during and after construction.
2	Maintain a minimum flow of 300 cfs flows into the Hawks Nest bypassed reach beginning March 1 through June 30, and a minimum of 250 cfs for all other months.	Increased minimum bypass flows as described in Section 2.2.2. See Section 3.0.
3	Maintain a stage gage in the vicinity of the Cotton Hill bridge and have the information available via the internet real-time.	No effect.
4	Develop and maintain a central public website for information relevant to flows in the bypassed reach.	No effect; Hawks Nest Hydro would update its public website with flow information during and after construction. See Section 3.7.2.
5	Open a biking and hiking trail beginning approximately 1,000 feet downstream of the mouth of Mill Creek and continuing downstream to the Hawks Nest Dam.	Construction phase: The Bike-Hike trail would be intermittently closed during construction activities at the Hawks Nest Dam, with communications to FERC and stakeholders as required by the Recreation Management Plan. Post-construction phase: No effect.
6	Provide one-time funding of \$50,000 for improvements or enhancements to the Cotton Hill Bridge Day-Use Area.	Not applicable.
7	Improve the Cotton Hill Bridge Day-Use Area parking area.	Not applicable.
8	Maintain angler access to the existing Hawks Nest Tailrace Fishing Access Area and continue to allow angler access to the bypassed reach.	No effect.
9	Work with WV Division of Natural Resources on a take-out location on the New River in the Gauley Bridge area.	Not applicable.
10	Provide annual funding in the amount of \$25,000, to WVDNR- WRS for recreation facilities on Project-associated lands.	Not applicable.
11	Develop an updated Recreation Management Plan.	Not applicable.

Special Condition No.	Summary of Special Condition	Potential Effects
12	Meet with stakeholders to schedule the recreational release dates and start times pursuant to Special Condition 13.	No effect; Hawks Nest Hydro would continue to meet annually with stakeholders regarding implementation of required recreation flow releases, as required by the Recreation Flow Release Plan, which will be modified following license amendment.
13	Provide a total of seven planned 6-hour recreational releases of 2,200 cfs to 2,500 cfs annually, generally during the last weekend of June and the weekends in July and August and two scheduled whitewater releases during the last two weekends in March, contingent upon 1,600 cfs being first available for critical power generation.	Construction phase: Following expiration of the PPA with WVAM until either Unit 1 is replaced or the installation of 60Hz conversion equipment allows Unit 3 and Unit 4 operation to resume, all inflow would be diverted to the bypass reach. See Section 3.7.2 Post-construction phase: New recreation flow releases. See Section 3.7.
14	Submit to WVDEP a report describing its examination of short duration spiking flow increases in the bypass reach.	Not applicable.
15	Between March 1 and October 31, operate the Project such that water levels in the Hawks Nest bypassed reach are up-ramped and down-ramped no more than 1-ft-per-hour as measured in the New River below Hawks Nest Dam, West Virginia at the U.S. Geological Survey (USGS) Gage No. 380649081083301 when reservoir inflow is less than 12,600 cfs and flow in the bypassed reach is less than or equal to 2,600 cfs.	No effect. The Licensee would continue to comply with the requirements of the FERC license and WQC.
16	Mitigation for the incidental take of fish due to the Project's operation shall be provided in an amount made payable to the WVDNR annually. Monetary reimbursement will be consistent with fish entrainment calculations from the 2015 desktop entrainment analysis, based on a 2003 American Fisheries Society Special Publication 30 Appendix A: Replacement Cost of Fish, adjusted for inflation.	Construction phase: Entrainment of fish through the turbines would be eliminated during outage periods when all inflow is spilled to the bypass reach. Post-construction phase: No effect; no changes to the number of fish entrained or fish mortality are anticipated due to the existing species composition and life history characteristics, similarities in replacement turbine design, and minimal change in hydraulic capacity.
17	Amendment to the FERC license may be subject to recertification consistent with FERC Consultation Requirements in 18 CFR §4.38(a). Further, if the 25Hz power generated by the Project is no longer needed to fulfill the current industrial end-use presently served, WVDEP reserves the right to re-examine and modify the conditions established in this certification as they pertain to the current end-use.	Hawks Nest Hydro understands WVDEP intends to issue an amended WQC revising the requirements of Special Conditions 2 and 13.

Special Condition No.	Summary of Special Condition	Potential Effects
18	Comply with water quality standards as contained in Title 47CSR2 of the WV Code of State Regulations, Requirements Governing Water Quality Standards.	No effect; the Project is currently meeting water quality standards and will comply with standards during and after construction.
19	Measure and report Large Quantity Water Use pursuant to §22-26-let seq of the WV Code of State Regulations.	No effect; the Licensee would continue submitting license-required reports during and after construction.
20	Violation of any of the conditions listed above shall negate this water quality certification.	No effect; the Project is presently operated in compliance with the WQC and expects to maintain compliance with the WQC during and following the modernization activities proposed in this non-capacity amendment application.

Potentially affected environmental, recreational, cultural, aesthetic, socioeconomic, and developmental resources are summarized in Table 3-3 and further described below.

Table 3-3. Summary of Potential Effects by Resource Area

Resource Area	Description of Activity that Could Affect Resource	Potential Construction Effects	Potential Post-Construction Effects
Geological and Soil Resources	Clearing, grading, and ground-disturbing activities ¹	Little to no effect. See Section 3.1	No effect.
Water Quality and Water Quantity	Replacement of Unit 1 and Unit 2 with similar units	No effect. See Section 3.2.	No effect.
Fisheries – Minimum bypass flows, entrainment, ramping rates	Replacement of Unit 1 and Unit 2 with similar units; increases in seasonal bypass reach minimum flows	Project inflows would be temporarily released to the bypass reach during powerhouse outage periods. See Section 3.3	Minor effect due to increased bypass reach minimum flows; primarily beneficial or neutral effect and within range studied during previous relicensing. Negligible effect due to increase in maximum hydraulic capacity. See Sections 3.3.1 and 3.3.2.
Federally protected species – bats	Clearing, grading, and ground-disturbing activities ¹	Insignificant effects. See Section 3.4.	Insignificant effect to bat species due to loss of approximately 10 acres of potential summer roosting habitat. See Section 3.4.2.3.
Federally protected species – mussels, Virginia spiraea, monarch butterfly	Clearing, grading, and ground-disturbing activities ¹ ; replacement of Unit 1 and Unit 2 with similar units	No effect. See Section 3.4.	No effect.
Federally protected species – migratory birds and bald eagle	Clearing, grading, and ground-disturbing activities ¹	Insignificant effects. No nesting eagles are known within the Project boundary or areas to be disturbed. Minor loss of habitat for migratory birds. See Section 3.4.	No effect.
Archaeological resources	Clearing, grading, and ground-disturbing activities ¹	No effect. Ground-disturbing activities will not affect known archaeological sites or occur in archaeologically-sensitive areas. See Section 3.5.	No effect.
Architectural resources	Replacement of historic Units 1 and Unit 2; addition of new structures and facilities adjoining historic powerhouse, addition of new electrical equipment at the dam	No adverse effect. See Section 3.5.	No effects that would impact the Project's eligibility for listing in the National Register of Historic Places (NRHP). See Section 3.5.

Resource Area	Description of Activity that Could Affect Resource	Potential Construction Effects	Potential Post-Construction Effects
Socio-economic resources	Continued reliable, economic operation of the Project that supports recreational use of the bypass reach during the remaining license term	No recreation flow releases during construction periods, potentially affecting local whitewater outfitters. Temporary benefit to local economy through creation of local construction jobs and subcontracted services. See Section 3.6.	Beneficial effects due to additional recreation flow releases that support commercial and private whitewater boating in the bypass reach. Project provides clean, renewable generation to the PJM market. Continued operation of the Project over the duration of the new license term.
Recreational resources – recreation flow releases	Replacement of Unit 1 and Unit 2 with similar units	All inflow is released to the bypass reach following PPA expiration until 60Hz conversion equipment is installed. Recreational flows continue only to the extent that reservoir inflow supports such releases until either new Unit 1 begins operation or 60Hz conversion equipment is installed and Unit 3 and Unit 4 resume operation.	Beneficial effects due to increased number of recreation flow releases annually. See Section 3.7.
Recreational resources – recreational facilities	Construction activities that affect recreation facilities	Temporary (60-day) closure of Bike-Hike Trail. See Section 3.7.	No effect.
Aesthetic resources and land use	Clearing, grading, and ground-disturbing activities ¹	Temporary visual effects associated with construction of the HN FC Switchyard and access road. See Section 3.8.	No effect.
Developmental resources	Duration of time for FERC to issue license amendment; modified minimum bypass flow releases and recreation flow releases.	No Project generation following PPA expiration for at least one year. See Section 3.9.	Negative effect due to reduced annual Project generation due to higher minimum bypass flows and additional recreation flow releases.

¹ Activities associated with the construction of the HN FC Switchyard, the new access road, and laydown areas.

3.1 Geological and Soil Resources

Little to no effect to geological and soil resources is expected to result from the construction or operation of the proposed Project modifications, as explained below.

Vegetation clearing, grading, and other earth-moving and site preparation activities associated with proposed facility modifications have the potential to disturb soil stability and subsurface geology. Grading would be performed to minimize cut and fill volumes, and the length of access road retaining walls would be limited to the extent feasible.

The proposed HN FC Switchyard pad design would require significant grading given the sloping terrain, and some amount of bedrock excavation may be required. The finished pad elevation would minimize bedrock removal to the extent feasible, although fill volumes to raise grades on the west sides of the pad would increase.

The smaller pad areas would be designed using best practices. Access paths may include a thin gravel section to facilitate off-road equipment access during construction activities.

Excavation of rock along the access road may be necessary. Blasting with controlled explosives in close proximity to the water conveyance tunnel would be avoided. Rock breaking using heavy equipment would cause vibrations that may transmit through the rock to the tunnel, but vibrations would be minor. The road grades would be designed to minimize the need for rock removal near existing features such as the surge tank and above the water conveyance tunnel.

As described in the section below, work would be performed in accordance with applicable erosion and sediment control permits from WVDEP consistent with regulatory requirements and the Stormwater Pollution Prevention Plan developed for the Project. Best management practices such as silt fencing would be used to prevent disturbed soils from leaving the construction site. Obtaining and following appropriate permit conditions would minimize effects to geological and soil resources.

3.2 Water Quality and Water Quantity

3.2.1 Water Quality

No direct impacts to water quality are anticipated from the proposed modifications. Site drainage improvements associated with construction of the HN FC Switchyard include drainage swales along roadway alignments and new culverts at drainage ditch crossings. The substation pad would drain to storm catch basins along the west edge of the pad which will be piped to discharge into the existing drainage ditch. Stormwater management would consist of a sediment capture system west of the substation pad to capture sediment from the site. Land clearing, excavation, filling, and grading have the potential to contribute pollutants (total suspended solids, turbidity, oil and grease, and Total Petroleum Hydrocarbons) to stormwater runoff. Best management practices for the prevention of erosion and sediment control in accordance with state guidelines would be employed throughout construction. Hawks Nest Hydro has developed a Stormwater Pollution Prevention Plan for storm water that describes and ensures the implementation of practices to be used to reduce the pollutants in stormwater discharges

associated with construction activity at the site and assure compliance with the terms and conditions of the West Virginia Construction General Permit (WV0115924).

3.2.2 Water Quantity

No effects to water quantity are expected during or following the proposed Project modifications as further described below.

Due to the lack of significant usable storage capacity in the Hawks Nest reservoir, the Project is operated as a run-of-river facility under all conditions of stream flow, except as needed to implement the FERC-required ramping rate (see Section 3.3.3) or if temporarily modified if required by emergencies beyond the Licensee's control. The control room operators monitor the reservoir to minimize reservoir elevation changes and maintain the normal pool elevation⁷ of approximately 819 ft. The reservoir level is maintained through power generation and release of the required minimum flow from the trash gate at the right end of the spillway, and additional spill through the spillway gates when inflow exceeds powerhouse capacity.

The reservoir is typically operated within 0.5 ft of the normal pool level. Operation of the Project in this range provides flexibility to maintain the required minimum flow release and make minor adjustments in anticipation of significant inflow based on releases from the upstream Bluestone Dam or local precipitation events.

Upstream river stage below Bluestone Dam is monitored (via USGS gage 03184500 New River at Hinton, West Virginia and periodic communications with U.S. Army Corps of Engineers) such that the Project operator can anticipate spillway gate and power generation operations. Control room operators are responsible for controlling the 14 spillway gates and the trash gate at the Project dam to balance the river flow released into the New River bypass reach and the river flow diverted into the power tunnel for generation purposes. The upstream USGS gage below Bluestone Dam is monitored to determine the need for additional spillway gates and discharge.

With the proposed bypass reach minimum flows of 300 to 1,000 cfs provided at the dam, the balance of the flow is dispatched through the power tunnel for powerhouse operations. The individual turbine-generator units each currently have a discharge rating of approximately 2,540 cfs, for a four-unit discharge capacity of approximately 10,160 cfs. The new Unit 1 and Unit 2 turbines would have slightly higher hydraulic capacities, resulting in a Project maximum hydraulic capacity of 10,380 cfs, an increase of 2.2 percent.

Based on the annual flow duration curve, the normal river flow exceeds 10,380 cfs approximately 29 percent of the time (Figure 3-1). During such periods of high inflow, the inflow exceeding the powerhouse capacity would be spilled into the bypass reach.

⁷ Unless otherwise stated, all elevations herein are based on National Geodetic Vertical Datum of 1929.

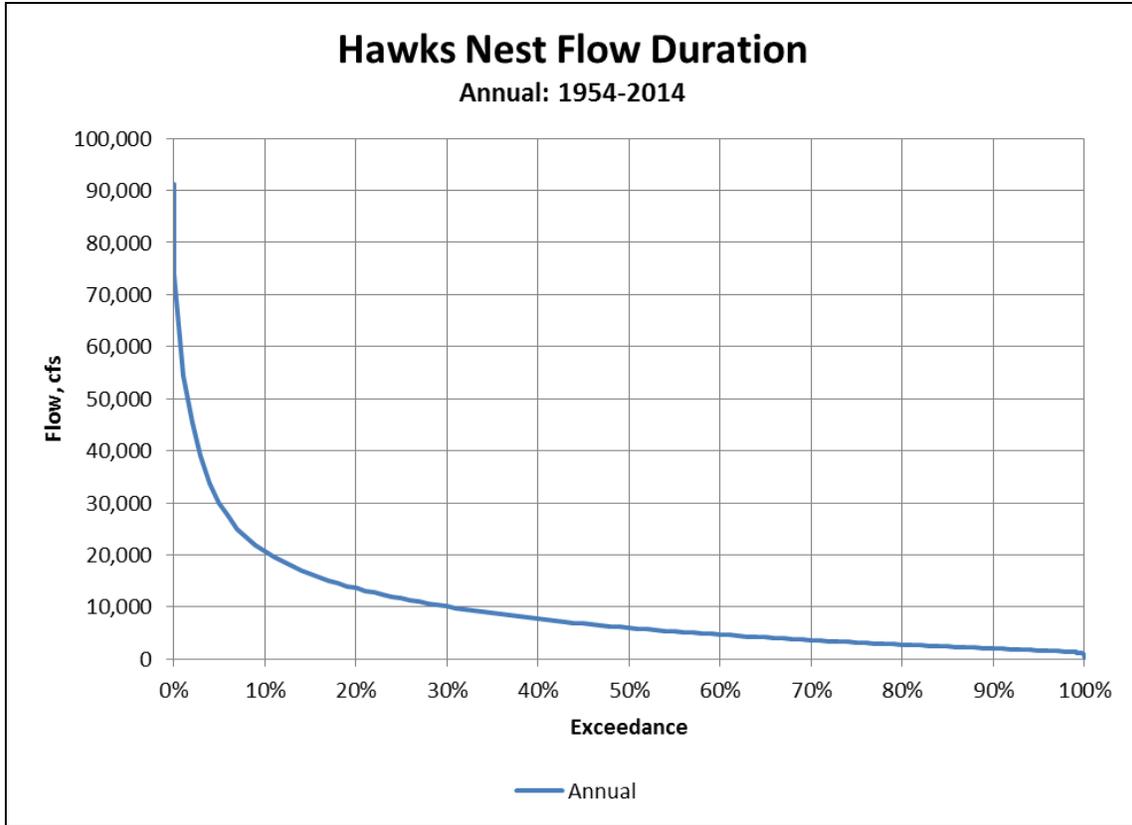


Figure 3-1. Hawks Nest Project Annual Flow Duration Curve⁸

The Project would continue to operate as run-of-river during and following construction. A planned powerhouse outage would occur during construction during which all inflows would spill to the bypass reach. Modifications to powerhouse operations may also be implemented ahead of construction to reduce capacity to full outage, in which case excess inflow would be spilled into the bypass reach. Temporary changes to operations and flows would be updated on the Safe Waters website⁹ maintained by Brookfield, consistent with the WVDEP WQC Special Condition No. 3.

Hawks Nest Hydro proposes to revise both the Recreation Flow Release Plan (see Section 3.7.2) and the Operation Compliance Monitoring Plan in consultation with stakeholders, to reflect the changes required by the modified 401 WQC and the license amendment. Within 120 days of FERC’s issuance of the amendment order, Hawks Nest Hydro plans to file the revised Recreation Flow Release Plan and Operation Compliance Monitoring Plan with FERC for approval.

⁸ Based on data from the Gauley River above Belva, WV and Kanawha River at Kanawha Falls, WV USGS gages, adjusted for the Hawks Nest drainage area.

⁹ <https://www.safewaters.com/facility/hawks-nest>

3.3 Fisheries Resources

3.3.1 Bypass Fish Habitat

No significant changes or effects to fish habitats are proposed or expected during or following the proposed Project modifications or as a result of the proposed minimum bypass flows, as further described below.

Modifying the Project to provide power to the regional grid instead of a single direct-connected customer is expected to benefit aquatic habitat in the bypass reach by reducing the frequency of sudden flow changes during periods of minimum flow in the bypass reach caused by powerhouse unit trips. The Project powerhouse has historically been prone to frequent unscheduled outages due to alloy plant furnace load rejections or other conditions forcing trips in the 25Hz closed electrical system.

Consistent with FERC License requirements, the WVDEP WQC Special Condition No. 2, and the Operation Compliance Monitoring Plan, a minimum flow of 300 cfs is released into the Hawks Nest bypass reach from March 1 through June 30, and a minimum flow of 250 cfs for all other months (Table 3-2). Typically, the minimum bypass flow release is provided from the trash gate at the right end of the spillway which can discharge up to 333 cfs.

The current minimum bypass flows were developed during Project relicensing based on a number of factors including the findings of the *Bypass Reach Aquatic Habitat Use/Instream Flow Study* (HDR 2015a). The study was conducted in accordance with the study plan developed in consultation with WVDNR and other agencies, and was approved by FERC. The study used an industry standard two-dimensional habitat incremental methodology which built on the hydraulic habitat concept of the well-known PHABSIM methodology. FERC relied on the findings of this study, as analyzed in their draft and final Environmental Assessment (FERC 2017), to establish the current FERC license requirements. The findings of this study and FERC’s Environmental Assessment remain relevant and compelling.

As described and mapped in HDR (2015a) and shown on Figure 3-2, the Hawks Nest bypass reach is composed primarily of five distinct channel, or aquatic habitat, types: deep pools, shallow pools, runs, shoals, and cascades. Two-thirds of the bypass reach is composed of deep and shallow pools. The relatively long individual deep and shallow pool segments are often separated by shorter run, shoal, and cascade segments; as a result, the bypass reach is made up of a series of step pools that retain large volumes of water in the bypass reach. The approximate distribution of aquatic habitat types throughout the bypass reach is provided in Table 3-4.

Table 3-4. Hawks Nest Bypass Reach Habitat Distribution

Habitat Type	Number of Segments	Min Length (ft)	Max Length (ft)	Avg Length (ft)	Total Length (ft)	Habitat Percentage
Deep Pool	17	140	2,608	780	13,264	45.8%
Shallow Pool	17	71	663	362	6,149	21.2%
Run	11	106	447	239	2,633	9.1%

Habitat Type	Number of Segments	Min Length (ft)	Max Length (ft)	Avg Length (ft)	Total Length (ft)	Habitat Percentage
Shoal	10	137	676	362	3,623	12.5%
Cascade	17	53	439	193	3,288	11.4%
Total	72	-	-	-	28,957	100.0%

For the *Bypass Reach Aquatic Habitat Use/Instream Flow Study* (HDR 2015a), an area was selected in consultation with the WVDNR which included the various habitats contained throughout the bypass reach. The 0.44-mile-long study site, named “Cotton Hill Bridge”, encompasses approximately 22.5 acres. (In comparison, the entire bypass reach is approximately 5.5 miles long, encompassing approximately 127 acres). Although not entirely representative of the larger bypass reach due to the side-channel area (which is not present elsewhere in the bypass reach) and the lack of deep pool habitat, the study reach site at Cotton Hill was selected (in consultation with the WVDNR in the field) over other candidate reaches based on the inclusion of representative habitat types, diverse riparian areas adjacent to the minimum flow stream channel, good upstream and downstream control points for hydraulic measurements, and better access to and maneuverability within the stream channel.

To evaluate aquatic habitat within the Cotton Hill Bridge study area, Weighted Usable Area (WUA) was calculated using a composite suitability index based on habitat suitability criteria (i.e., depth, velocity, substrate, and cover) for target fish species and life stages of interest in the bypass reach. The habitat suitability criteria for target species were obtained from literature and consist of preference values on a scale of 0.0 to 1.0 for depths, velocities, and substrate/cover. The amount of suitable habitat (i.e., WUA) was determined for each species/life stage over a range of simulated bypass flow conditions and WUA curves were generated to estimate habitat between simulated flows.

The study found the bypass reach provides a variety of habitats to support aquatic resources and sustains a diverse warm water fishery and macroinvertebrate community. Changes in flows have varying effects on different species, life stages, and guilds depending on preferences for water velocities and depths. For example, an increase in bypass flows may provide an increase of spawning habitat for a species, with concurrent decrease of available fry habitat. The study also showed that the quantity of suitable habitat does not change significantly with increasing flows. FERC relied on these study findings to establish the current FERC license requirements.

The *Aquatic Species Composition and Abundance Survey* (HDR 2015e), also carried out for the relicensing in consultation with WVDNR, provides additional context for the evaluation presented above. For this study, a combination of backpack electrofishing and gillnetting in deep pool habitat were conducted in the upper bypass reach and boat electrofishing in the lower bypass reach. The sampling effort resulted in a total catch of 709 fish comprising 28 species. A variety of minnow species were collected in both the upper and lower bypass reaches, dominated by the mimic shiner as the most abundant fish species identified. Fluvial specialists such as darter species (Variegate Darter, Sharpnose Darter, Roanoke Darter, Greenside Darter, and Rainbow Darter) and Northern Hogsucker characterized the upper reach, while habitat generalists, including a variety of centrarchid species (Rock Bass, Smallmouth Bass, and Green

Sunfish) characterized the lower reach. Channel Catfish and Flathead Catfish were collected in low numbers throughout the bypass reach and the Hybrid Striped Bass was collected in the lower reach. Walleye were not collected in the bypass reach, but it was reported to Hawks Nest Hydro that one approximately 30-inch-long individual was caught by an angler fishing near Cotton Hill Bridge on November 1, 2013 (Mark Scott, WVDNR, personal communication). No federally listed species were identified but 19 Bigmouth Chub, a WVDNR rare and endemic species to the New River watershed, were collected. The Licensee notes that the above-referenced study reinforces the health and diversity of native and non-native species in the bypass reach.

All flows through the Project would be diverted to the bypass reach during powerhouse outage associated with the modernization effort at the Project (currently anticipated to be at least twelve months), temporarily altering bypass flow conditions. Following construction, minimum bypass flows would increase as shown in Table 2-1. Evaluation of the original bypass flow study (HDR 2015a) results suggests increasing flow would not result in substantially greater suitable habitat for the species of interest under the elevated minimum bypass flows. The species which would see the greatest benefit would be adult Northern Hogsucker which has a positive relationship between flow and suitable habitat. A summary of change in WUA by month for all fish species and life stages present under the proposed minimum bypass flows is provided in Table 3-5. However, for most species, the quantity of suitable habitat does not change significantly with increasing flows. Therefore, the HDR (2015a) study results and recommendations from FERC's previous Environmental Assessment (FERC 2017) remain applicable for the proposed modifications.

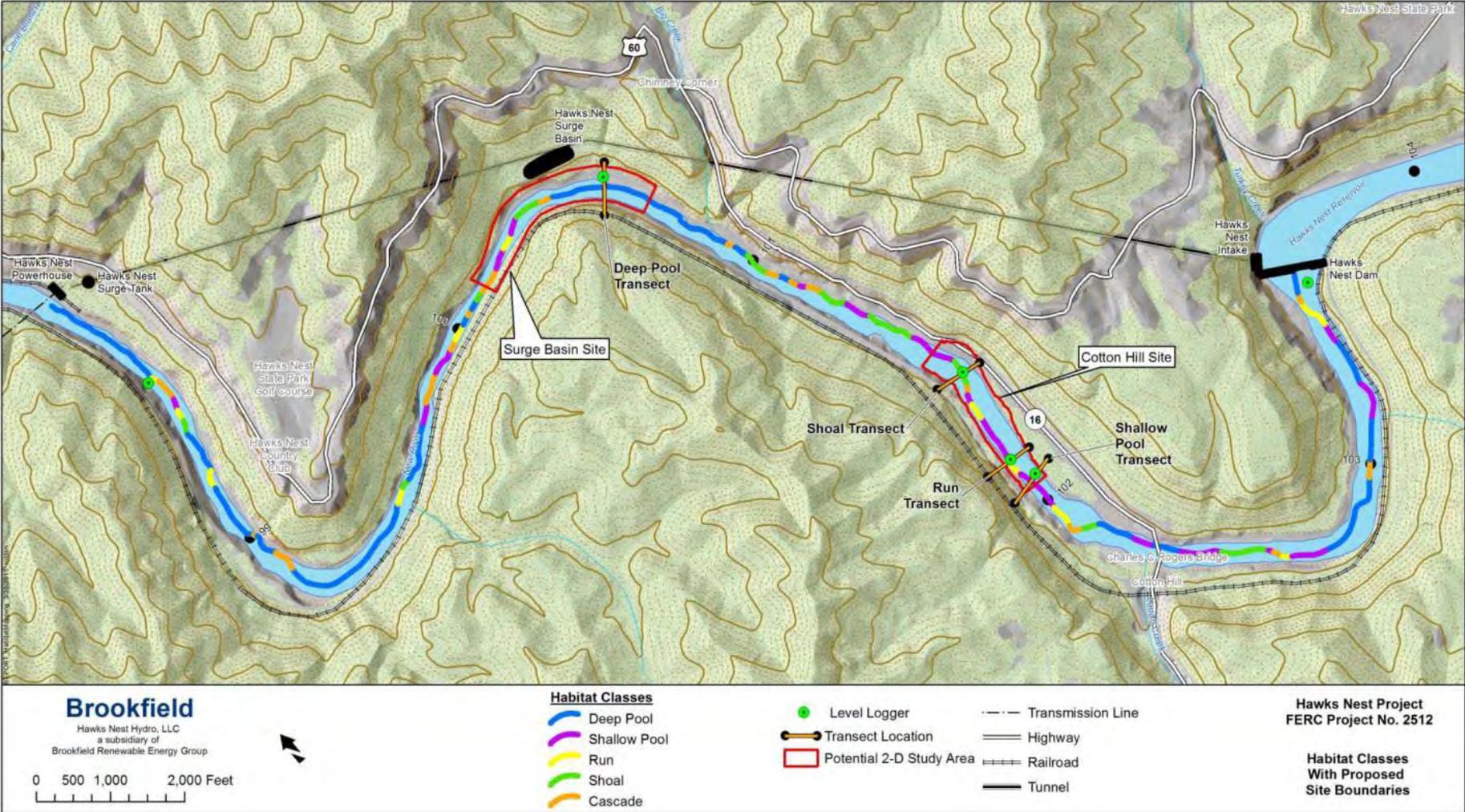


Figure 3-2. Hawks Nest Bypass Reach Habitat Mapping Results and Relicensing Study Reference Areas (HDR 2015a)

Month (current minimum flow [cfs])	Proposed Minimum Flow (cfs)	Change in WUA per Species/Life Stage ^{a,b}			Species/Life Stages Habitat Not Present
		Increase in WUA	No/Negligible Change	Decrease in WUA	
June (300)	400	Bigmouth Chub- A Greenside Darter- F, A Northern Hogsucker- J, A Smallmouth Bass- A 6	Central Stoneroller- J, A Bigmouth Chub- S Common Shiner- F, J, S Smallmouth Bass- J, S 8	Flathead Catfish- A Common Shiner- A Rock Bass- F, J, A, S Smallmouth Bass- F Walleye- J, A 9	Central Stoneroller- S Flathead Catfish- S Greenside Darter- S Northern Hogsucker- S Walleye- F, S 6
July (250)	300	Bigmouth Chub- A Greenside Darter- F, A Northern Hogsucker- A Smallmouth Bass- A 5	Central Stoneroller- J, A Common Shiner- Smallmouth Bass- J Walleye- A 5	Flathead Catfish- A Common Shiner- F, J, A Rock Bass- F, J, A Walleye- J 8	Bigmouth Chub- S Central Stoneroller- S Flathead Catfish- S Greenside Darter- S Northern Hogsucker- S Rock Bass- S Smallmouth Bass- F, S Walleye- F, S 10
August (250)	300	Bigmouth Chub- A Greenside Darter- A Northern Hogsucker- A Smallmouth Bass- A 4	Central Stoneroller- J, A Smallmouth Bass- J Walleye- A 4	Flathead Catfish- A Common Shiner- A Rock Bass- F, J, A Walleye- J 6	Bigmouth Chub- S Central Stoneroller- S Flathead Catfish- S Greenside Darter- F, S Northern Hogsucker- J, S Common Shiner- F, J, S Rock Bass- S Smallmouth Bass- F, S Walleye- F, S 15
September (250)	300	Bigmouth Chub- A Greenside Darter- A Northern Hogsucker- A Smallmouth Bass- A 4	Central Stoneroller- J, A Smallmouth Bass- J Walleye- A 4	Flathead Catfish- A Common Shiner- A Rock Bass- F, J, A Walleye- J 6	Bigmouth Chub- S Central Stoneroller- S Flathead Catfish- S Greenside Darter- F, S Northern Hogsucker- J, S Common Shiner- F, J, S Rock Bass- S Smallmouth Bass- F, S Walleye- F, S 15

3.3.2 Entrainment

No changes resulting from modernization efforts at the Project are proposed or expected to occur that would affect entrainment rates or survival rates of entrained fish.

Field entrainment studies were conducted at the Project in 1985 (EA Engineering 1986) and 1989-1990 (Kleinschmidt Associates, Inc. 1990). A desktop entrainment evaluation was also completed during the recent relicensing (HDR 2015b) which included a predictive blade strike model to estimate turbine survival for fish passing through the Project turbines (entrained) using the Advanced Hydro Turbine model (Franke et al. 1997).

In general, entrainment rates for all species increased in the summer and fall months, likely due to increased activity related to foraging, spring reproduction, and subsequent dispersal (GeoSyntec 2005; EPRI 1997; Jenkins and Burkhead 1993). Gizzard Shad and channel catfish represent the majority of entrainment, particularly in the fall, winter, and summer months, respectively. Episodic entrainment of Gizzard Shad is a known occurrence at the Project, driven by this species' sensitivity to cold stress and unrelated to Project operations. Gizzard Shad comprise 60 percent of entrainment at the Project.

The entrainment studies and blade strike model showed that 94 percent of fish entrained are four inches in length or less with survival rate of 95 percent. This and prior studies suggest little to no adverse effects are occurring to resident New River fish communities due to entrainment through the Project.

No entrainment would occur during the powerhouse outage period (currently anticipated to be at least twelve months) when reservoir inflow would be spilled to the bypass reach. Following construction, the proposed modifications would result in no or negligible effect on the number of fish entrained at the Project. The total hydraulic capacity, as detailed in Exhibit A (Attachment 1), is expected to increase by only 2.2 percent which is not expected to increase risk of entrainment to fish populations in the New River. Furthermore, as stated above, gizzard shad consist of the majority of fish entrained at the Project with entrainment rates unrelated to Project facilities or operations, but instead due to natural environmental conditions.

An increase in minimum bypass flows results in a greater proportion of flow diverted to the bypass as opposed to the powerhouse and turbines. Bypasses are generally safe routes of passage and therefore, no increase in fish mortality or effects to the fish community as a result of the proposed changes to minimum bypass flows is expected. Therefore, since no changes are expected that would affect rates or survival of entrainment, the Fish Entrainment Report (HDR 2015b) and analysis and recommendations from FERC's previous Environmental Assessment (FERC 2017) remain applicable for proposed modifications.

3.3.3 Ramping Rates

The proposed modifications are not expected to affect ramping rates during or after construction. The FERC license and WQC Special Condition 15 require the Licensee to up-ramp or down-ramp flows from the Project from March through October when river flows are less than 12,600 cfs, and when there are flows of 2,600 cfs or less in the bypass reach. During

such conditions, the Licensee operates the Project to maintain a ramping rate not greater than 1 ft per hour, as measured at the USGS gage in the vicinity of the Cotton Hill Bridge (USGS 380649081083301 New River below Hawks Nest Dam, West Virginia).

As described in the Operation Compliance Monitoring Plan, the ramping rate consists of 0.5-ft gate opening increments with a 45-minute time delay between gate movements. The incremental gate openings and time steps remain in place until the minimum opening of 2 ft is reached, corresponding to a spillway discharge of approximately 2,600 cfs. The intent is to maintain an upward or downward ramping rate not greater than 1 ft per hour and to maintain the reservoir elevation below 820 feet. In accordance with the approved Operation Compliance Monitoring Plan, the approved ramping rate may be modified, if necessary, to prevent overtopping of the Project dam or spillway gates.

There are no proposed changes to ramping rates with the facility modifications; between March 1 and October 31, water levels in the bypass reach would continue to be down-ramped no more than 1 ft per hour as measured in the New River below Hawks Nest Dam at USGS Survey Gage No. 380649081083301 when reservoir inflow is less than 12,600 cfs and flow in the bypass reach is less than or equal to 2,600 cfs. Down-ramping at this rate would provide fish protection from possible stranding in the bypass reach.

3.4 Wildlife and Botanical Resources

3.4.1 Upland Habitat and Wildlife and Botanical Resources

The *Wetland and Riparian Habitat Study* (HDR 2015g) conducted for the Project's relicensing mapped and described a total of two non-riparian upland cover types present within the Hawks Nest Project boundary, using the classification system described by Vanderhorst et al. (2007): Oak-Hickory-Sugar Maple Forest and Deciduous Tree-Great Laurel Forest. The area around the Hawks Nest powerhouse and surge tank was identified as Oak-Hickory-Sugar Maple Forest (refer to Figure E.7-50 in the Exhibit E of the final license application). Dominant canopy vegetation in this type includes sugar maple (*Acer saccharum*), white ash (*Fraxinus americana*), northern white oak (*Quercus alba*), and bitter-nut hickory (*Carya cordiformis*). Shrubs observed in this vegetation type include common pawpaw (*Asimina triloba*), cucumber-tree (*Magnolia acuminata*), American holly (*Ilex opaca*), and Carolina silverbell (*Halesia carolina*). Common herbaceous species in this vegetation type include white snakeroot (*Ageratina altissima*), Allegheny blackberry (*Rubus allegheniensis*) and wild yam (*Dioscorea villosa*).

The proposed HN FC Switchyard, access road, and construction laydown area would require clearing of up to 10 acres of land. This clearing will likely result in short- and long-term displacement of some common wildlife from these habitats. (Refer to Section E.7.5.1 of Exhibit E of the license application for listings of wildlife species reported in the vicinity of the Project.) This is a discountable effect given the largely undeveloped landscape in which the Project is situated because similar habitats are widely available.

A *Rare, Threatened, and Endangered Terrestrial Species Study* was performed for Hawks Nest Hydro during relicensing (HDR 2015h). This study included survey of both habitat for federally listed species, as described below, as well as occurrences of West Virginia Species of Concern

plants. As shown in Figure E.7-48 of Exhibit E of the new license application, no botanical species of concern have been observed in the area proposed for clearing for construction of the HN FC Switchyard, access road, and construction laydown area. Additionally, no West Virginia Species of Concern wildlife species or habitat were identified in this area, near the Hawks Nest powerhouse and surge basin (refer to figure E.7-49 of Exhibit E of the new license application).

3.4.2 Federally Protected Species

Hawks Nest Hydro conducted a review of species listed as threatened, endangered, and candidate species under the Endangered Species Act (ESA) using the USFWS Information for Planning and Consultation (IPaC) online system on February 10, 2026. The IPaC report (USFWS 2026a) identified a total of 13 threatened or endangered species, and 3 proposed-listed species that have the potential to occur within the Project boundary (Table 3-6).

Table 3-6. Federally Listed Species Potentially Occurring within the Project Boundary

Common Name	Scientific Name	Status
Mammals		
Gray Bat	<i>Myotis grisescens</i>	Endangered
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered
Virginia Big-eared Bat	<i>Corynorhinus townsendi virginianus</i>	Endangered
Clams		
Fanshell	<i>Cyprogenia stegaria</i>	Endangered
Green Floater	<i>Lasmigona subviridis</i>	Proposed Threatened
Longsolid	<i>Fusconaia subrotunda</i>	Threatened
Northern Riffleshell	<i>Epioblasma rangiana</i>	Endangered
Pink Mucket	<i>Lampsilis abrupta</i>	Endangered
Round Hickorynut	<i>Obovaria subrotunda</i>	Threatened
Sheepnose Mussel	<i>Plethobasus cyphus</i>	Endangered
Snuffbox Mussel	<i>Epioblasma triquetra</i>	Endangered
Spectaclecase	<i>Cumberlandia monodonta</i>	Endangered
Insects		
Monarch Butterfly	<i>Danaus plexippus</i>	Proposed Threatened
Plants		
Virginia Spiraea	<i>Spiraea virginiana</i>	Threatened

Source: USFWS 2026a

3.4.2.1 Designated Critical Habitat

Designated critical habitat is the specific areas within the geographic area occupied by the species at the time it was listed that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection (USFWS 2017). Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation.

Final designated critical habitat has been established under the ESA for the Indiana bat (*Myotis sodalis*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), longsolid (*Fusconaia subrotunda*), and round hickorynut (*Obovaria subrotunda*) (Table 3-7). There is also proposed designated critical habitat for the green floater (*Lasmigona subviridis*), sheepnose mussel (*Plethobasus cyphus*), snuffbox mussel (*Epioblasma triquetra*), spectaclecase (*Cumberlandia monodonta*), and monarch butterfly (*Danaus plexippus*). Only the longsolid and round hickorynut were found to have designated critical habitat that overlaps with the Project boundary according to the 2026 USFWS IPaC report.

Table 3-7. Federally Listed Species with Designated Critical Habitat

Common Name	Scientific Name	Year Critical Habitat Established	Critical Habitat within Project Boundary
Indiana Bat	<i>Myotis sodalis</i>	Final - 1977	No
Virginia Big-eared Bat	<i>Corynorhinus townsendii virginianus</i>	Final - 1979	No
Green Floater	<i>Lasmigona subviridis</i>	Proposed - 2023	No
Longsolid	<i>Fusconaia subrotunda</i>	Final - 2023	Yes
Round Hickorynut	<i>Obovaria subrotunda</i>	Final - 2023	Yes
Sheepnose Mussel	<i>Plethobasus cyphus</i>	Proposed - 2024	No
Snuffbox Mussel	<i>Epioblasma triquetra</i>	Proposed - 2024	No
Spectaclecase	<i>Cumberlandia monodonta</i>	Proposed - 2024	No
Monarch Butterfly	<i>Danaus plexippus</i>	Proposed - 2024	No

Source: USFWS 2026a

3.4.2.2 Migratory Birds and Eagles

The IPaC reports migratory birds with the potential to occur within the Project boundary (Table 3-8). The Migratory Bird Treaty Act of 1918 implements four international conservation treaties that the U.S. entered into with Canada, Mexico, Japan, and Russia, with intent to ensure the sustainability of populations of all protected migratory bird species (USFWS 2026b). In addition to the Migratory Bird Treaty Act, the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are also protected under Bald and Golden Eagle Protection Act.

Table 3-8. Migratory Birds Potentially Occurring within the Project Boundary

Common Name	Scientific Name	Breeding Season
Bald Eagle	<i>Haliaeetus leucocephalus</i>	February 1 to June 30 ^a
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	May 15 to October 10
Black-capped Chickadee	<i>Poecile atricapillus praticus</i>	April 10 to July 31
Bobolink	<i>Dolichonyx oryzivorus</i>	May 20 to July 31
Canada Warbler	<i>Cardellina canadensis</i>	May 20 to August 10
Cerulean Warbler	<i>Setophaga cerulea</i>	April 27 to July 20
Chimney Swift	<i>Chaetura pelagica</i>	March 15 to August 25
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	May 1 to August 20
Golden Eagle	<i>Aquila chrysaetos</i>	Breeds elsewhere
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	May 1 to July 20
Kentucky Warbler	<i>Geothlypis formosa</i>	April 20 to August 20
Prairie Warbler	<i>Setophaga discolor</i>	May 1 to July 31
Prothonotary Warbler	<i>Protonotaria citrea</i>	April 1 to July 31
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	May 10 to September 10
Rusty Blackbird	<i>Euphagus carolinus</i>	Breeds elsewhere
Wood Thrush	<i>Hylocichla mustelina</i>	May 10 to August 31

^a As described in the FERC-approved Hawks Nest Bald Eagle Protection Plan (HDR 2018).
Source: USFWS 2026a

3.4.2.3 Potential Effects to Federally Protected Species

The Licensee consulted with USFWS in spring 2025 regarding the proposed tree removal for the proposed modifications¹⁰. On May 21, 2025, the USFWS stated that the proposed modifications would have only an insignificant or discountable effect on the Indiana bat as further discussed below and no effect or not likely to adversely affect all other federally listed species with potential to occur in the Project boundary (USFWS 2025). No changes to the IPaC report (i.e., addition or removal of species) or status of designated critical habitat have occurred since the time of the consultation, therefore concurrence by the USFWS remains applicable.

Bats

Five bat species were identified on the IPaC report as potentially occurring in the Project boundary: gray bat, Indiana bat, northern long-eared bat, tricolored bat, and Virginia big-eared bat. Gray bats and Virginia big-eared bats occupy caves year-round, whereas Indiana bats,

¹⁰ The Commission designated Hawks Nest Hydro as its non-federal representative for informal consultation with the USFWS regarding potential effects of the modernization project pursuant to the Section 7 of the ESA on April 25, 2025.

northern long-eared bats, and tricolored bats roost in forested areas during summer. No caves have been identified within the Project boundary.

Summer roosting habitat used by the Indiana bat consists of trees greater than five inches in diameter with cracks, crevices, and/or exfoliating bark, often within canopy gaps in a forest, fenceline, along a wooded edge, or riparian zone (USFWS 2026c). The trees typically comprise snags in early to mid-decay stages. If live trees are used, it is most often species with naturally sloughing bark such as shagbark hickory. Summer roosting habitat for the northern long-eared bat includes the same or similar habitat as the Indiana bat (USFWS 2026d). During the spring, summer, and fall, tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees (USFWS 2026e). They have also been found using artificial structures such as barns, porch roofs, bridges, or concrete bunkers.

A bat habitat and acoustic survey was performed in 2013 in support of relicensing (HDR 2015c). Since the study was performed prior to federal listing of the northern long-eared bat (2015) or proposed listing of the tricolored bat (2022) (and since the Virginia big-eared bat resides year-round in caves), only summer roosting habitat for the Indiana bat was surveyed. Because of the similarity in habitat between the Indiana bat and northern long-eared bat, it can be reasonably assumed that the results of the 2013 survey apply to the northern long-eared bat as well. However, given the habitat requirements of the tricolored bat which are substantially different from the Indiana or northern long-eared bats, the study results cannot be extrapolated to this species. (Refer to Table E.7-23 of Exhibit E of the new license application for a listing of non-ESA-listed bat species documented during the relicensing field studies.)

According to the *Rare, Threatened, and Endangered Terrestrial Species Study* (HDR 2015c), only foraging habitat is present in the immediate area around the powerhouse and surge tank. The area immediately adjacent to these areas has low potential for roosting habitat and no potential roost trees were identified in the limits of disturbance for tree clearing. Areas with high potential for roosting habitat were primarily associated with proximity to water resources and consisted of the left-descending bank of the New River within the bypass reach and the forested area surrounding the surge basin. Forty-five potentially suitable Indiana bat roost trees were identified within the Project boundary; these trees are generally available within the surrounding landscape. Five stands were identified as having moderate foraging potential for Indiana bats, 11 stands had low foraging potential, and the remaining three had no foraging potential.

The acoustic survey detected eight species of bats within the Project boundary including the Indiana bat. The Indiana bat and northern long-eared bat are known from Fayette County, West Virginia, and confirmed to occur within the Hawks Nest Project boundary. While not detected during the Licensee's studies, Virginia big-eared bat may also be transient in the area.

The proposed HN FC Switchyard, access road, and construction laydown area would require clearing of up to 10 acres of land. License Article 406 requires the Licensee to limit tree clearing associated with maintenance activities at the Project to between November 15 and March 31, to minimize impacts to federally listed bat species, including the Indiana bat, northern long-eared bat, and Virginia big-eared bat, and migratory bird species. The scope of the clearing (including tree removal proposed to begin in March 2026) is beyond normal Project maintenance and

clearing activities may be required outside of this season and coinciding with the summer roosting season for Indiana and northern long-eared bats of April 1 to October 14 (WVDEP 2013, 2015). For these reasons, Hawks Nest Hydro coordinated with USFWS and WVDNR starting in January 2025 regarding vegetation clearing for the modernization project. Hawks Nest Hydro subsequently submitted a Data Request to WVDNR and consulted with the WV Field Office of the USFWS in early 2025. In a concurrence letter (USFWS 2025) dated May 21, 2025, the USFWS determined,

“Based upon best available information, the local geographic area where the project is proposed is not located within close proximity to any known occurrence records and will not affect any suitable caves or mines. Additionally, coordination with state agency experts has indicated that the project area lacks important factors related to landscape suitability for this species and thus has a low likelihood of being occupied. Therefore, the WVFO anticipates any associated effects to the Indiana bat will be insignificant and/or discountable.”

Therefore, no significant effects to protected species are expected as a result of the proposed modifications at the Project.

Mussels

The Licensee conducted mussel surveys in the Project reservoir bypass reach in early September 2013 based on established protocols for WV (WVDNR and USFWS). Although apparent suitable substrate, water quality, and host species were observed, no mussels were found at locations surveyed within the Hawks Nest reservoir (HDR 2015d, 2015e).

Two live mussels were identified in the Hawks Nest bypass reach during the study, comprising the same species previously identified at this location by the WVDNR: the purple wartyback (*Cyclonaias tuberculata*) and mucket (*Actinonaias ligamentina*). Neither of these species are federally protected under the ESA. The bypass reach contained limited pockets of suitable mussel habitat. Mussels generally prefer stable substrate composed of a mix of cobble, gravel, and sand, which allows the mussel to anchor or bury itself in the substrate without risk of being swept downstream under high flow conditions. Nearly 70 percent of the habitat in this reach consists of deep pools, cascades, and shoals that are dominated by boulder and bedrock substrates, unsuitable for mussel habitation.

The bypass reach would experience increased flows when the powerhouse is offline to facilitate Project modernization efforts. Minimum bypass flows and recreational flow releases are also proposed to increase following construction. However, flow is currently spilled to the bypass during high-flow events when the powerhouse is at maximum capacity and for recreational releases. The bypass reach does not contain an abundance of suitable habitat for mussels and has been shown to support low mussel presence; therefore the actions associated with the proposed modifications, which result in spillway operations within the normal and licensed range for the Project, would have no effect on mussel populations in this reach of the New River. The USFWS also concurred that the proposed modifications at the Project would have no effect or would be not likely to adversely affect the federally protected mussel species (USFWS 2025).

Insects and Plants

Virginia spiraea is a flowering shrub listed under the ESA in 1990. In West Virginia, it is found among large boulders and bedrock, and in flood debris along scoured stream-sides with soils consisting of silt and sand (NatureServe 2026). A historical record of Virginia spiraea is believed to have occurred within the Project boundary. However, since it has not been identified since 1961 and has since been listed as extirpated, it is therefore assumed not to be present. The proposed Project operations would not impact reservoir operations or potential habitat for this species.

The monarch butterfly was listed as a candidate species in 2020 and uplisted to proposed threatened in 2024. This species feeds on the nectar of many flowers during breeding and migration, but can only lay eggs on milkweed plants (USFWS 2026f). Most land cover within the Project boundary is riparian forest, wetlands, or upland deciduous forest; however, the maintained transmission right-of-way may contain suitable habitat for this species depending on botanical diversity and presence of wildflowers, density of invasive species, and presence of milkweed. The transmission line upgrades would not result in significant new ground disturbance.

The area to be disturbed in association with construction of the Hawks Nest FC Switchyard is Oak-Hickory-Sugar Maple Forest. As described in Section 3.4.1, no rare, threatened, or endangered botanical species were identified at the Project during relicensing.

The USFWS determined that the proposed modifications at the Project would have no effect or are not likely to adversely affect Virginia spirea or monarch butterfly.

Birds

Some migratory bird species may use the riparian and upland forested areas for habitat within the Project boundary (Table 3-9). Tree clearing for the modernization project is proposed to begin in March 2026. The number of migratory birds with breeding seasons which overlap with the proposed period of tree clearing increases from April to July. However, given the construction area is adjacent to the powerhouse and subject to routine disturbance, it is unlikely that birds would select nesting areas within the area and are more likely to select nesting sites elsewhere.

Table 3-9. Migratory Birds Potentially Occurring within the Project Boundary during the Period of Tree Removal

Common Name	Breeding Season	Nesting Habitat	Probability of Presence during Breeding Season	
			April	May
Bald Eagle	February 1 to June 30 ^a	Close to large waterbodies in tall trees	Low-Moderate	Low-Moderate
Black-billed Cuckoo	May 15 to October 10	Forest edge and open woodland, low or on the ground	N/A	Moderate

Common Name	Breeding Season	Nesting Habitat	Probability of Presence during Breeding Season	
			April	May
Black-capped Chickadee	April 10 to July 31	Deciduous and mixed forests in cavities	Moderate	Moderate
Bobolink	May 20 to July 31	Tall grass areas, flooded meadows, prairie	N/A	Low
Canada Warbler	May 20 to August 10	Moist thickets of woodland undergrowth, bogs, tall shrubbery along streams or swamps, on the ground or on ledges, stumps, fallen logs	N/A	Low
Cerulean Warbler	April 27 to July 20	Mature, mesic hardwood forest with closed canopy	Low-Moderate	Moderate
Chimney Swift	March 15 to August 25	Chimneys or other anthropogenic structures	Moderate	High
Eastern Whip-poor-will	May 1 to August 20	Forest and open woodland; uncommon in mature forest	N/A	Low
Golden Eagle	Breeds elsewhere	N/A	N/A	N/A
Golden-winged Warbler	May 1 to July 20	Deciduous woodland, dry uplands, thick undergrowth in swampy areas, disturbed habitats	N/A	Moderate
Kentucky Warbler	April 20 to August 20	Humid deciduous forest, dense second growth, swamps with slightly open canopy and dense understory, rarely conifers	Moderate	High
Prairie Warbler	May 1 to July 31	Brushy second growth, dry scrub, low pine-juniper, pine barrens in shrub, sapling, thicket, or fern clumps	N/A	Low-Moderate
Prothonotary Warbler	April 1 to July 31	Mature deciduous floodplain, river, and swamp forests in cavities	Low	Low-Moderate
Red-headed Woodpecker	May 10 to September 10	Open woodland in cavities	N/A	Low
Rusty Blackbird	Breeds elsewhere	Moist coniferous woodlands in trees or shrubs near water	N/A	Low
Wood Thrush	May 10 to August 31	Deciduous or mixed forest with dense tree canopy and well-developed understory	N/A	High

Source: USFWS 2026; NatureServe 2026

Surveys to document bald eagle use within the Project boundary were conducted in 2012 and suitable habitat for bald eagle breeding and foraging was observed, however no stick nests were identified (WVDNR 2012). Bald eagles, if in the vicinity of the Project (outside of the Project boundary), may experience temporary noise disturbance during the period of construction, which would occur over the period that bald eagles are nesting (beginning in January or February in West Virginia [WVDNR 2022]). As required by the License Article 404, the Licensee developed and is implementing a Bald Eagle Protection Plan and would continue to do so during and after construction. Consistent with the procedures established by Section 3 of the Bald Eagle Protection Plan, in March 2025 a ground survey was completed by Hawks Nest Hydro, including a 660-ft buffer of the project area, for bald eagle nests; none were located. If a nest within the buffer or project area were to be identified during visual reconnaissance prior to clearing activities, Hawks Nest Hydro will notify and consult the USFWS West Virginia Field Office and WVDNR Wildlife Resources Section consistent with the Bald Eagle Protection Plan. No nests or potential nests have been observed within the Project boundary since the survey in 2012.

Due to the minor amount of proposed tree removal associated with this modernization project, it is not anticipated that migratory birds or bald eagles would be adversely affected by the proposed modifications.

Designated Critical Habitat

As stated above, final critical habitat has been designated for the Indiana bat, Virginia big-eared bat, longsolid, and round hickorynut, and proposed for the green floater, sheepsnose mussel, snuffbox mussel, spectaclecase, and monarch butterfly. Only the longsolid and round hickorynut were found to have designated critical habitat that overlaps with the Project boundary according to the 2026 USFWS IPaC report. The designated critical habitat is located downstream of Hawks Nest powerhouse where an existing overhead transmission line crosses the New River at the Glen Ferris Project. No in-water work or Project operations that could impact aquatic habitat in this area is proposed. Therefore, no impacts to designated critical habitat are anticipated.

3.5 Historic and Archaeological Resources

3.5.1 Relicensing Background

During relicensing, the Licensee developed a Historic Properties Management Plan (HPMP) in consultation with agencies and interested parties, which was approved in the new license order. The HPMP provides measures for management of historic properties within the APE, including goals of supporting continued normal operation of the Project while maintaining and preserving the integrity of historic properties within the APE, and, to the fullest extent possible, avoiding, minimizing, or mitigating adverse effects on historic properties within the APE.

3.5.2 Archaeological Resources

Archaeological and architectural investigations were conducted by Cultural Resource Analysts, Inc. within the APE (Hunter 2015). Eight archaeological sites, three historic period archaeological sites, and one historic property were identified within the APE. None of the

archaeological sites or historic period archaeological sites fall within the area of proposed disturbance, therefore there would be no effects to known archaeological resources.

If previously unknown sites are identified during proposed construction, the Licensee would implement the procedures for inadvertent discoveries as stated in Section 7.6 of the HPMP. By letter to Hawks Nest Hydro dated October 15, 2024, the WVSHPO concurred with Hawks Nest Hydro's findings of no adverse effects to archaeological resources.

Hawks Nest Hydro also consulted with Native American tribes regarding the Non-Capacity Amendment Application. The Catawba Indian Nation responded that it had no comments; no other Native American tribes responded.

Refer to the Attachment 4 Consultation for consultation documentation associated with the Non-Capacity Amendment.

3.5.3 Historic Structures

As stated in the HPMP, the Hawks Nest Development Historic Site is eligible for the NRHP under Criteria A and C. Contributing resources include the Hawks Nest Dam, surge basin, surge tank, intake, Hawks Nest tunnel, and powerhouse, all of which are managed by the Licensee in accordance with the applicable Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68).

The Licensee does not anticipate visual effects to the character-defining features of the powerhouse or other structures that comprise the Hawks Nest Development Historic Site in association with the modernization project. No changes are proposed to the exterior of the historic powerhouse. The new facilities in the vicinity of the powerhouse (access road, retaining wall, HN FC Switchyard, O&M building) will be visible from the existing powerhouse and will result in minor aesthetic changes to this area. The Licensee notes that because this is an operating hydroelectric power plant, this area already includes equipment and facilities not associated with the original Project construction. While turbines are proposed to be replaced in-kind to the extent practicable, the Unit 1 and Unit 2 replacement turbine-generator units will likely differ in appearance from the existing units. However, the only portion of the replacement units that will be visible from the powerhouse generator floor is the generator housing. The generator housing will be designed to look similar to the existing generator housing and be painted the same color as the generator housing for Unit 3 and Unit 4. The modernization project is not expected to change Project operations in a manner that would impact the site's NRHP eligibility or result in other modifications of Project structures that would impact the site's NRHP eligibility. By letter to Hawks Nest Hydro dated October 15, 2024, the WVSHPO concurred with Hawks Nest Hydro's findings of no adverse effects to architectural resources.

Refer to the Attachment 4 Consultation for consultation documentation associated with the Non-Capacity Amendment.

3.6 Socio-Economic Resources

The Licensee is an important contributor to the regional economy by supporting local business for power needs as well as tourism. The New River Gorge National Park and Preserve attracts

more than 1 million visitors annually. More than 101,100 individuals participated in guided whitewater paddling trips on the New or Gauley Rivers in 2014 (WVDNR 2014). The total annual economic impact of whitewater boating on the New and Gauley rivers is estimated at more than \$40 million (WVPRO 2011). Annual employee payroll for New and Gauley rivers outfitters exceeds \$8.4 million, with over \$7.5 million spent with local and out-of-state vendors (WVPRO 2011). The New and Gauley rivers are also a major draw for private boaters. Recreational releases will be possible only to the extent they can be provided by inflow and Project operating conditions during the period of construction, however recreational releases will be increased following Project modifications (see Section 3.7.2). The Licensee will continue to support these economies by providing recreational releases as discussed further below, to the extent they can be provided by prevailing inflow and powerhouse operating conditions. The Licensee has also made numerous improvements to recreational facilities in the Project vicinity, as outlined by WQC Special Condition Nos. 5-13. No changes to these requirements are being proposed.

The Licensee directly employs approximately 25 full-time employees at the Project and the Licensee's regional office. Numerous contractors routinely provide services at the Project. The annual payroll for the Project is approximately \$2.5 million per year, with annual spending of local suppliers of approximately \$1 million. The proposed modernization effort would enable the Project to continue operation for the duration of the existing license term. The proposed modifications would benefit the local economy through the creation of local construction jobs and subcontracted services.

As an added benefit, the proposed modifications would ensure continued generation of clean, reliable, renewable energy that supports regional energy needs over the remainder of the new license term.

3.7 Recreational Resources

3.7.1 Recreation Facilities

The Licensee conducted a Recreation Use and Needs (RUN) Assessment Study during relicensing (HDR 2015i). Data collection included surveys of Project recreation area visitors, a mail-in survey for county residents, and a survey of the participants at the 2013 New River Rendezvous event¹¹. Findings relevant to increased minimum bypass flows and recreational flow releases are summarized below.

- Roughly 11 percent of county resident respondents visited the bypass reach during the survey period.
- Primary recreational activities in the bypass reach included sightseeing/relaxing (the most commonly reported activity), bank fishing, bouldering/climbing, and boating.

While whitewater recreation is perhaps the most publicized recreational use of the bypass reach, climbing, and especially bouldering (i.e., climbing without a rope, falling on portable foam

¹¹ This event was a rock climbing event. Survey participants focused on bouldering and rock climbing in the bypass reach.

pads), has been a recreational use of the bypass reach for the past three decades. Along with parking and trails, water levels are the most important climbing access concern along this stretch of river.

License-required recreation facilities include the Cotton Hill Bridge Day-Use Area, the Hawks Nest Power Station Fishing Access Site, and the Bike-Hike Trail. In addition to the formal recreation facilities, various informal recreation areas comprising parking areas, trail heads, and boat launching areas are also present in the Project vicinity. Temporary closure of the Bike-Hike Trail (estimated at up to 60 days) would be necessary during construction activities at the Hawks Nest Dam associated with 60Hz auxiliary conversion. However, such temporary closures are contemplated in the FERC-approved Recreation Management Plan. The Licensee would implement the public notification measures included in the Recreation Management Plan, including notification of the Bike-Hike Trail closure on the Project's public Safe Waters website.

As described in Section 2.2.2, the proposed Project modifications are expected to reduce the frequency of sudden flow changes during periods of minimum flow in the bypass reach caused by powerhouse unit trips. Because sudden flow changes (and resultant river level rise) in the bypass reach can present a risk for recreational users and visitors, the modernization project would result in improvement to public safety.

3.7.2 Recreation Flow Releases

Recreational flow releases in the current license were determined based on the Recreation Flow Assessment in 2013 and 2014 (HDR 2015f) that included the evaluation of flow releases into the approximately 5.5-mile-long bypass reach extending from Hawks Nest Dam to the Hawks Nest powerhouse. As part of this study, Hawks Nest Hydro assessed the range of optimal and acceptable flows for recreation and commercial paddling and rafting in the bypass reach. Other objectives of this study included identifying the limitations and feasibility of providing scheduled releases to the bypass reach, methods of providing flow information to the public, impacts of whitewater releases to other resources (including recreational users), and existing and potential launch and take-out sites and the potential challenges and solutions for utilizing those locations. Findings related to flow releases include:

- A variety of whitewater crafts, including hard shell and inflatable kayaks and self-bailing rafts, are suitable for use in the Hawks Nest bypass reach.
- 1,500 cfs was generally considered the minimum acceptable flow in terms of navigability and overall whitewater experience, as well as the minimum flow required for self-bailing rafts. A majority of study participants indicated they would at least probably return if this flow were provided. Additional comments provided by study participants suggested that a slightly higher flow (2,000 cfs) may be the minimum desirable flow, particularly for commercial rafting.
- Study participants indicated a flow higher than all of the study flows would be optimal, though survey results did support that the optimal flow range varies based on the intended experience and type of craft. The controlled whitewater releases between 2,000 and 3,000 cfs were considered acceptable by most study participants.

- Most study participants indicated that a minimum whitewater skill level of at least intermediate was required to boat the study reach at the range of study flows.
- A number of whitewater reaches in the region that provide a similar whitewater experience were identified by Comparative Survey respondents.

Consistent with FERC License Article 407; WVDEP WQC Special Condition No. 13; and the Recreation Flow Release Plan and Operation Compliance Monitoring Plan approved by FERC, Hawks Nest Hydro currently provides a total of seven planned 6-hour recreational releases of 2,200 cfs to 2,500 cfs annually, generally during the last weekend of June and the weekends in July and August. These releases are contingent upon 1,600 cfs being first available for power generation. The goal is to achieve 7 days of weekend releases (including the possibility for July 4th) as early in the period as possible. However, if total flow approximating 3,800 cfs (2,200 cfs +1,600 cfs) is not available to satisfy a planned recreational release as described above, there are no make-up days beyond the last weekend of August. Hawks Nest Hydro also provides two scheduled whitewater releases during the last two weekends in March, again contingent upon 1,600 cfs being first available for power generation. If total flow approximating 3,800 cfs is not available, there are no make-up days (WQC Condition 13).

Following expiration of the PPA, all Project inflow will be spilled to the bypass reach until the new Unit 1 becomes operational or construction of the new Hawks Nest FC Switchyard is complete, at which point Unit 3 and Unit 4 could resume operation. After the resumption of Unit 1, 3, or 4 operation, full powerhouse outages may be required during some construction phases, during which all Project inflow would be spilled into the bypass reach. While planned recreational releases may not be possible during this period, bypass flows could support recreational boating, contingent on Project inflow conditions, and be facilitated by information provided to the public on the Project's Safe Waters website. Hawks Nest Hydro would provide scheduled recreation flow releases to the extent they can be provided by prevailing inflow and powerhouse operating conditions. Confirmation and cancellation of scheduled recreation flow releases during the construction period would continue to follow the procedures detailed in the Recreation Flow Release Plan, as will be modified for the amended license.

Hawks Nest Hydro consulted extensively with Project stakeholders to develop the proposed recreation flow releases. Whitewater outfitters and American Whitewater advocated for more scheduled recreation flow releases as well as more predictable recreation flow releases. In response, Hawks Nest Hydro proposes to increase the number of recreational flow releases from 9 to 32 releases per year following the schedule outlined in Section 2.2.2. The increase in the number of releases supports both whitewater outfitter interests in more heavily marketing boating trips on the bypass reach as well as individual boaters' interests as represented by American Whitewater. The proposed elimination of the 1,600 cfs reservation for 25Hz power production, which is no longer needed to support WVAM needs, would result in fewer cancellations of recreation flow releases, while reserving a maximum of 500 cfs for station auxiliary power needs protects the safe and reliable operation of gates, alarms, and sirens at the dam during scheduled releases.

Hawks Nest Hydro carefully considered the various interests when developing the proposed schedule for planned recreation releases. Whitewater outfitters were most interested in scheduled recreation flow releases during weekdays since they currently offer boating trips on other nearby river reaches during weekends. However, individual boaters tend to find weekend releases more beneficial than weekdays which coincides with the same days climbers access bouldering routes in the bypass reach. To accommodate these interests, Hawks Nest Hydro would provide recreation flow releases on both weekends and weekdays. Since climbers cannot boulder in the bypass reach during planned recreation flow releases (i.e., routes are inaccessible for bouldering), the proposed schedule includes recreational flow releases during only the first two Saturdays each summer month; no recreation flow releases will be provided on the other Saturdays of each month which allows for climbing access.

Whitewater outfitters and American Whitewater requested that Hawks Nest Hydro increase recreation flow releases from 2,200 cfs to 2,500 cfs, which they state will improve boating conditions. Hawks Nest Hydro agreed and the planned recreation flow releases will fall within a range of 2,200 cfs to 3,000 cfs with a target of 2,500 cfs.

To balance the effect of the increase in the number of planned recreation releases and increase in volume against generation losses, Hawks Nest Hydro's proposal decreases the duration of each release from six to four hours.

Hawks Nest Hydro proposes to revise both the Recreation Flow Release Plan and the Operation Compliance Monitoring Plan in consultation with stakeholders, to reflect the changes required by the modified 401 WQC and the license amendment. Within 120 days of FERC's issuance of the amendment order, Hawks Nest Hydro plans to file the revised Recreation Flow Release Plan and Operation Compliance Monitoring Plan with FERC for approval.

3.8 Aesthetic Resources and Land Use

Aesthetic resources would not be affected by the proposed facility modifications. Views of the slope upstream of the Hawks Nest powerhouse are limited to vantage points across the river, where there is no public access due to the active rail line that runs along the river opposite the powerhouse. The new O&M building will be constructed in a previously disturbed area that is already occupied by operating equipment and storage. The HN FC Switchyard equipment would be protected and shielded from view from the public and would be located the greatest distance from Highway 60 as practicable. Slope stability (e.g., retaining wall) measures will also help limit visibility of the HN FC Switchyard components from below the powerhouse (i.e., in the New River) and Highway 60.

3.9 Developmental Resources

Following expiration of the current PPA with WVAM on June 30, 2026, Hawks Nest Hydro will no longer generate electricity (beyond a minimal level for station service) at the Project until the installation of 60Hz conversion equipment is complete and Unit 3 and Unit 4 resume operation. Based on the current construction schedule as set forth in Section 2.2.3, Hawks Nest Hydro anticipates this will result in a loss of 633,677 MWh of generation during construction.

The proposed recreational flow releases combined with proposed minimum bypass flow releases would decrease average annual Project generation by approximately 19,418 MWh per year, enough to power approximately 1,815 homes. However, the proposed modifications would ensure continued generation of clean, reliable, renewable energy that supports regional energy needs over the remainder of the new license term.

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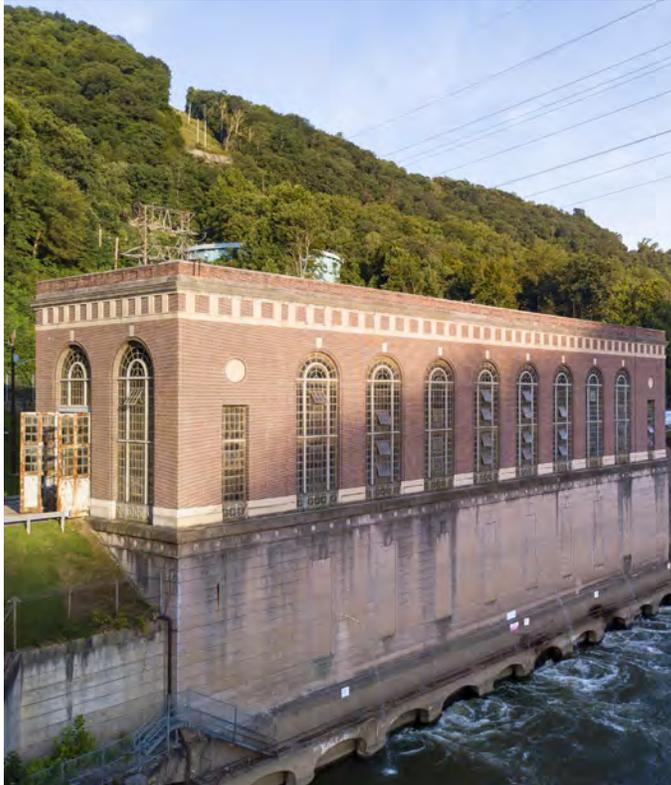
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Attachment 3: Exhibit G

*Application for Non-Capacity
Related Amendment of License*

Hawks Nest Hydroelectric
Project

FERC No. 2512

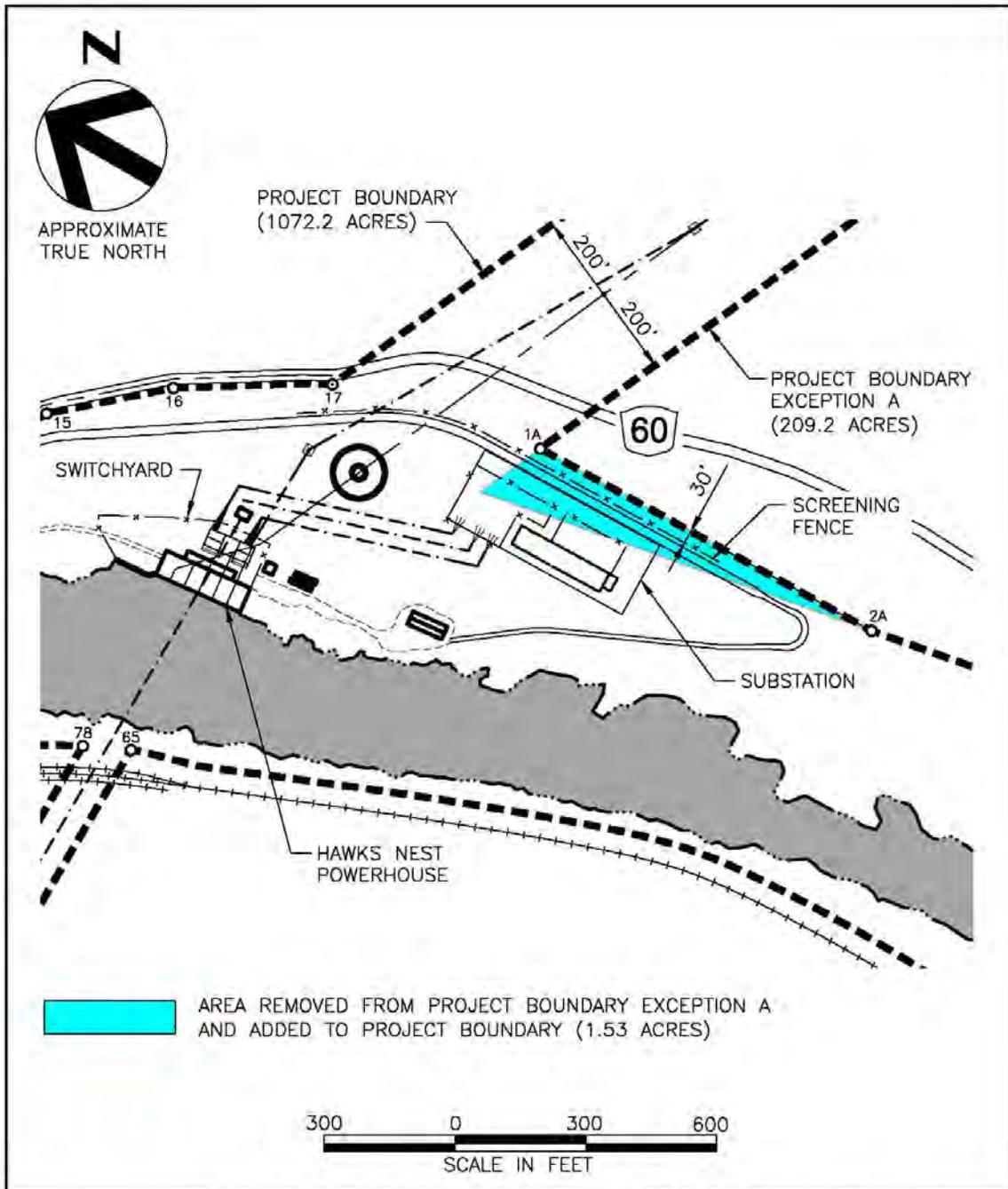
Hawks Nest Hydro LLC

Fayette County, West Virginia

March 2026

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Project Boundary Revision Map



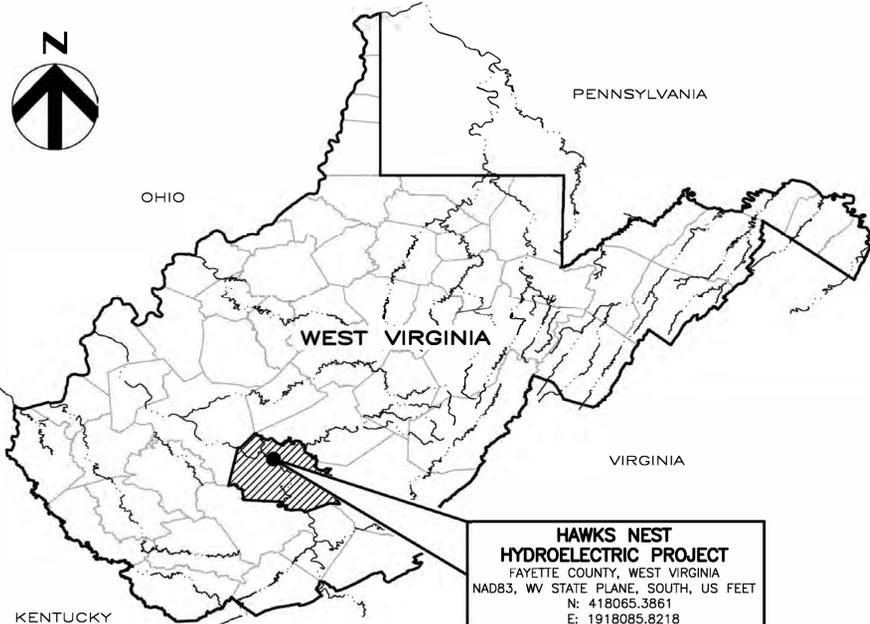
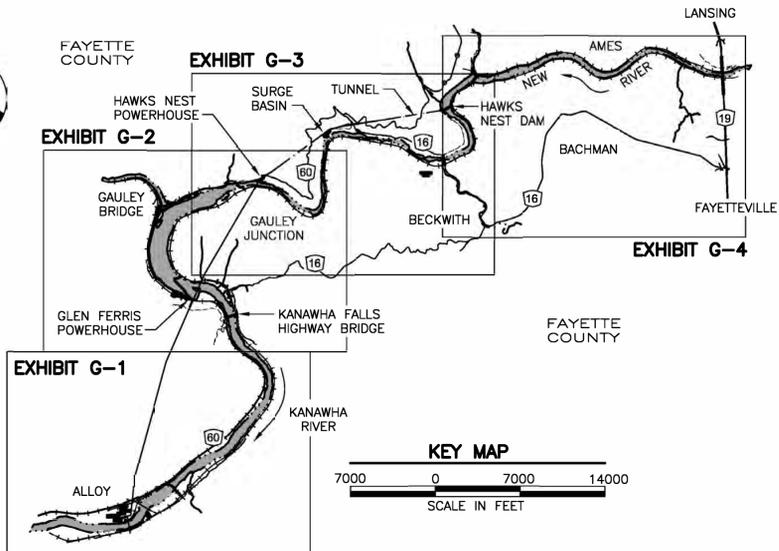
HAWKS NEST HYDROELECTRIC PROJECT
FERC No. P-2512
PROJECT BOUNDARY REVISION
EXPLANATION MAP

Reference Map: P-2512-1013, G-3, Project Boundary Map, 12-22-2017

DATE
October, 2024

FIGURE
1

Revised Exhibit G Drawings



HAWKS NEST HYDROELECTRIC PROJECT
 FAYETTE COUNTY, WEST VIRGINIA
 NAD83, WV STATE PLANE, SOUTH, US FEET
 N: 418065.3861
 E: 1918085.8218

PROJECT LOCATION MAP
 NOT TO SCALE

PROJECT BOUNDARY TIE DATA
 THE PROJECT BOUNDARY IS TIED TO U.S. COAST & GEODETIC SURVEY BENCHMARK D-203 SHOWN ON EXHIBIT G-3. N: 420239.0517 E: 1916753.6758
 TIE POINT 1: 405.83' N 80° 16' 38" E

REFERENCE COORDINATE METADATA
 PROJECTION - WEST VIRGINIA STATE PLANE
 DATUM - NAD83
 ZONE - SOUTH
 UNITS - U.S. SURVEY FEET

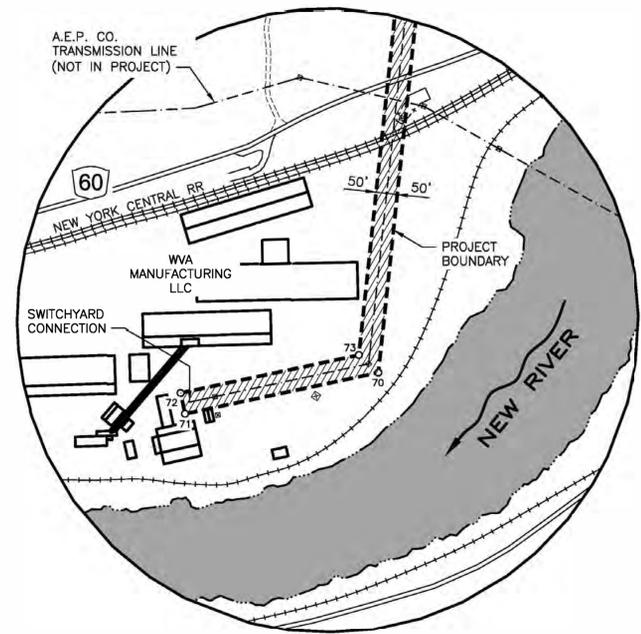
GEOREFERENCE SOURCE DATA
 SURVEY CONTROL: TERRADON SURVEYING, FIELD MONUMENT SURVEY DATED: JUNE 18, 2015.
 DIGITIZED DATA: PICTOMETRY, <http://www.pictometry.com/>
 HORIZONTAL ACCURACY: Exceeds NMAS 1:1200 (20ft)
 REPORTED ACCURACY: Exceeds 4.5ft for 12in GSD
 BOUNDARY DATA: EXHIBIT G PROJECT BOUNDARY MAPS, DESCRIPTION AND DETAILS.

- PROPERTY NOTES**
1. PROPERTY DATA PROVIDED BY THE FAYETTE COUNTY, WV ASSESSORS OFFICE.
 2. THE LICENSEE EITHER OWNS IN SIMPLE FEE OR POSSESSES FLOWAGE EASEMENTS OVER ALL LANDS WITHIN THE PROJECT BOUNDARY REQUIRED TO OPERATE THE FACILITY.
 3. ALL LAND WITHIN PROJECT BOUNDARY NOT DEPICTED AS LAND UNDER PRIVATE EASEMENT IS OWNED BY THE LICENSEE.
 4. SEE EXHIBIT G-2 FOR PROJECT BOUNDARY COURSE AND DISTANCE INFORMATION.

SURVEYORS STATEMENT
 I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.

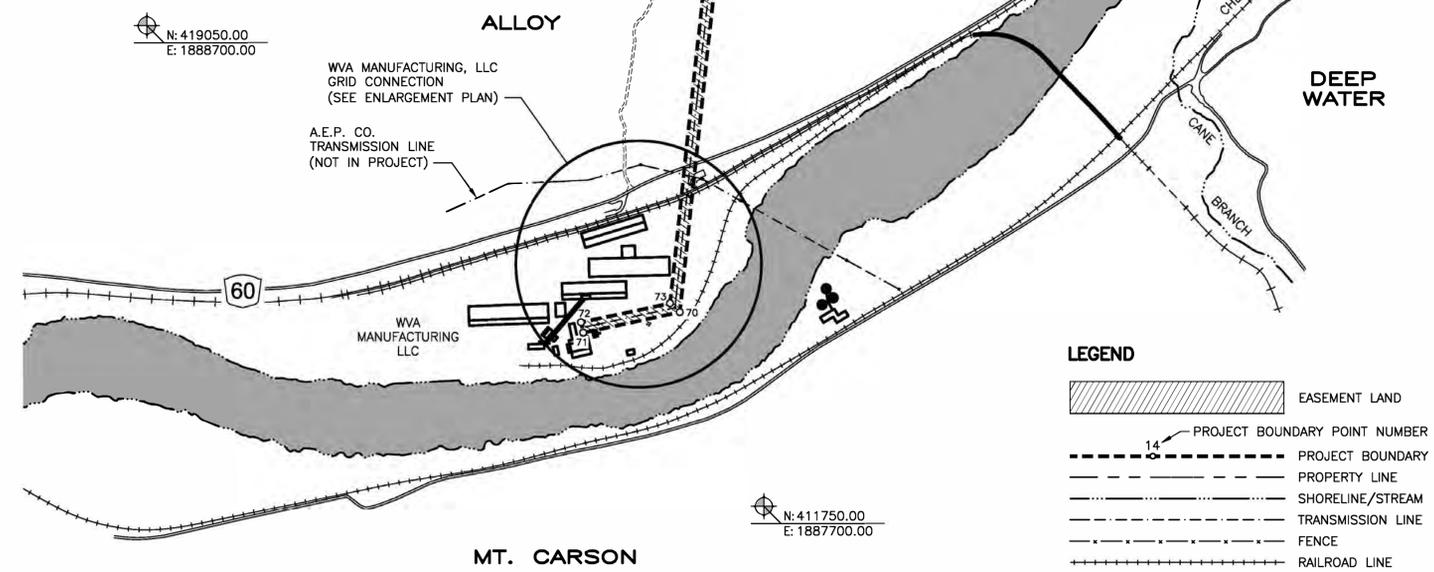


N: 421117.14
 E: 1900600.26



WVA MANUFACTURING, LLC GRID CONNECTION ENLARGEMENT PLAN
 SCALE IN FEET
 400 0 400 800

N: 419050.00
 E: 1888700.00



LEGEND

	EASEMENT LAND
	PROJECT BOUNDARY POINT NUMBER
	PROJECT BOUNDARY
	PROPERTY LINE
	SHORELINE/STREAM
	TRANSMISSION LINE
	FENCE
	RAILROAD LINE
	PRIMARY ROADS
	SECONDARY ROADS

N: 411750.00
 E: 1887700.00

MATCH LINE - EXHIBIT G-2



EXHIBIT G-1 SHEET 1 OF 4

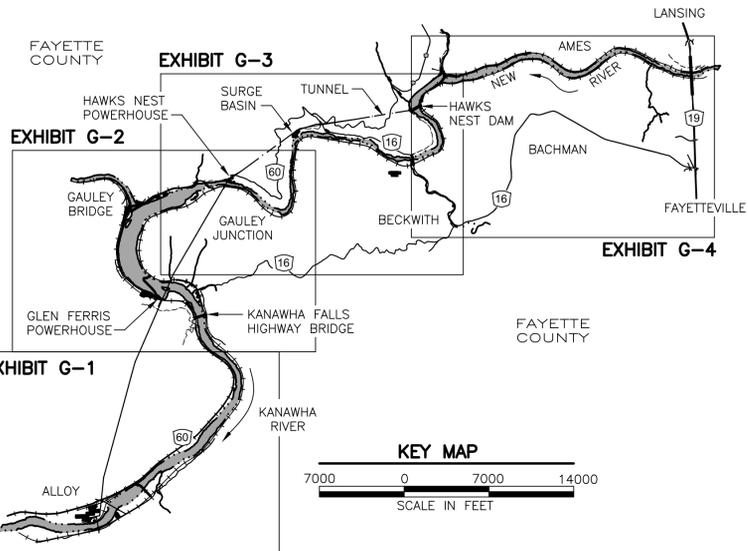
HAWKS NEST HYDROELECTRIC PROJECT PROJECT BOUNDARY MAP

800 400 0 800 1600 2400 3200

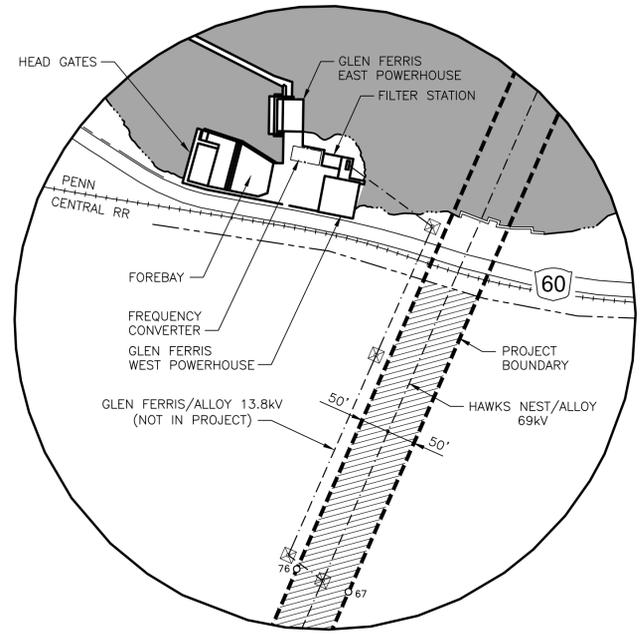
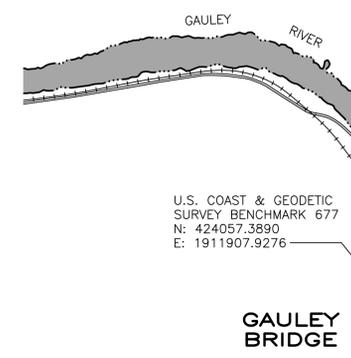
HAWKS NEST HYDRO, LLC FERC No. 2512

DATE: FEBRUARY 2026 | SCALE: 1"=800' | APPROVED: PENDING

CAD FILENAME: P-2512-XXXX, G-1, HAWKS NEST PROJECT BOUNDARY MAP, MW-DD-YYYY.DWG



N: 428725.00
E: 1913800.00



POINT	COURSE	DISTANCE (FT)
1-2	N 17d25'0" E	66.00
2-3	S 67d6'0" E	240.00
3-4	CURVE	434.00
4-5	S 56d8'0" E	86.00
5-6	S 18d39'0" E	95.80
6-7	S 29d15'0" E	86.13
7-8	S 46d8'0" E	171.28
8-9	S 30d3'0" E	156.61
9-10	S 46d27'0" E	109.52
10-11	S 55d26'0" E	355.30
11-12	S 29d32'0" E	274.17
12-13	S 38d53'0" E	247.07
13-14	S 62d30'0" E	295.69
14-15	S 41d27'0" E	296.59
15-16	S 31d59'0" E	297.30
16-17	S 28d16'11" E	67.96
17-18	S 66d3'58" E	6904.05
18-19	S 39d14'10" E	1730.53
19-20	N 58d8'0" E	135.00
20-21	S 11d57'15" W	171.82
21-22	S 39d14'10" E	5047.70
22-23	N 86d6'0" E	44.00
23-24	S 22d55'0" E	661.56
24-25	S 39d14'10" E	1368.00
25-26	N 75d1'0" E	751.72
26-27	E	1200.00
27-28	S 63d50'10" E	2114.88
28-29	S 29d34'0" W	113.00
29-30	S 73d58'0" E	158.70
30-31	N 79d17'0" E	93.00
31-32	N 74d5'0" E	84.70
32-33	N 49d31'0" E	122.60
33-34	N 71d41'13" E	736.94
34-35	S 22d12'0" E	116.64
35-36	S 22d12'0" E	133.36
36-37	S 67d56'0" W	47.99
37-38	S 64d41'0" W	385.60
38-39	S 63d5'0" W	99.92
39-40	S 52d24'0" W	99.95
40-41	S 40d53'0" W	99.95
41-42	S 29d0'0" W	99.99
42-43	S 17d46'0" W	100.09
43-44	S 6d59'0" W	66.06
44-45	N 52d39'2" W	13.00

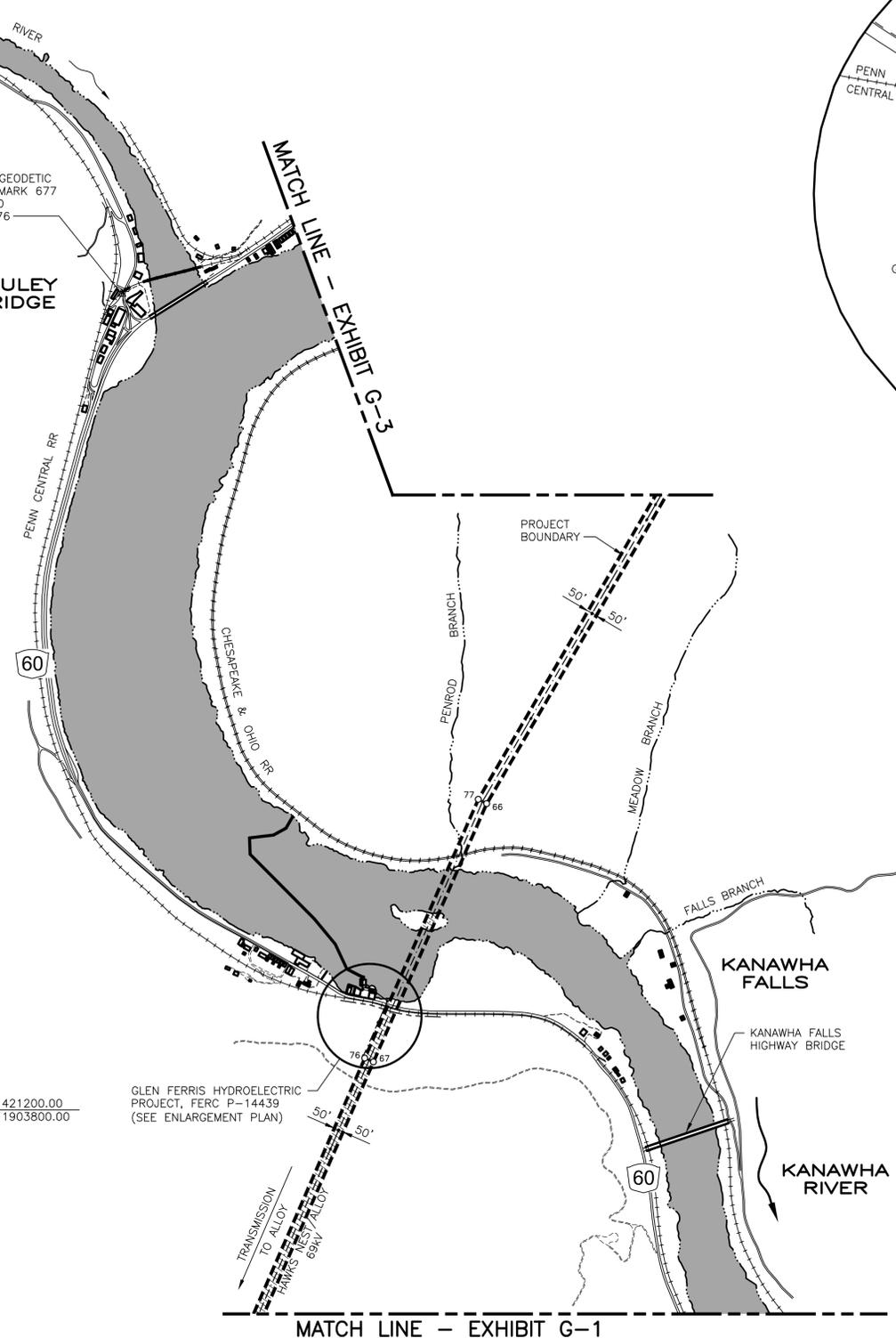
POINT	COURSE	DISTANCE (FT)
45-46	S 37d44'0" W	112.22
46-47	N 59d48'0" W	53.18
47-48	N 65d37'0" W	50.55
48-49	N 71d45'0" W	49.90
49-50	N 74d33'0" W	32.07
50-51	S 26d10'53" E	91.80
51-52	ALONG SHORELINE	9423.15
52-53	ALONG RIGHT OF WAY	4391.41
53-54	N 29d31'19" E	101.03
54-55	ALONG RIGHT OF WAY	3868.00
55-56	S 80d43'0" W	100.66
56-57	ALONG RIGHT OF WAY	1418.35
57-58	S 87d9'0" W	390.87
58-59	S 82d45'0" W	99.26
59-60	ALONG RIGHT OF WAY	19184.66
60-61	ALONG RIGHT OF WAY	83.00
61-62	ALONG SHORELINE	261.90
62-63	ALONG RIGHT OF WAY	509.73
63-64	ALONG SHORELINE	1525.58
64-65	ALONG RIGHT OF WAY	29715.86
65-66	N 89d38'22" W	8389.81
66-67	S 83d47'19" W	2977.46
67-68	S 83d37'11" W	4941.36
68-69	S 75d17'54" W	9835.30
69-70	S 66d4'31" W	3192.25
70-71	N 41d59'29" W	931.28
71-72	N 48d0'31" E	100.00
72-73	S 41d59'29" E	858.72
73-74	N 66d4'31" E	3127.75
74-75	N 75d17'54" E	9850.64
75-76	N 83d37'11" E	4948.71
76-77	N 83d47'19" E	2983.42
77-78	S 89d38'22" E	8348.17
78-79	ALONG RIGHT OF WAY	1380.79
79-80	N 19d33'16" W	171.49
80-81	ALONG RIGHT OF WAY	579.04
81-82	ALONG RIGHT OF WAY	1787.59
82-83	N 28d40'0" E	1207.59
83-1	ALONG SHORELINE	866.88

POINT	COURSE	DISTANCE (FT)
1A-2A	S 1d9'46" E	867.22
2A-3A	S 10d27'0" E	674.36
3A-4A	S 8d40'0" W	1972.30
4A-5A	S 21d59'0" E	839.00
5A-6A	N 59d31'0" E	4707.00
6A-1A	N 66d3'50" W	4779.19

POINT	COURSE	DISTANCE (FT)
1B-2B	S 26d8'0" W	259.26
2B-3B	S 1d54'0" E	485.37
3B-4B	S 19d55'0" E	1414.55
4B-5B	S 24d41'0" E	903.51
5B-6B	S 12d57'0" E	724.86
6B-7B	S 47d22'0" E	396.94
7B-8B	S 17d56'0" E	317.11
8B-9B	S 1d52'0" E	2844.10
9B-10B	S 25d26'0" E	452.87
10B-11B	S 77d38'0" E	134.82
11B-12B	S 55d30'30" E	887.79
12B-13B	S 63d26'0" E	1118.03
13B-14B	N 45d0'0" E	1131.37
14B-15B	N 11d49'30" E	1854.35
15B-16B	N 62d55'30" W	371.32
16B-17B	N 52d33'0" W	110.03
17B-18B	N 49d22'0" E	189.96
18B-19B	N 14d35'0" E	108.10
19B-20B	N 27d8'0" E	139.74
20B-21B	N 39d14'10" W	1294.35
21B-22B	S 86d54'0" W	30.96
22B-23B	N 39d14'10" W	485.00
23B-24B	S 26d29'0" W	137.13
24B-1B	N 39d14'10" W	5127.64

POINT	COURSE	DISTANCE (FT)
1C-2C	N 53d41'0" E	119.63
2C-3C	N 44d27'46" W	463.56
3C-4C	S 27d10'0" W	84.33
4C-1C	S 39d14'10" E	421.29

N: 421200.00
E: 1903800.00



N: 409900.00
E: 1914600.00

CAD FILENAME: P-2512-XXXX, G-2, HAWKS NEST PROJECT BOUNDARY MAP, MW-DD-YYYY.DWG

PROJECT BOUNDARY TIE DATA
THE PROJECT BOUNDARY IS TIED TO U.S. COAST & GEODETIC SURVEY BENCHMARK D-203 SHOWN ON EXHIBIT G-3. N: 420239.0517 E: 1915753.6758
TIE POINT 1: 405.83' N 80' 16' 38" E

REFERENCE COORDINATE METADATA
PROJECTION - WEST VIRGINIA STATE PLANE
DATUM - NAD83
ZONE - SOUTH
UNITS - U.S. SURVEY FEET

GEOREFERENCE SOURCE DATA
SURVEY CONTROL: TERRADON SURVEYING, FIELD MONUMENT SURVEY DATED: JUNE 18, 2015.
DIGITIZED DATA: PICTOMETRY, <http://www.pictometry.com/>
HORIZONTAL ACCURACY: Exceeds NIMS 1:1200 (20ft)
REPORTED ACCURACY: Exceeds 4.5ft for 1:12in GSD
BOUNDARY DATA: EXHIBIT G PROJECT BOUNDARY MAPS, DESCRIPTION AND DETAILS.

- NOTES**
- SEE EXHIBIT G-1 FOR PROJECT LOCATION MAP.
 - PROPERTY DATA PROVIDED BY THE FAYETTE COUNTY, WV ASSESSORS OFFICE.
 - THE LICENSEE EITHER OWNS IN SIMPLE FEE OR POSSESSES FLOWAGE EASEMENTS OVER ALL LANDS WITHIN THE PROJECT BOUNDARY REQUIRED TO OPERATE THE FACILITY.
 - ALL LAND WITHIN PROJECT BOUNDARY NOT DEPICTED AS LAND UNDER PRIVATE EASEMENT IS OWNED BY THE LICENSEE.
 - COURSE AND DISTANCE INFORMATION PROVIDED IN THESE TABLES HAS BEEN ACQUIRED FROM THE GIS POLYGON ELECTRONIC SHAPE FILES PROVIDED TO THE FERC. IF ANY DISCREPANCY BETWEEN THESE TABLES AND THE EXHIBIT G ELECTRONIC BOUNDARY DATA SHOULD EXIST, THE APPROVED ELECTRONIC BOUNDARY DATA AS FILED WITH THE FERC SHALL PREVAIL.

SURVEYORS STATEMENT
I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.



POINT	COURSE	DISTANCE (FT)
1D-2D	CURVE	139.44
2D-3D	S 80d45'0" W	55.00
3D-4D	CURVE	18.00
4D-5D	S 9d15'0" E	140.00
5D-6D	N 80d45'0" E	325.00
6D-7D	N 9d15'0" W	278.00
7D-1D	S 80d14'22" W	192.71

POINT	COURSE	DISTANCE (FT)
1E-2E	S 80d43'0" W	84.76
2E-3E	N 12d35'0" W	568.66
3E-4E	N 16d17'0" W	540.17
4E-5E	N 66d27'0" E	84.00
5E-1E	S 14d27'42" E	1129.17

- LEGEND**
- EASEMENT LAND
 - PROJECT BOUNDARY POINT NUMBER
 - PROJECT BOUNDARY
 - PROPERTY LINE
 - SHORELINE/STREAM
 - TRANSMISSION LINE
 - FENCE
 - RAILROAD LINE
 - PRIMARY ROADS
 - SECONDARY ROADS

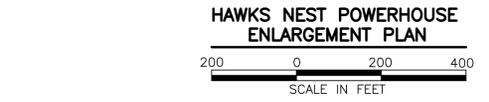
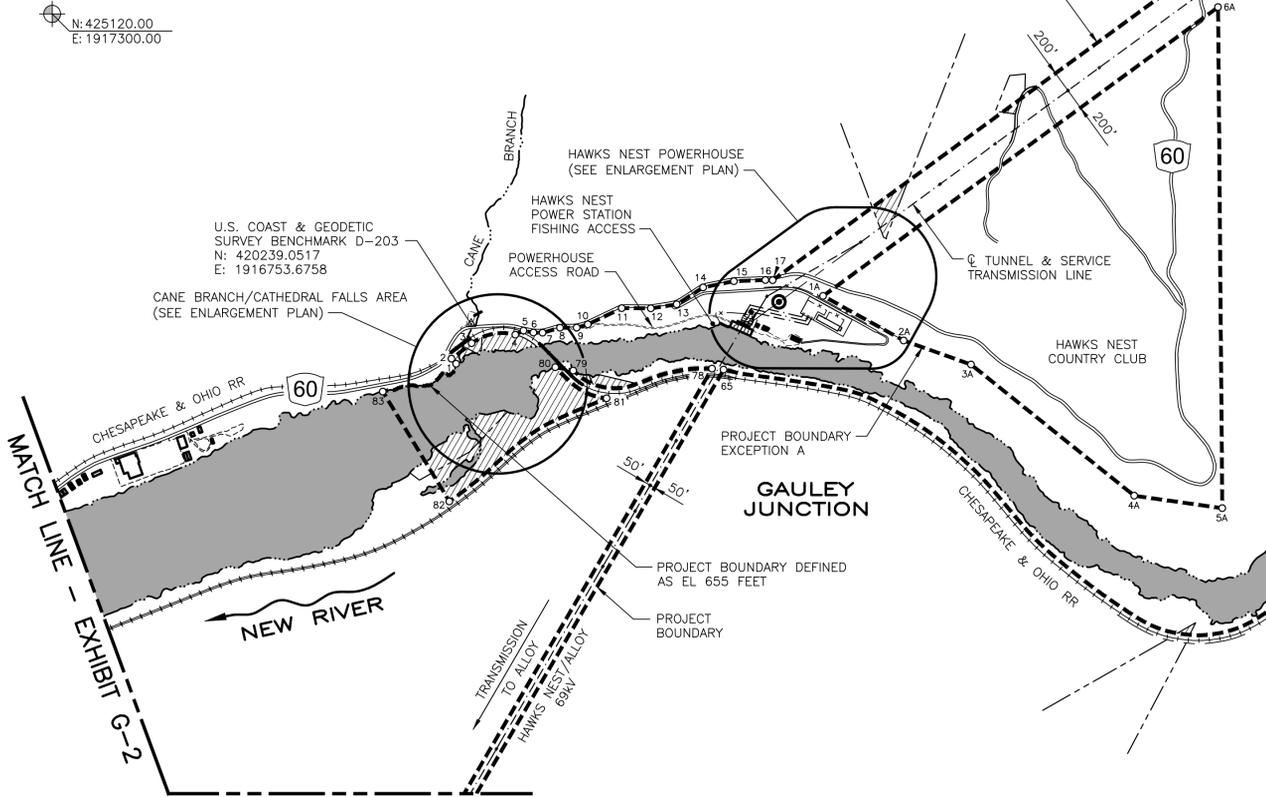
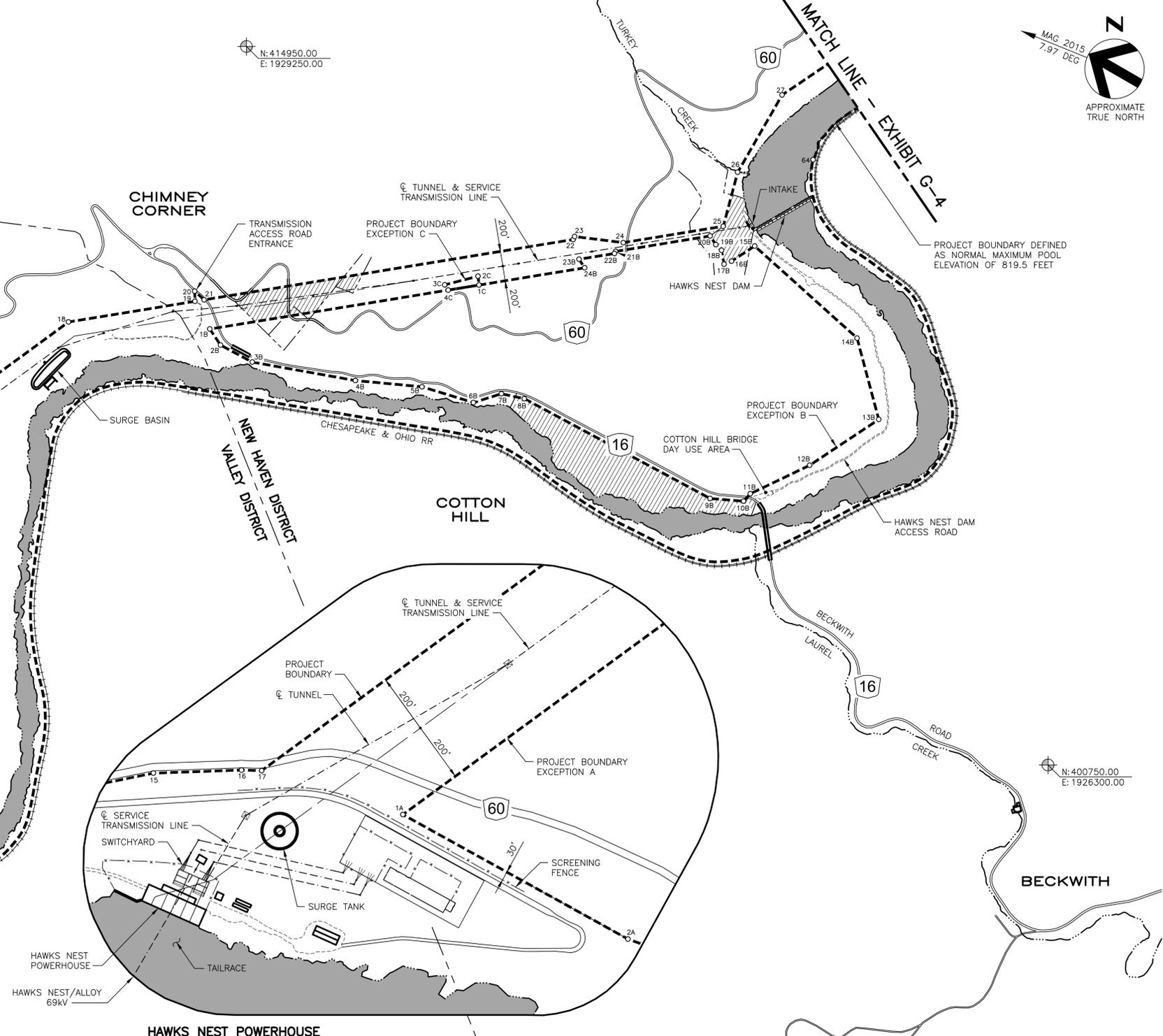
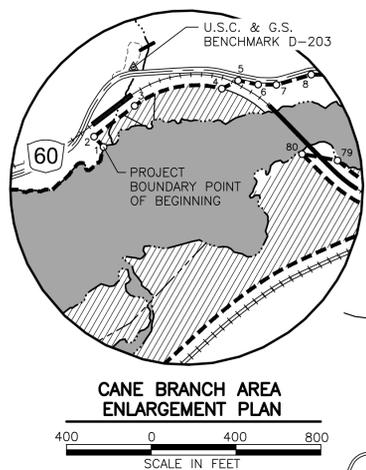
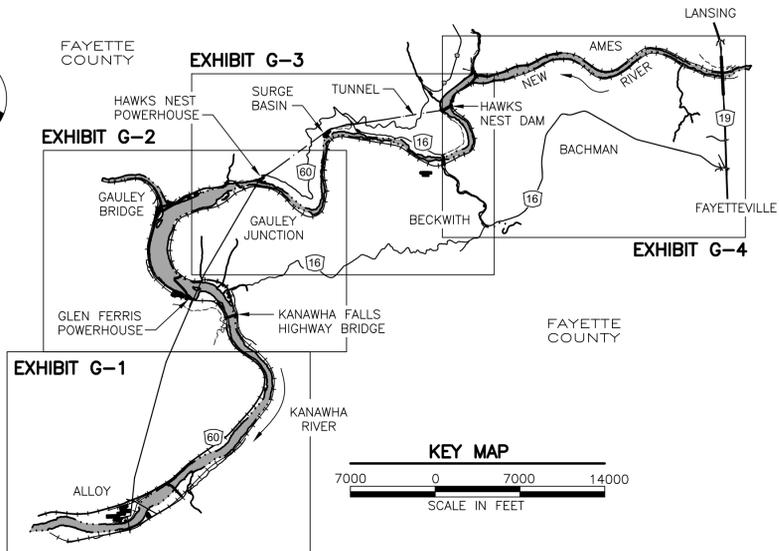
EXHIBIT G-2 SHEET 2 OF 4

HAWKS NEST HYDROELECTRIC PROJECT PROJECT BOUNDARY MAP

800 400 0 800 1600 2400 3200
SCALE IN FEET

HAWKS NEST HYDRO, LLC FERC No. 2512

DATE: FEBRUARY 2026 | SCALE: 1"=800' | APPROVED: PENDING



PROJECT BOUNDARY TIE DATA
 THE PROJECT BOUNDARY IS TIED TO U.S. COAST & GEODETIC SURVEY BENCHMARK D-203 SHOWN ON THIS EXHIBIT.
 TIE POINT 1: 400.35' N 80° 35' 19" E

PROJECT BOUNDARY EXCEPTIONS
 THE PROJECT BOUNDARY EXCEPTIONS SHOWN ON THIS EXHIBIT ARE TIED TO THE FOLLOWING COORDINATE LOCATIONS:
 EXCEPTION A, POINT 1A: N: 417563.3638 E: 1918488.8264
 EXCEPTION B, POINT 1B: N: 413480.8120 E: 1925715.1531
 EXCEPTION C, POINT 1C: N: 410629.1401 E: 1928043.9143

REFERENCE COORDINATE METADATA
 PROJECTION - WEST VIRGINIA STATE PLANE
 DATUM - NAD83
 ZONE - SOUTH
 UNITS - U.S. SURVEY FEET

GEOREFERENCE SOURCE DATA
 SURVEY CONTROL- TERRADON SURVEYING, FIELD MONUMENT SURVEY DATED: JUNE 18, 2015.
 DIGITIZED DATA: PICTOMETRY, <http://www.pictometry.com/>
 HORIZONTAL ACCURACY: Exceeds NNAS 1:1200 (20ft)
 REPORTED ACCURACY: Exceeds 4.5ft for 12in GSD
 BOUNDARY DATA: EXHIBIT G PROJECT BOUNDARY MAPS, DESCRIPTION AND DETAILS.

- NOTES**
- SEE EXHIBIT G-1 FOR PROJECT LOCATION MAP.
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 - ALL LAND WITHIN PROJECT BOUNDARY NOT DEPICTED AS LAND UNDER PRIVATE EASEMENT IS OWNED BY THE LICENSEE.
 - SEE EXHIBIT G-2 FOR PROJECT BOUNDARY COURSE AND DISTANCE INFORMATION.

SURVEYORS STATEMENT
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LEGEND

	EASEMENT LAND
	PROJECT BOUNDARY
	PROPERTY LINE
	SHORELINE/STREAM
	TRANSMISSION LINE
	FENCE
	RAILROAD LINE
	PRIMARY ROADS
	SECONDARY ROADS

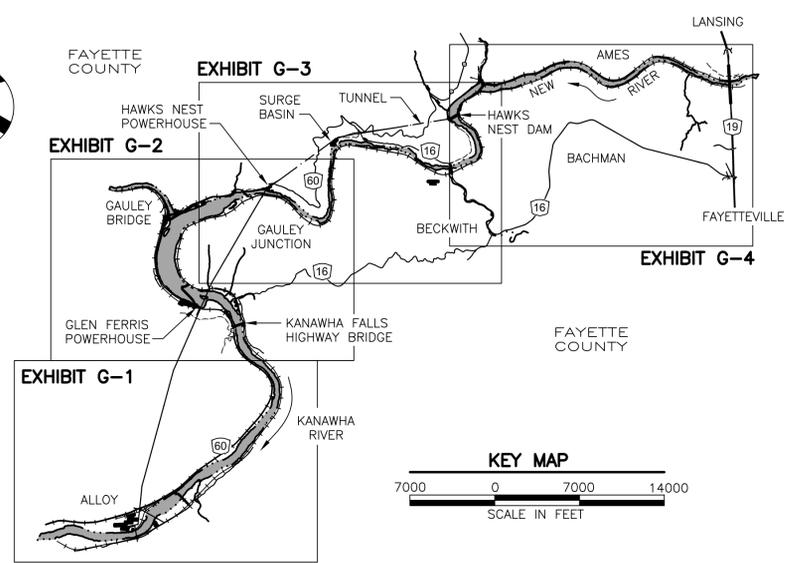
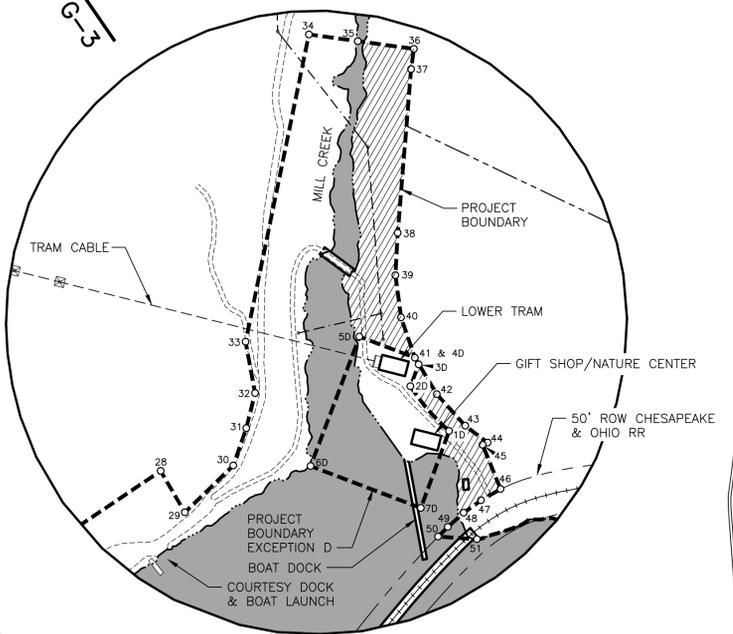
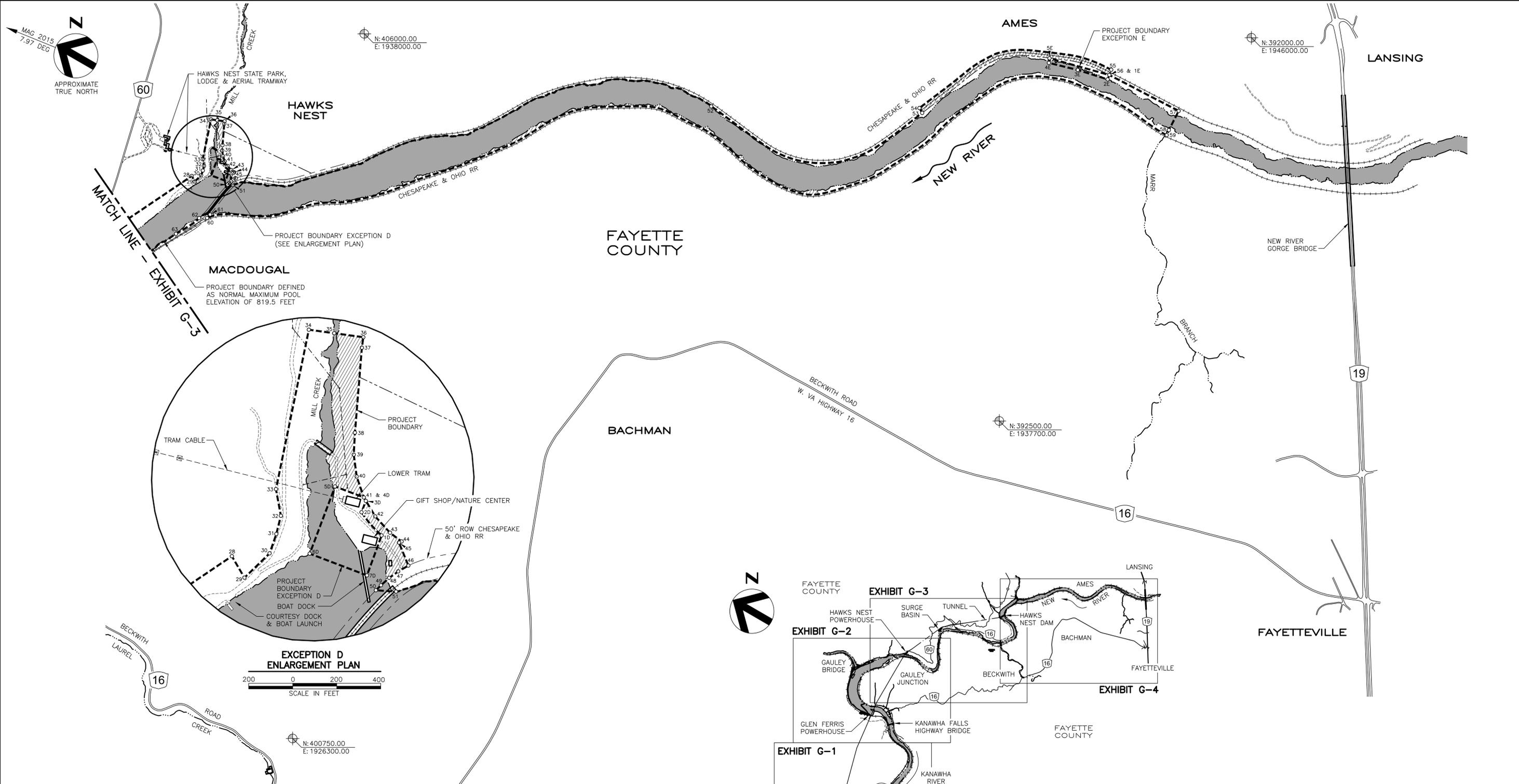
EXHIBIT G-3 SHEET 3 OF 4

HAWKS NEST HYDROELECTRIC PROJECT PROJECT BOUNDARY MAP

HAWKS NEST HYDRO, LLC FERC No. 2512

DATE: FEBRUARY 2026 SCALE: 1"=800' APPROVED: PENDING

CAD FILENAME: P-2512-XXXX, G-3, HAWKS NEST PROJECT BOUNDARY MAP, MW-DD-YYYY.DWG



PROJECT BOUNDARY TIE DATA
 THE PROJECT BOUNDARY IS TIED TO U.S. COAST & GEODETIC SURVEY BENCHMARK D-203 SHOWN ON EXHIBIT G-3. N: 420239.0517 E: 1916753.6758
 TIE POINT 1: 405.83' N 80' 16' 38" E

PROJECT BOUNDARY EXCEPTIONS
 THE PROJECT BOUNDARY EXCEPTIONS SHOWN ON THIS EXHIBIT ARE TIED TO THE FOLLOWING COORDINATE LOCATIONS:
 EXCEPTION D, POINT 1D: N: 406887.0551 E: 1934622.6727
 EXCEPTION E, POINT 1E: N: 393900.2162 E: 1944124.3936

REFERENCE COORDINATE METADATA
 PROJECTION - WEST VIRGINIA STATE PLANE
 DATUM - NAD83
 ZONE - SOUTH
 UNITS - U.S. SURVEY FEET

GEOREFERENCE SOURCE DATA
 SURVEY CONTROL- TERRADON SURVEYING, FIELD MONUMENT SURVEY DATED: JUNE 18, 2015.
 DIGITIZED DATA: PICTOMETRY, <http://www.pictometry.com/>
 HORIZONTAL ACCURACY: Exceeds NMAS 1:1200 (20ft)
 REPORTED ACCURACY: Exceeds 4.5ft for 12in GSD
 BOUNDARY DATA: EXHIBIT G PROJECT BOUNDARY MAPS, DESCRIPTION AND DETAILS.

- NOTES**
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LEGEND

	EASEMENT LAND
	PROJECT BOUNDARY POINT NUMBER
	PROPERTY LINE
	SHORELINE/STREAM
	TRANSMISSION LINE
	FENCE
	RAILROAD LINE
	PRIMARY ROADS
	SECONDARY ROADS

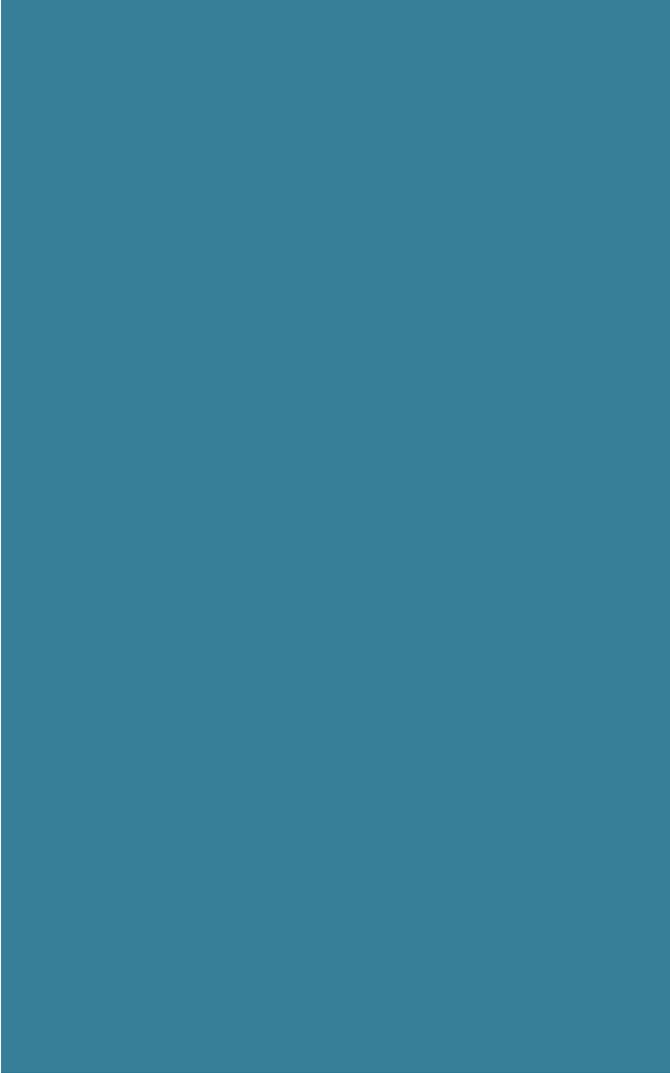
EXHIBIT G-4 SHEET 4 OF 4

HAWKS NEST HYDROELECTRIC PROJECT PROJECT BOUNDARY MAP

HAWKS NEST HYDRO, LLC FERC No. 2512

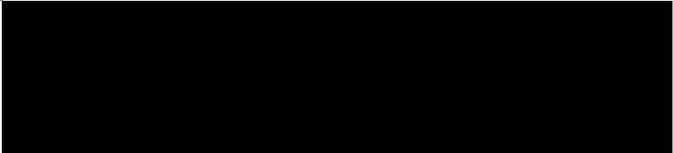
DATE: FEBRUARY 2026 SCALE: 1"=800' APPROVED: PENDING

CAD FILENAME: P-2512-XXXX, G-4, HAWKS NEST PROJECT BOUNDARY MAP, MW-DD-YYYY.DWG



Attachment 4:

Non-Capacity
Amendment Application
Consultation
Documentation



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1 Draft Non-Capacity Amendment Application Consultation

Federal Energy Regulatory Commission (FERC) regulations under 18 Code of Federal Regulations § 4.38(a)(7) require licensees to consult with resource agencies and Indian Tribes, to the extent that the proposed amendment would affect their interests, for a 60-day review. Therefore, Hawks Nest Hydro (HNN) provided a draft version of the application for a Non-Capacity Amendment of License to federal, state, and local agencies, Tribes, and other interested parties on October 28, 2024. A revised version of the draft application was transmitted to these same parties on December 17, 2024. The following agencies and organizations responded within the 60-day comment period:

- ACE Adventure Resort (ACE)
- American Whitewater
- Catawba Indian Nation
- National Park Service (NPS)
- New River Conservancy (NRC)
- New River Alliance of Climbers (NRAC)
- U.S. Fish and Wildlife Service (USFWS)
- WV Department of Environmental Protection (WVDEP)
- WV Division of Natural Resources (WVDNR)
- WVA Manufacturing, LLC (WVAM)
- WV Rivers Coalition
- WV State Historic Preservation Office (WVSHPO)

The Catawba Indian Nation responded that it has no comments; other stakeholder comments regarding the draft amendment application are summarized in Table 1 along with HNN's response to comments.

1.1 National Historic Preservation Act Section 106 Consultation

HNN consulted with the WVSHPO regarding potential effects to Historic Properties on September 24, 2024, and received a response on October 15, 2024, concurring with HNN's findings. Copies of this correspondence follow Table 2. By email to HNN dated December 17, 2024, the Catawba Indian Nation stated that the Tribe has no concerns regarding the proposed modernization project.

1.2 Endangered Species Act Section 7 Consultation

HNH continued its consultation with the USFWS regarding potential effects to protected species following receipt of USFWS's comments regarding the draft Non-Capacity Amendment Application (see correspondence dated December 23, 2024; May 21, 2025; and May 22, 2025). Copies of this correspondence follow Table 2.

1.3 Additional Consultation

HNH conducted an extensive, multi-year stakeholder consultation process to support the Non-Capacity Amendment, engaging federal and state agencies, tribal representatives, local outfitters, recreation groups, and conservation organizations. Beginning in August 2024 and continuing through early 2026, HNH met repeatedly with WVDEP, WVDNR, USFWS, and the WVSHPO, providing draft application materials, receiving agency comments, and coordinating on topics including minimum bypass flows, water quality certification, and species and cultural resource reviews, as described above. In parallel, HNH held frequent meetings and email exchanges with commercial outfitters (River Expeditions, ACE, and Adventures on the Gorge), American Whitewater, and NRAC to discuss recreational flow releases, bypass reach recreation, whitewater opportunities, and bypass flow alternatives. Throughout this process, HNH incorporated stakeholder feedback, provided additional evaluation of proposals, and maintained ongoing communication as agencies and recreation groups evaluated flow proposals, ensuring that environmental, recreational, and operational considerations were fully addressed in the final non-capacity amendment application.

These efforts are documented in Table 2 with substantive correspondence¹ following the table.

¹ Documentation is generally limited to formal correspondence.

Table 1. Consultation Regarding the Draft Non-Capacity Amendment Application and HNH Responses

Comment	HNH Response
ACE (December 19, 2024)	
<p>Increase both base and pulse flows in the bypassed river reach, revisiting the options of river access immediately below to dam, and a continued opportunity for input on these issues as the license amendment is considered, including modification of the 401 water quality certificate.</p>	<p>HNH is proposing increases in both minimum bypass flows and the number of recreational flow releases, the only license and water quality certificate conditions that would be affected by the proposed modifications. No other license conditions would be affected and, therefore, HNH is not proposing changes to such license requirements.</p>
American Whitewater (December 19, 2024)	
<p>We would like to work with you and the other stakeholders on a license amendment that includes additional flow releases into the New River below Hawks Nest Dam.</p>	<p>HNH consulted extensively with stakeholders regarding minimum bypass flows and recreation flow releases, as reflected in the final non-capacity amendment application. The potential effects of these modified flows are analyzed in the Environmental Review (Attachment 2).</p>
<p>We request that Brookfield work with American Whitewater and other stakeholders on an application for a new/revised 401 water quality certificate.</p>	<p>HNH consulted extensively with stakeholders regarding minimum bypass flows and recreation flow releases, which HNH anticipates will be reflected in a modified water quality certificate.</p>
<p>The alloy plant connection so affected the decision that FERC chose not to consider instream flow alternatives in which the Project no longer provided power directly to the alloy plant. The license amendment notably changes the baseline for analysis, and FERC can and should now consider additional alternatives. We request that Brookfield work with us and others to modify the license amendment application to include new flow restoration and related recreational measures.</p>	<p>HNH consulted extensively with stakeholders regarding minimum bypass flows and recreation flow releases, as reflected in the final Non-Capacity Amendment Application. The potential effects of these modified flows are analyzed in the Environmental Review.</p>
<p>Increase The Number of Pulse Flows: Condition 13 of the WQC and the FERC license require only nine days of pulse flow releases annually that make the river predictably high enough to support whitewater boating. Were it not for the hydropower diversion the river would be boatable every day of the year, including through the peak summer recreation season. The scant 9 release days in the current WQC was limited to provide operational certainty and power for the alloy plant, and was based on economic and developmental factors that would not be relevant following this license amendment. American Whitewater recommended 41 annual releases</p>	<p>HNH consulted extensively with stakeholders regarding increasing the number of recreation flow releases, as reflected in the final non-capacity amendment application. HNH’s draft application proposed to continue the current nine recreation flow releases. However, as a result of extensive stakeholder consultation with whitewater boating interests including American Whitewater, HNH is now proposing 32 recreation flow releases.</p>

Comment	HNN Response
<p>during the relicensing, and we feel strongly that more are merited given the license amendment. More pulse flow releases of natural project inflows with greater predictability will benefit the river, support commercial rafting operations, and increase tourism and healthy outdoor recreation for people in the area.</p>	<p>The potential effects of these modified flows are analyzed in the Environmental Review.</p>
<p>Eliminate Reservation of 1600 cfs for Power Generation: Condition 13 of the WQC and the FERC license also require that 1600 cfs always be reserved for power generation when pulse flows are provided, in order to keep the alloy plant operational during those releases. The effect has been that pulse flow releases were often canceled due to insufficient water availability, and were at diminished flows less attractive and safe for visitors. This reservation is no longer needed to support the alloy plant, and the licensee can now release more of the project's inflows on release days to eliminate cancellations because there is always enough inflow to support a release. This will result in greater certainty of releases that outfitters can book trips for and the public can plan vacations around, resulting in improved economic benefits.</p>	<p>HNN agrees there is no longer a need to reserve 1,600 cubic feet per second (cfs) of flow to support 25Hz hydroelectric generation during recreation flow releases and has revised its non-capacity amendment application accordingly. This operational change is projected to increase the reliability of the recreational flow releases, but also reduces annual Project generation.</p> <p>HNN is proposing a new 500 cfs reservation of flow to support ancillary station power requirements during recreation flow releases. This reservation is not anticipated to adversely affect the reliability of recreation flow releases except during periods of low inflow conditions.</p>
<p>Increase Recreational Release Volume: The recreational instream flow study was very limited in the range of flows, in large part because of the alloy plant's water needs. With this said, more water was consistently deemed better in the study. The 2000-2500 cfs flows in the current license are almost entirely an artifact of balancing the recreational values of the flow level (higher is better) with the chance of having sufficient water after the 1600 cfs reservation to avoid cancellation (lower is better). With the 1600 cfs no longer needed for WVAM, more or all of the inflows can now be allocated to recreational releases on scheduled days. Flows of 3000 or more can provide significantly better and safer flows that will attract far more paddlers and provide a superior tourism product. Increased flow volumes are also now possible, and will be highly beneficial.</p>	<p>HNN's proposed recreation flow releases increase the target release from 2,200 cfs to 2,500 cfs with a range of 2,200 to 3,000 cfs (targeting 2,500 cfs). This flow range was developed in consultation with local whitewater outfitters and American Whitewater.</p>
<p>Increase Minimum Instream Flows: Condition 2 of the WQC and the FERC license prescribe seasonal minimum flows of 250 and 300 cfs. These flows are below the scientific consensus of what should have been restored to the river. The Department of Interior 10(j) recommended and minimally</p>	<p>HNN is proposing increases in minimum bypass flows during all months as developed in consultation with WVDNR.</p>

Comment	HNN Response
<p>acceptable flows were significantly higher than the ultimately prescribed flows, and even FERC staff’s proposal was higher. Minimum instream flows were limited to provide additional water for power for the alloy plant. With that need gone now, minimum instream flows should be increased to the DOI recommended flows, and more in the summer months. Doing so will benefit the full suite of native and sport fish like smallmouth bass, mussels, and other native organisms. The DOI recommendations are 10% of average flow which science tells us is the bare minimum for short term survival of most species - not a sufficient flow to provide good longer term survival conditions. More flow is merited for the ecology of the New River, and it will also benefit low-water paddling trips, which could be an economic boon for the region.</p>	
<p>Revisit May and June Releases: Recreational pulse flow releases are currently scheduled to avoid the April-June timeframe. We believe this was predominantly intended to create additional certainty for WVAM operations. April through June is a period of natural high flows, and scheduling pulse flows in that timeframe would restore some natural variability to the flow regime, and June releases in particular would have very high recreational value. We request all stakeholders work together to assess the potential to have some pulse flows in June at a minimum, if not earlier in the spring as well.</p>	<p>The avoidance of recreational release in April through June timeframe was primarily due to WVDNR’s concerns with smallmouth bass spawning and not WVAM operations. HNN is proposing recreational flow releases in June (last week), July, and August. The proposed schedule was developed in consultation with WVDNR, local whitewater outfitters, American Whitewater, and the New River Alliance of Climbers. HNN's proposal balances the needs of different recreation users with aquatic habitat needs as well as hydroelectric generation losses.</p>
<p>Revisit River Access: Under the current license the Licensee blocks vehicular access to the logical put in near the dam, and instead paddlers must either miss a large portion of the run with great rapids or hike their boats over a mile up a road. This unusual and unfortunate outcome of the relicensing process may have been related to the small number of recreation flows. We ask that the licensee and FERC both reconsider this matter given the shift in flow availability and project economics. Allowing the public to at least drop off boats and near the dam, if not park, would significantly increase the value of the run as a tourism product and recreational destination.</p>	<p>HNN is proposing increases in both minimum bypass flows and the number of recreational flow releases, the only license and water quality certificate conditions that would be affected by the proposed modifications. No other license conditions would be affected and, therefore, HNN is not proposing changes to such license requirements.</p> <p>HNN assumes this comment requests vehicular access via the Hawks Nest Bike Hike Trail. HNN does not believe vehicular access is needed given (1) there are several informal and formal existing whitewater access points to the bypass reach, including the Cotton Hill Bridge Day Use Area and the WVDNR’s New River Access at Cotton</p>

Comment	HNN Response
	<p>Hill (initial construction and annual maintenance funding provided by HNN); (2) vehicular access would require allowing vehicles on the existing Hawks Nest Dam Portage / Bike-Hike Trail. HNN believes this would endanger hikers and bikers using the trail as well as those portaging around the dam. The public safety concerns on the single-lane dirt access road with bordering steep slopes and pedestrian traffic were discussed in detail during the relicensing process.</p>
<i>NPS (December 20, 2024)</i>	
<p>The DRAFT states that the minimum flows of 250-300 CFS in the bypass region are not expected to change. However, are the frequency or duration of minimum flow events expected to change following the upgrade of equipment, and if so, have the effects of climate change also been considered? The minimum flows specified, while adequate to provide aquatic habitats, according to the referenced instream flow study (HDR 2015a), are much lower than the minimum flows observed in upstream reaches of the New River. This was true even during the extreme droughts in the fall and summer of 2024, when the USGS gauge at Thurmond, WV, read 1,040cfs in September 2024. While lower flows support aquatic life, 250-300cfs is not likely optimal for a large river ecosystem like the New River.</p>	<p>HNN is proposing increases in minimum bypass flows during all months, the effects of which are evaluated in the Environmental Review.</p>
<i>NRAC (December 16, 2024)</i>	
<p>Ask that the current minimum flow of ~4.35 ft be maintained. We would benefit further from even lower minimum flow during winter months, when environmental impact from low water levels may be less.</p>	<p>HNN is proposing increases in minimum bypass flows during all months, the effects of which are evaluated in the Environmental Review. The proposed changes were developed following extensive stakeholder consultation. Proposed minimum flows and recreational release considered opportunities for rock climbing on Saturdays in July and August as well as only slight changes to minimum flows in the cooler months of September – December.</p>
<i>NRC (December 24, 2024)</i>	
<p>We request that your proposed license amendment include increases in both base and pulse flows into the bypassed river reach, and we would ask to revisit the option of access to the river immediately below the dam. We request continued opportunity for input on these issues as your license</p>	<p>HNN is proposing increases in both minimum bypass flows and the number of recreational flow releases. The proposed changes were developed following extensive stakeholder consultation. Access below</p>

Comment	HNH Response
<p>amendment is considered, including modification of the 401 water quality certificate</p>	<p>the dam is currently available for pedestrians. Vehicular access to the dam area is addressed in a response above.</p>
<p>USFWS (December 23, 2024)</p>	
<p>Change in Minimum Hydraulic Capacity - The draft amendment notes that the minimum hydraulic capacity of the proposed turbines will be 250 cubic feet per second (cfs), compared to the current 800 cfs. This change will affect the water available to the bypass reach during lower flow events.</p> <p>The draft amendment application includes a list of federally listed species potentially occurring within the Project boundary. The proposed reduction in minimum hydraulic capacity will alter the magnitude, frequency, and duration of the current flow regime in the bypass reach, potentially affecting these species. In addition, the proposed amendments' effects in the bypass reach could alter fluvial geomorphic processes, aquatic and riparian habitats, and recreational activities. Therefore, the Service requests that the final amendment application assess the effects of the proposed amendment on the environmental resources within the bypass reach. This analysis should consider the historic inflow regime to the Project, since being licensed in 2017, and articulate how the proposed amendment would alter the magnitude, frequency, and duration of flows in excess of the minimum instream flow requirement for this same period of record. The analysis should then evaluate how those changes would affect the environmental resource and fluvial geomorphic processes within the bypass reach.</p>	<p>While the new units 1 and 2 could operate as low as 250 cfs, they would not typically operate at such flows because the units are designed to operate at much higher flows. Operating the units at lower flows would increase the risk of unit component failure and would also require air admission which greatly decreases unit efficiency.</p> <p>HNH has proposed increased minimum bypass flows, the effects of which are analyzed in the Environmental Review. The proposed minimum bypass flows are within the range of flows addressed by the Bypass Reach Habitat and Instream Flow Study conducted for the relicensing and previously analyzed in FERC's Environmental Assessment for the new license.</p>
<p>Wicket Gate - The draft amendment indicates that the new turbines will have a higher hydraulic capacity of 2,650 cfs compared to the current 2,540 cfs, but the Licensee plans to limit the new turbines' maximum capacity to the current 2,540 cfs by "blocking" the wicket gates. It is unclear what is meant by "blocking" the wicket gates. The Service requests that the Licensee detail the process in which the wicket gates will be blocked, and that the final amendment application include a Compliance Monitoring and Reporting Plan to track and report compliance with this proposal. The plan should detail how the Licensee will monitor the compliance of limiting the maximum hydraulic capacity through a wicket gate setting, including the</p>	<p>As communicated in its December 17, 2024, email to stakeholders, HNH is no longer proposing to use wicket gate blocking to limit the hydraulic capacity of the proposed new units. Regardless, HNH implements its Operation Compliance Monitoring Plan consistent with license Article 402 which provides data demonstrating Hawk Nest Hydro's compliance with the license.</p>

Comment	HNN Response
<p>mechanism and instrumentation to be used, procedures, a schedule for maintaining and calibrating all compliance monitoring equipment. The Licensee should also maintain a log of operations, including flow records to confirm that the capacity does not exceed the 2,540 cfs threshold. The plan should include provisions of annual reporting for monitoring activities and the reporting of any deviations within 24 hours of a non-compliance event and detailing what caused this event to take place and what measures the Licensee plans to take to prevent future occurrences of non-compliance</p>	
<p>Fish Entrainment - The draft amendment claims that the proposed new vertical Francis style turbines will have no new effects to fish entrainment and no change is anticipated due to the similarity of the new turbines and the vertical Francis style turbines that are proposed to be replaced. However, the Service notes that while the proposed maximum hydraulic capacity of the new turbines would remain the same through the proposed blocking of the wicket gates, the change in minimum hydraulic capacity from 800 cfs to 250 cfs would allow for the project to operate under a greater range of river flows; and could therefore, increase the potential for fish entrainment</p>	<p>While the new units 1 and 2 could operate as low as 250 cfs, they would not typically operate at such flows because the units are designed to operate at much higher flows. Operating the units at lower flows would increase the risk of unit component failure and would also require air admission which greatly decreases unit efficiency. HNN has evaluated the potential for changes in entrainment due to the hydraulic capacity changes for Units 1 and 2 in the Environmental Review and found potential changes to be insignificant as discussed in Section 3.3.2 of the Environmental Review (Attachment 2).</p>
<p>Indiana Bat, Northern Long-eared Bat, and Tricolored Bat - The draft amendment states the federally listed species, under the Endangered Species Act (ESA), that may occur in the Project’s vicinity include the Indiana bat (<i>Myotis sodalists</i>), and northern long-eared bat (<i>Myotis septentrionalis</i>) and the proposed endangered tricolored bat (<i>Perimyotis subflavus</i>). The draft amendment proposes to clear approximately 10 acres of bat roosting habitat between October 15 and March 31. The draft amendment asserts that these tree removal activities “may affect, but is not likely to adversely affect the Indiana bat, Northern long-eared bat, and tricolored bat.” The Indiana bat, northern long-eared bat, and tricolored bat may use the project area for foraging and roosting between April 1 and November 14. To protect the Indiana bat, northern long-eared bat, and tricolored bat, the Service recommends avoiding non-emergency/hazard tree trimming and removal activities during the bat active season between April 1 and November 14. We note, for all planned tree removal activities,</p>	<p>As requested, HNN submitted a Project Review Request through the USFWS West Virginia Field Office on March 5, 2025, and April 25, 2025. Based on this information, the USFWS determined only “insignificant and/or discountable” effects on Indiana Bat would be expected.</p>

Comment	HNH Response
<p>the Licensee should submit a Project Review Request through the West Virginia Field Office to address potential impacts to the federally protected bats related to the proposed Project construction and maintenance.</p>	
<p>Monarch Butterfly - Since the submittal of the draft amendment, on October 28, 2024, the proposed threatened monarch butterfly's (<i>Danaus plexippus</i>) listing status has changed from a candidate species to proposed threatened – the Service requests that this be reflected moving forward.</p>	<p>HNH has updated the Non-Capacity Amendment Application to note the change in classification. Regardless, the proposed modernization project activities would not adversely affect monarch butterfly habitat and would, therefore, not affect monarch butterfly. See Section 3.4.2.3 of Attachment 2 Environmental Review.</p>
<p>WV Rivers Coalition (December 20, 2024)</p>	
<p>The Department of Interior provided monthly flow recommendations as part of the 2017 Environmental Assessment based primarily on 10% of long-term mean monthly flows and needs for wildlife habitat. Importantly, the Interior-recommended flow levels include seasonal variation to resemble natural flows. We believe these recommended flows could provide significant benefits for the river ecosystem as well as improvements for whitewater boating in addition to the currently scheduled releases. However, we encourage you to consider the Interior-recommended flows as a floor for planning rather than a maximum target level. By increasing minimum flows and increasing seasonal variation in flows, Hawks Nest Hydro could greatly benefit angling and whitewater boating opportunities that support economic development in the region.</p>	<p>HNH is proposing increases in minimum bypass flows during all months as developed in consultation with WVDNR.</p>
<p>WVAM (December 27, 2024)</p>	
<p>The Draft Amendment's stated intention to no longer provide power or ancillary services directly to WVAM's West Virginia manufacturing facility ("Alloy Facility") appears to be in contravention to the principal purpose of the License, as approved by FERC (see Draft Amendment at IS-3)</p>	<p>The license does not require, and is not contingent on, the provision of power to the Alloy Facility. Requiring HNH to provide power to the Alloy Facility would be inconsistent with FERC's long-standing policy to allow a licensee to determine how best to dispose of power generated from its licensed project. FERC's factual statement in the license order noting how Project power was used at that time does not in any way prevent HNH from seeking to amend the license to implement necessary Project upgrades.</p>
<p>The Draft Amendment fails to provide analysis of the economic impact of the proposed amended License, including the economic impact on WVAM's operations at the Alloy Facility, as required by FERC.</p>	<p>HNH's amendment application sufficiently describes the affected environment for purposes of FERC's analysis of the proposal. FERC's regulations do not require HNH to assess the economic impacts of its</p>

Comment	HNH Response
	<p>proposal on individual businesses, nor to the customers, clients, and suppliers of those businesses. This is because FERC does not require its licensees to power local businesses or use project power to maintain local jobs. FERC has recognized that, given the 30-50 year license terms, it would be impossible to predict potential improvements in generation, possible changes in energy bases, and industrial improvements that could result in a “complete change of the load pattern” of the project area over a license term.</p>
<p>The Draft Amendment appears to materially and detrimentally impact the Shared Facilities Agreement ("SFA") between Hawks Nest and WVAM</p>	<p>The license includes the substation/switchyard located next to the powerhouse (Hawks Nest Switchyard), which contains four 6.9/69 kV step-up transformers, and two parallel approximately 5.5-mile-long, 69 kV transmission lines (i.e., the primary transmission lines) that connect the Hawks Nest Switchyard at the powerhouse to the Alloy Substation located at the Alloy Facility, which are outside of the Project boundary. The SFA does not cover licensed Project works, which are solely owned by HNH. The SFA covers only transmission and interconnection facilities located outside the Project boundary. HNH intends to work with WVAM to address changes to the SFA outside of the license amendment proceeding, as the shared facilities do not include licensed Project works and are not covered by the amendment application.</p>
<p>WVDNR (November 12, 2024)</p>	
<p>Fish Entrainment - Installation of two new turbine generators able to operate at a lower flow than the existing ones will result in a greater volume of water and potentially more fish being exposed to injury/death by passing through the turbines</p>	<p>While the new Units 1 and 2 could operate as low as 250 cfs, they would not typically operate at such flows because the units are designed to operate at much higher flows. Operating the units at lower flows would increase the risk of unit component failure and would also require air admission which greatly decreases unit efficiency. HNH has evaluated the potential for changes in entrainment due to the hydraulic capacity changes for Units 1 and 2 in the Environmental Review.</p>
<p>Adjustments to minimum flows need to be re-evaluated. DOI's 10(j) recommended and minimally acceptable flows were significantly higher than the current prescribed flows, with FERC staff proposing even higher.</p>	<p>HNH is proposing increases in both minimum bypass flows and the number of recreational flow releases. The proposed changes were developed following extensive stakeholder consultation. The potential</p>

Comment	HNH Response
<p>Higher minimum flows will benefit the fishery as a greater percentage of the streambed continuously remains in the wetted width.</p> <p>Recreational flow releases will also need to be re-evaluated given that a reliable constant flow of power is no longer needed to support the Alloy plant.</p>	<p>effects of the revised flows are evaluated in the Environmental Review.</p>

Table 2. Consultation Log

Date	Description	Consultation type
8/13/2024	WVDEP and HNH meeting to discuss pending draft non-capacity amendment (NCA) application	Meeting/Call
8/30/2024	WVDNR and HNH meeting to discuss pending draft NCA application	Meeting/Call
9/5/2024	WV Profession River Outfitters (WVPRO) and HNH discussion about pending draft NCA application	Meeting/Call
9/4/2024	River Expeditions and HNH discussion about pending draft NCA application	Meeting/Call
9/24/2024	Adventures on the Gorge (AOTG) and HNH discussion about pending draft NCA application	Meeting/Call
9/24/2024	HNH submittal of Section 106 consultation review and compliance request to WVSHPO	E-mail ¹
10/15/2024	WV SHPO provides comments and concurrence with no effect on architectural or archaeological historic properties	Letter ¹
10/28/2024	HNH submits draft NCA application to stakeholders for review and comment	E-mail ¹
10/28/2024	USFWS notifies HNH that Matt Bearden (PA Field Office) will be project lead	E-mail ^{1, 2}
11/12/2024	WVDNR confirmed receipt of draft NCA application	E-mail ³
11/20/2024	WVDEP response to draft NCA application	E-mail ¹
12/5/2024	NPS and HNH emails regarding additions to NCA application distribution list.	E-mail ¹
12/5/2024	River Expeditions calls HNH providing preliminary comments on NCA including changes to recreation releases to make them more consistent	Meeting/Call
12/16/2024	NRAC response to draft NCA application	E-mail ¹
12/17/2024	Catawba Indian Nation states no concerns regarding the draft NCA application	E-mail ¹
12/17/2024	HNH submits revised draft NCA application to stakeholders	E-mail ¹
12/17/2024	River Expeditions, ACE, and AOTG and HNH discussion about potential bypass flow alternatives	Meeting/Call
12/19/2024	ACE response to draft NCA application	Letter ¹
12/19/2024	HNH discusses NCA application comments with American Whitewater (AW)	Meeting/Call
12/19/2024	American Whitewater response to draft NCA application	Letter ¹
12/20/2024	NPS response to draft NCA application	Letter ¹
12/22/2024	WV Rivers Coalition response to draft NCA application	Letter ¹
12/23/2024	USFWS response to draft NCA application	E-mail ^{1, 2}
12/24/2024	NRC response to draft NCA application	Letter ¹
12/27/2024	WVAM response to draft NCA application	Letter ¹
1/3/2025	River Expeditions and HN discussion regarding potential bypass flow alternatives	Meeting/Call
1/6/2025	WVDEP provides comments to FERC on draft NCA application	Letter ¹
1/8/2025	AOTG, ACE, and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
1/15/2025	HNH and WVDEP discussion about stakeholder comments on NCA application as relates to 401 WQC process	Meeting/Call

Date	Description	Consultation type
1/15/2025	River Expeditions and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
1/21/2025	WVDNR provides comments on NCA application	Letter ¹
02/05/2025	HNH sends Environmental/Lands Inquiry Review to WVDNR	Letter ¹
2/6/2025	NRAC and HNH discussion: Intro to NRAC Climbing Operations and Interest in the Bypass Reach	Meeting/Call
2/10/2025	Natural Heritage Program Results from WVDNR	Letter ¹
3/5/2025	HNH request to USFWS-WV Field Office for formal project review	E-Mail ¹
3/18/2025	Meeting with WVDEP and WVDNR regarding draft NCA application comments	Meeting/Call
3/19/2025	HNH to WVDEP and WVDNR meeting follow-up	E-mail ³
3/20/2025	HNH provides update to River Expeditions, ACE, & AOTG on status of minimum flow and whitewater releases discussions	Meeting/Call
4/28/2025	WVDNR minimum bypass flow recommendations	Letter ¹
5/21/2025	USFWS Federally Listed Species review	Letter ^{1, 2}
5/21/2025	USFWS-HNH emails regarding Section 7 compliance	E-mail ^{1, 2}
5/28/2025	HNH sends WVDEP and WVDNR an evaluation of WVDNR flow proposal and requests meeting to discuss	E-mail ³
6/18/2025	WVDEP, WVDNR, and HNH meeting to discuss potential bypass flow alternatives	Meeting/Call
7/11/2025	WVDNR notifies HNH that evaluation of memo transmitted by HNH is underway	E-mail ³
7/22/2025	WVDNR notifies HNH that response to HNH's evaluation has been provided to WVDEP to inform a joint response	E-mail ³
8/18/2025 - 9/10/2025	WVDEP, WVDNR, and HNH emails regarding WVDEP and WVDNR responses	E-mail ³
9/17/2025	WVDEP provides HNH with a draft WQC modification	Letter ¹
9/24/2025	WVDEP and HNH discussion about upcoming meeting and HNH comments regarding WQC process	Meeting/Call
10/7/2025	WVDEP, WVDNR, and HNH meeting to discuss potential bypass flow alternatives	Meeting/Call
10/9/2025	WVDNR, WVDEP, and HNH emails regarding potential bypass flow alternatives	E-mail ³
10/13/2025	HNH discussion with NRAC about recommended bypass flows and potential impacts to bouldering	Meeting/Call
10/24/2025	River Expeditions and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
10/31/2025	River Expeditions, ACE, AOTG, and HNH discussion about potential bypass flow alternatives	Meeting/Call
11/3/2025	River Expeditions and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
11/3/2025	AOTG and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
11/4/2025	HNH provides WVDEP status of HNH's consultation with River Expeditions, ACE, and AOTG	Meeting/Call
11/13/2025	River Expeditions and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
11/25/2025	AW-HNH emails regarding status of NCA application	E-mail ³

Date	Description	Consultation type
12/10/2025	ACE and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
12/11/2025	River Expeditions provides HNH with revised recreation flow release recommendations	E-mail ¹
1/7/2026	River Expeditions and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
1/7/2026	WVDNR and HNH emails regarding bypass minimum flow alternatives	E-mail ³
1/8/2026	AOTG and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
1/9/2026	American Whitewater and HNH discussion about potential bypass flow alternatives	Meeting/Call
1/9/2026	River Expeditions and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
1/9/2026	HNH, WVDEP, and WVDNR emails regarding consultation with outfitters	E-mail ³
1/12/2026	ACE and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
1/22/2026	WVDEP, WVDNR, and HNH meeting to discuss potential bypass flow alternatives.	Meeting/Call
1/22/2026	HNH, River Expeditions, ACE, and AOTG email exchange about potential bypass flow alternatives	E-mail ³
1/23/2026	River Expeditions and HNH emails about whitewater releases	E-mail ³
1/23/2026	River Expeditions and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
1/30/2026	WVDNR and HNH emails regarding bypass minimum flows in June	E-mail ³
2/3/2026 2/5/2026	WVDNR and HNH emails about minimum flows, recreational releases, and reservation of flow to satisfy station auxiliary power needs	E-mail ³
2/5/2026	American Whitewater and HNH emails about minimum bypass and recreational release proposal	Email ¹
2/5/2026	HNH updates NRAC on recreational release proposal	E-mail ¹
2/5/2026	HNH updates River Expeditions, ACE, and AOTG on recreational release proposal	E-mail ¹
2/5/2026	River Expeditions response to HNH NCA update	E-mail ¹
2/6/2026	River Expeditions and HNH discussion regarding potential bypass flow alternatives	Meeting/Call
2/6/2026	HNH, WVDNR, and WVDEP emails following up on 1/22/2026 meeting	E-mail ³
2/6/2026	HNH and WVDNR emails about reservation of flow to satisfy station auxiliary power needs and WVDNR concurrence.	E-mail ¹
2/12/2026	NRAC and HNH emails about minimum bypass and recreational release proposal.	E-mail ¹

Table notes:

¹ Consultation record is included in this Attachment.

² Section 7 Consultation records

³ Email not included due to extensive volume of consultation, but available upon request.

Electronic Submittal

September 24, 2024

Ms. Susan Pierce
Director - Deputy State Historic Preservation Officer
WV Department of Arts, Culture and History
1900 Kanawha Boulevard East
Charleston, WV 25305
Susan.M.Pierce@wv.gov

Mr. Benjamin Riggle
Structural Historian – Review and Compliance/Section 106 Review
WV Department of Arts Culture and History
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Benjamin.M.Riggle@wv.gov

Subject: Hawks Nest Hydroelectric Project (FERC No. 2512)
Modernization Project – Draft Non-Capacity Amendment
National Historic Preservation Act (NHPA) Section 106 Consultation

Dear Ms. Pierce and Mr. Riggle,

Hawks Nest Hydro, LLC (Hawks Nest Hydro or Licensee) is the Federal Energy Regulatory Commission (FERC) Licensee of the 102-megawatt Hawks Nest Hydroelectric Project (FERC Project No. 2512) (Project) on the New River in Fayette County, West Virginia (Attachment 1, Figure 1). The Licensee intends to submit to FERC an application for a non-capacity amendment of the license to initiate a modernization effort that will result in work at and changes to the Project, and that requires consultation with West Virginia State Historic Preservation Office (WVSHPO) under the *Historic Properties Management Plan for the Hawks Nest Hydroelectric Project* (HPMP) (December 2015).

In accordance with the framework established by the HPMP, the Licensee is required to consult with the WVSHPO regarding activities that could affect historic buildings and structures in the Project's Area of Potential Effect (APE) which includes the Hawks Nest Development Historic

HAWKS NEST HYDRO, LLC

Site. The HPMP also requires the Licensee to consult with the WVSHPO and Indian Tribes before undertaking ground-disturbing activities within the archaeological site locations or areas with a moderate to high archaeological potential for containing sites. As further described below, the proposed work will not include ground disturbance in such areas, and therefore, the Licensee has not included Tribes in this consultation.

Proposed Action

The purpose of the modernization project and the pending application for a non-capacity amendment of license is to convert Project energy generation and transmission from 25-Hz to 60-Hz. This frequency conversion will allow for the sale of Project power directly to the regional (PJM) grid instead of to its direct-connected customer following the expiration in 2025 of an existing Power Purchase Agreement.

The modernization project includes¹:

- Turbine-generator replacements for Units 1 and 2:
 - Replacement of all components starting from concrete embedded parts including new turbine, shaft, rotor, generator, governor, exciter, controls, and main power circuit.
 - New 13.8kV 60Hz generator switchgear internal to the powerhouse.
- Construction (including vegetation clearing and grading of a 180-ft by 450-ft flat area, and construction of a retaining wall for slope stability) of a second substation near the Hawks Nest powerhouse including an enclosed (230-ft by 50-ft pre-engineered metal building) 60-Hz frequency converter (for Units 3 and 4).
- Conversion of the existing 69-kV, 25-Hz primary transmission lines to 138-kV, 60-Hz. The transmission line upgrade will utilize existing transmission towers and the existing transmission corridor.

¹ Hawks Nest Hydro consulted with the WVSHPO regarding the powerhouse locker room conversion, which is also part of the proposed modernization project, and received concurrence of no effect on June 25, 2024 (FR# 24-1025-FA).

- A new paved access road from U.S. Route 60 in the vicinity of the Hawks Nest powerhouse to facilitate construction of the second substation.
- Construction of a new O&M building (prefabricated metal building, 60 ft by 80 ft) between the existing powerhouse parking area and storage yard.
- Establishment of a new laydown area north of the Surge Tank with crane pad to service the surge tank.
- Various electrical system modifications to support frequency conversion including replacement of electrical and control systems at Hawks Nest Dam.

Attachment 1, Figure 2 provides a plan view of proposed modernization project modifications.

Previous Cultural Resource Studies

The Project was relicensed in 2017 and in support of the relicensing, the Licensee completed cultural resource surveys of the APE² in consultation with Indian Tribes, the National Park Service (NPS), and WVSHPO. The results of these surveys are described in the following reports, which are on file with SHPO and have been previously distributed to NPS and Tribes:

- Hunter, W.M. 2015. A Cultural Historic Survey for the Hawks Nest-Glen Ferris Hydroelectric Projects, Fayette County, West Virginia. Prepared for HDR Engineering, Inc. February 2015.
- Schaney, M. L. 2013. Geomorphic Assessment of Hawks Nest Project Area Along the New River and Glen Ferris Project Along the Kanawha River in Fayette County, West Virginia. Prepared for Cultural Resource Analysts, Inc. August 2013.

Systematic examination of the APE through these surveys resulted in the revisit of one previously identified archaeological site (46FA301), the identification and recordation of seven previously undocumented archaeological sites (46FA523 – 46FA529), and the identification of archaeologically sensitive areas. Two sites (46FA301 and 46FA528) were recommended as not

² The HPMP states that the APE includes all lands within the Project Boundary. The APE also includes any lands outside the Project Boundary where cultural resources may be affected by Project-related activities that are conducted in accordance with the FERC license.

eligible for listing on the NRHP, and the eligibilities of six archaeological sites (46FA523, 46FA524, 46FA525, 46FA526, 46FA527, and 46FA529) were not determined. WVSHPO concurred with the report's recommendation that these archaeological resources be treated as eligible for the NRHP. The above-referenced sites are located along the tunnel corridor and shoreline of Hawks Nest Lake. Additionally, through these surveys, archaeologically sensitive areas within the Project's APE (along the right bank of the New River above and downstream of Hawks Nest Dam) were identified. Based on consultation with potentially affected Indian Tribes, no Traditional Cultural Properties or other properties of traditional religious and cultural importance were identified within the Project's APE.

The proposed modernization project includes activities requiring ground disturbance and clearing of vegetation in the vicinity of the Hawks Nest powerhouse and proposed second substation. None of the archaeological sites or sensitive areas identified during the previous surveys are within the area of proposed disturbance. There will be, therefore, no effects to known archaeological resources. If applicable, the Licensee would follow procedures for inadvertent discoveries as stated in Section 7.6 of the HPMP.

Affected Historic Properties

As stated in the HPMP, the Hawks Nest Development Historic Site is eligible for the NRHP under Criteria A and C. Contributing resources include the Hawks Nest Dam, surge basin, surge tank, intake, Hawks Nest tunnel, and powerhouse (see Attachment 1, Figure 3 through Figure 8), all of which are managed by the Licensee in accordance with the Secretary's Standards for Preservation.

The Licensee does not anticipate visual effects to the character-defining features of the powerhouse or other structures that comprise the Hawks Nest Development Historic Site in association with the modernization project. No changes are proposed to the exterior of the historic powerhouse. The new facilities in the vicinity of the powerhouse (access road, retaining wall, second substation, O&M building) will be visible from the existing powerhouse and will result in minor aesthetic changes to this area. The Licensee notes that because this is an active (i.e., operating) hydroelectric power plant, this area already includes equipment and facilities not associated with the original Project construction as shown in Attachment 1, Figure 8 and Figure 9. While turbines are proposed to be replaced in-kind to the extent practicable, the Unit 1 and Unit 2 replacement turbine-generator units will likely differ in appearance from the existing units. However, the only portion of the replacement units that will be visible from the

powerhouse generator floor is the generator housing (Figure 10 and Figure 11). The generator housing will be designed to look similar to the existing generator housing and be painted the same color as the generator housing for Unit 3 and Unit 4. The modernization project is not expected to change Project operations in a manner that would impact the site's NRHP eligibility or result in other modifications of licensed Project structures that would impact the site's NRHP eligibility.

In accordance with Article 409 of the FERC License for the Project and the Project's HPMP, the Licensee is required to consult with the WVSHPO for undertaking changes to Project historic structures that are not categorically excluded in the HPMP's *Compendium of Compatible Operation and Maintenance Activities*. As described above, the proposed modernization project includes replacement of original generating equipment within the historic powerhouse. This modification cannot be avoided, as unit replacement is necessary for continued reliable operation of the Project. Hawks Nest Hydro has proposed to minimize effects of this modification by maintaining, to the extent practicable, the existing look of the generator housing visible from the main floor of the powerhouse.

In accordance with the consultation requirements of the HPMP, the Licensee respectfully requests WVSHPO provide comments on the proposed action or concurrence that these activities will have no adverse effects on the NRHP eligibility of the Hawks Nest Development Historic Site.

If you have questions or require additional information after your review of the enclosed materials, please contact me at 304-222-5827 or clint.henry@brookfieldrenewable.com.

Respectfully,



Clint Henry
Compliance Specialist

Attachments: 1. Figures

Attachment 1

Figures

Figure 1. Project Location (Figure 2-1 from HPMP)

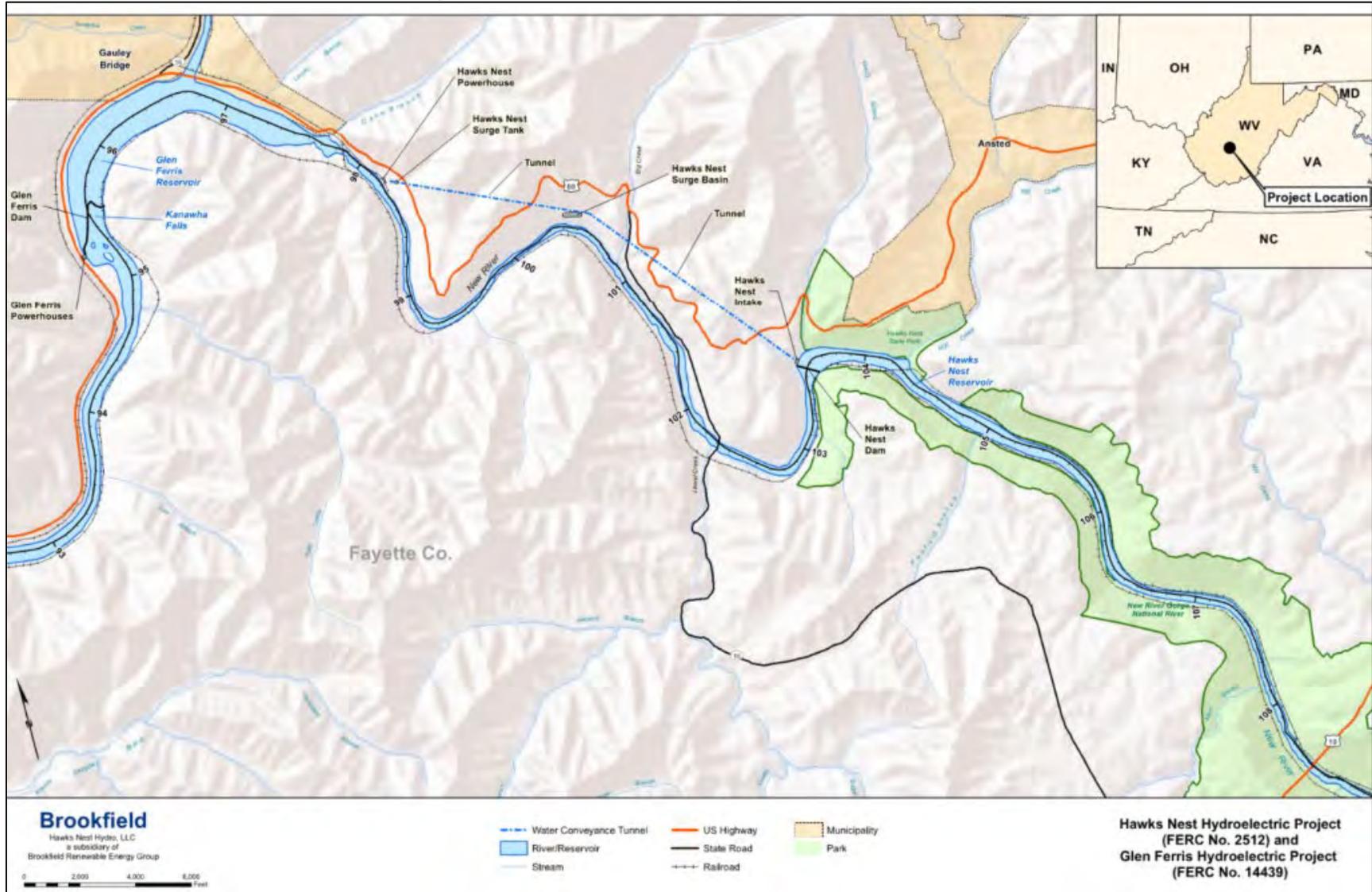


Figure 2. Proposed Modernization Project Site Plan

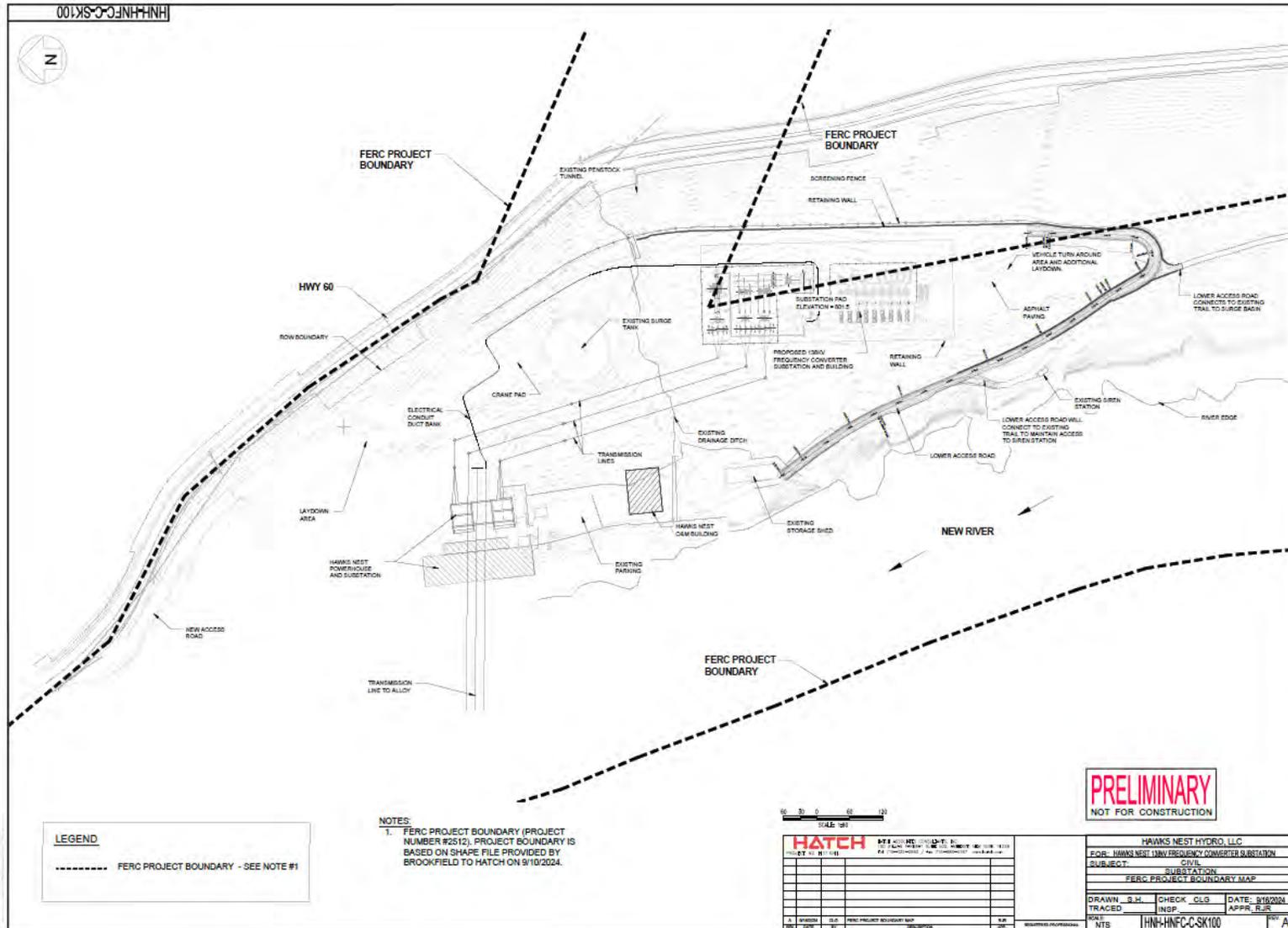


Figure 3. West Virginia Historic Property Inventory Form

Internal Rating: _____

WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

Street Address North of the New River, 0.35 miles west of the intersection of SR 16 and the Midland Trail (US 60)	Common/Historic Name/Both Hawks Nest Powerhouse	Field Survey # S-010	Site # (SHPO Only)
Town or Community Valley District	County Fayette	Negative No. N/A	NR Listed Date
Architect/Builder New-Kanawha Power Company Owen Jones	Date of Construction 1930-1934	Style Engineered	
Exterior Siding/Materials Brick	Roofing Material Not Visible	Foundation Reinforced Concrete	
Property Use or Function Residence <input type="radio"/> Commercial <input checked="" type="radio"/> Other <input type="radio"/>	UTM# Zone 17 E: 484607 N: 422237 NAD: 1983		
Survey Organization & Date Cultural Resource Analysts, Inc. November 22, 2013	Quadrangle Name Gauley Bridge, WV Part of What Survey/FR#		

Site No.

Figure 4. Powerhouse - West Side View



Figure 5. Powerhouse - Southwest Side View

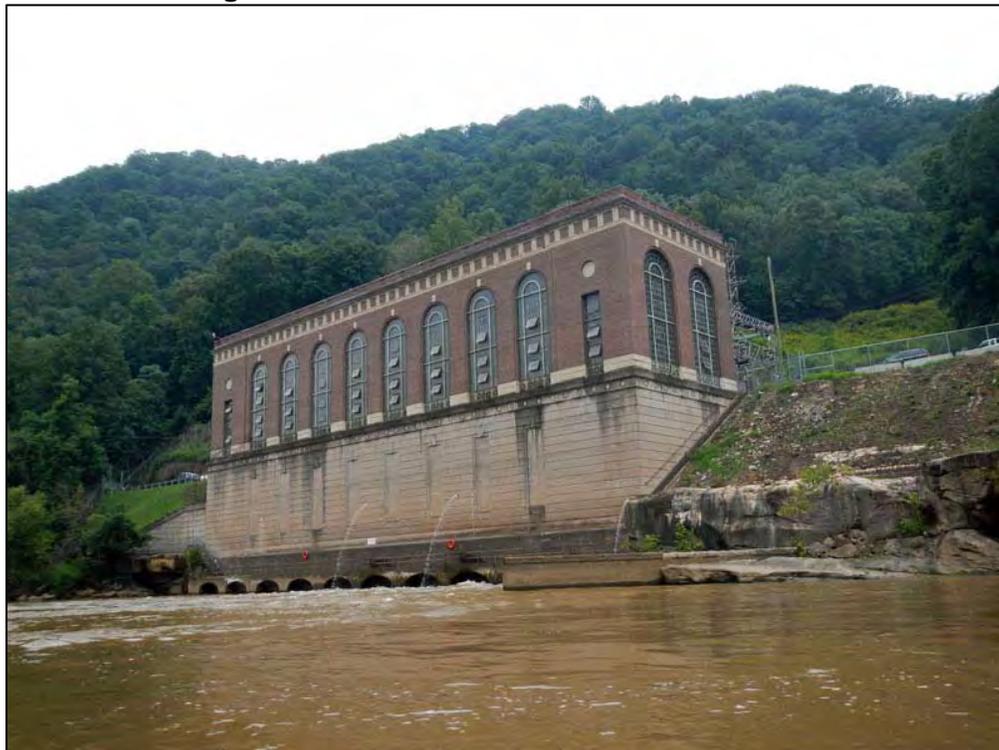


Figure 6. Existing Hawks Nest Substation and Surge Tank



Figure 7. Existing Hawks Nest Substation (left) and Powerhouse Office (right)



Figure 8. Hawks Nest Powerhouse Parking Area with Powerhouse (left) and Substation (right)



Figure 9. Existing Storage Yard



Figure 10. Generator floor with Units 1 (back), 2 (middle), 3 (front)



Figure 11. Generator floor with Units 3 (front) and 4 (back)





West Virginia Department of
**ARTS, CULTURE
AND HISTORY**

The Culture Center
1900 Kanawha Blvd., E.
Charleston, WV 25305-0300

Randall Reid-Smith, Cabinet Secretary
Phone 304.558.0220 * www.wvculture.org
Fax 304.558.2779 * TDD 304.558.3562
EEO/AA Employer

October 15, 2024

Mr. Clint Henry
Compliance Specialist
Brookfield Renewable
Via email: clint.henry@brookfieldrenewable.com

RE: Hawks Nest Hydroelectric – Modernization Project
FR# 24-1025-FA-1

Dear Mr. Henry:

We have reviewed the information submitted in support of the above-mentioned project. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR § 800: “Protection of Historic Properties,” we submit our comments.

According to the submitted information, Hawks Nest Hydro, LLC, proposes to submit an application to FERC for a non-capacity amendment of the license to begin modernization efforts of the Hawks Nest Hydroelectric Facility at the Hawks Nest Dam in Fayette County, West Virginia. The proposed work includes replacing turbine-generator Units 1 and 2; constructing a second substation and retaining wall for slope stability; converting existing 69-kV, 25-Hz primary transmission lines to 138-kV, 60-Hz lines using existing transmission towers and transmission corridor; constructing a new paved access road from US Route 60 to facilitate the construction of the second substation; constructing a new O&M building between the existing powerhouse parking area and storage yard; establishing a new laydown area north of the surge tank with a crane pad to service the surge tank; and modifying various electrical systems to support the frequency conversion at Hawks Nest Dam.

Architectural Resources:

We have reviewed the submitted information, and the Hawks Nest Development Historic Site is eligible for the National Register of Historic Places under Criteria A and C. Contributing resources to the historic site include the Hawks Nest Dam, surge basin, surge tank, intake, tunnel, and powerhouse. However, we concur that the proposed modernization project will not adversely affect the above-mentioned resource because the facility will retain its significance as a power generating facility without any substantial alterations to the character defining features of the facility. No further consultation is necessary regarding architectural resources; however, we do ask that you contact our office if your project should change.

Archaeological Resources:

As stated in the submitted materials, none of the archaeological sites identified during earlier surveys conducted at the Hawks Nest Hydroelectric Facility are located within the vicinity of the powerhouse and proposed project area. In addition, available information indicates the proposed

October 15, 2024

Mr. Henry

FR#: 24-1025-FA-1

Page 2

project will be confined to areas that have been previously disturbed, making it unlikely that significant resources would be encountered. As a result, we concur that the proposed project will have no effect on archaeological historic properties.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Benjamin M. Riggle, Structural Historian, or Lora A. Lamarre-DeMott, Senior Archaeologist, at (304) 558-0240.*

Sincerely,



Susan M. Pierce

Deputy State Historic Preservation Officer

SMP/BMR/LLD

Subject: FW: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)
Attachments: Hawks Nest draft amendment application 2024.10.25.pdf; 20241028_HN to stakeholders_draft app.pdf

From: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Sent: Monday, October 28, 2024 9:48 AM
Cc: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear stakeholders,

Hawks Nest Hydro, LLC, owner, operator, and licensee of the Hawks Nest Hydroelectric Project on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These powerhouse and electrical system modifications require approval from the Federal Energy Regulatory Commission (FERC) in the form of a Non-Capacity Amendment of License. FERC’s regulations require the licensee to provide a draft version of the amendment application to agencies, Tribes, and stakeholders for a 60-day review period, unless this requirement is waived by agencies and stakeholders.

Please review the attached and provide comments you have about the proposed modifications or draft amendment application no later than December 27, 2024 by email. So that we may file the application with FERC as soon as possible, comments and questions earlier in this review period (or confirmation that your organization has no comments or questions) would be greatly appreciated. The stakeholder list is included in the cover letter.

Thank you for your time,

Katie Lester
Senior Compliance Manager

T 570.226.1371
C 570.881.9067
kathleen.lester@brookfieldrenewable.com
www.brookfieldrenewable.com

Brookfield
Renewable U.S.

View Important disclosures and information about our e-mail policies [here](#).

Via email

October 28, 2024

RE: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

Dear stakeholders,

Hawks Nest Hydro, LLC, owner, operator, and licensee of the Hawks Nest Hydroelectric Project on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These activities include:

- Conversion of power generation at Hawks Nest from 25-Hz to 60-Hz
- Turbine-generator replacements for Units 1 and 2
- Construction of a second switchyard near the Hawks Nest powerhouse with a frequency converter for Units 3 and 4, as well as a new access road from U.S. Route 60 to the switchyard
- Construction of an O&M building near the powerhouse
- Transmission line and ancillary equipment upgrades

The modernization project is not expected to significantly increase the powerhouse's hydraulic capacity or authorized installed capacity, change run-of-river Project operations or minimum or recreation flow releases at the dam, or result in other modifications of licensed Project structures. Additional details about the modernization project are included in the enclosed draft non-capacity amendment application.

This is a significant effort, so we are hopeful we can begin work in early 2025, to align with tree clearing restrictions in place for protected bat species. Major milestone target dates are:

- January 2025: Grading and clearing for the new substation
- November 2026 – August 2027: Unit 1 replacement
- September 2027 - May 2028: Unit 2 replacement

These powerhouse and electrical system modifications require approval from the Federal Energy Regulatory Commission (FERC) in the form of a Non-Capacity Amendment of License. FERC's regulations require the licensee to provide a draft version of the amendment application to agencies, Tribes, and stakeholders for a 60-day review period, unless this requirement is waived by agencies and stakeholders. Please provide comments you have about the proposed modifications or draft amendment application no later than December 27, 2024. So that we may file the application with FERC as soon as possible, comments and questions earlier in this review period (or confirmation that your organization has no comments or questions) would be greatly appreciated. We will consider the comments we receive during the review period as we finalize the application and include them in the final application submitted to FERC.

Please note Hawks Nest Hydro consulted with the WV State Historic Preservation Office under separate cover as required by the Project's Historic Properties Management Plan. The WVSHPO concurred that the modernization

project will not adversely affect the historic powerhouse and will have no effects on archaeological historic properties. Documentation of this consultation is included in the attached draft amendment application.

Please don't hesitate to contact me via email or at Kathleen.Lester@brookfieldrenewable.com or 570-226-1371. Thank you in advance for your attention to this request.

Sincerely,



Katie Lester
Senior Compliance Manager

Enclosure

Recipient List

Federal Agencies:

Virginia Ecological Services Field Office
New River Gorge National Park & Preserve

Tribes:

Absentee-Shawnee Tribe of Indians of Oklahoma
Catawba Indian Nation
Cherokee Nation
Delaware Nation
Eastern Band of Cherokee Indians
Eastern Shawnee Tribe of Oklahoma
Seneca-Cayuga Tribe of Oklahoma
Shawnee Tribe
Tuscarora Nation
United Keetoowah Band of Cherokee Indians

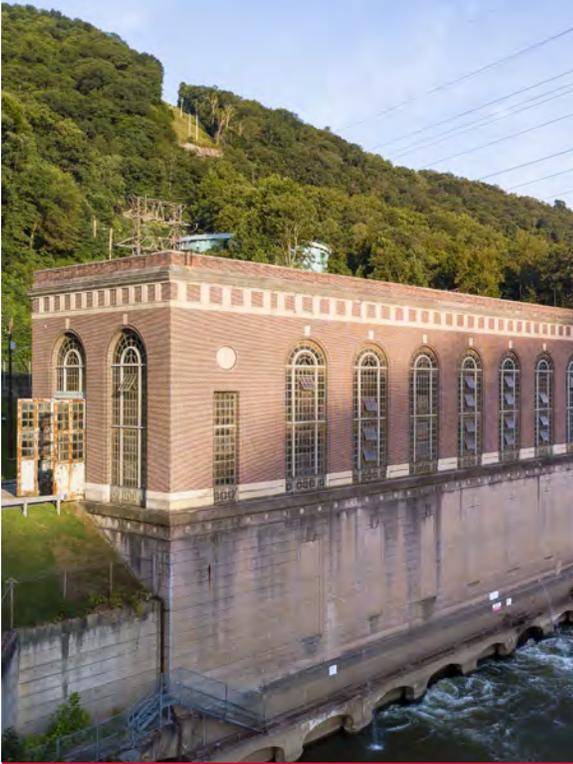
State Agencies:

Hawks Nest State Park
WV Department of Environmental Protection
WV Division of Natural Resources
WV State Historic Preservation Office

Non-Governmental Organizations:

Ace Adventure Resort
Adventures on the Gorge
American Whitewater
River Expeditions
WV Pro River Outfitters LLC
WVA Manufacturing LLC

DRAFT



Application for
Non-Capacity
Related
Amendment of
License

Hawks Nest
Hydroelectric Project

FERC No. 2512

Fayette County, West Virginia

October 2024

DRAFT

Initial Statement (18 CFR §4.201(a))

**BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**HAWKS NEST HYDROELECTRIC PROJECT
(PROJECT NO. 2512)**

**APPLICATION FOR A NON-CAPACITY RELATED AMENDMENT OF LICENSE
FOR MAJOR PROJECT – EXISTING DAM**

1. Hawks Nest Hydro, LLC (Hawks Nest Hydro, Licensee, or Applicant) applies to the Federal Energy Regulatory Commission (FERC or Commission) for a non-capacity amendment of license for the Hawks Nest Hydroelectric Project (FERC No. 2512) (Project), an existing licensed major project. The current license for the Project was issued on December 22, 2017, and expires on January 31, 2064.
2. The exact name, business address, and telephone number of the applicant are:

Hawks Nest Hydro, LLC
439 Elizabeth Way
Fayetteville, WV 25840
+1 304.574.8558

The name and business address of each person authorized to act as agent for the applicant in this application is:

Katie Lester
Senior Compliance Manager
Brookfield Renewable
439 Elizabeth Way
Fayetteville, WV 25840
(570) 226-1371
kathleen.lester@brookfieldrenewable.com

3. The applicant is a domestic corporation, licensee for the water power project, designated as Project No. 2512 in the records of the Federal Energy Regulatory Commission, issued on the 22nd day of December, 2017.
4. The amendment of license proposed and the reason(s) why the proposed changes are necessary, are:

Hawks Nest Hydro is proposing a modernization project to convert energy generation and transmission from the Project from 25-Hz to 60-Hz, consistent with the frequency of the regional (PJM) system. The frequency conversion project includes:

- Turbine-generator replacements for Units 1 and 2. The new turbines will have higher ratings than the original Units 1 and 2 (27,700 kW). The new 60-Hz generators will also have higher ratings than the original Units 1 and 2 (37,000 kVA, PF 0.85, compared to 30,000 kVA, P.F. 0.85). The authorized installed capacity of the Project, as defined by 18 C.F.R. §11.1(i), will increase from 102 MW to 106.4 MW. The maximum hydraulic capacity of the Project will increase by 2 percent.
- Construction of a new switchyard near the Hawks Nest powerhouse including a 60-Hz frequency converter (for Units 3 and 4).
- Conversion of the existing 69-kV, 25-Hz primary transmission lines to 138-kV, 60-Hz. The transmission line upgrade will utilize existing transmission towers and the existing transmission corridor.
- Additionally, Hawks Nest Hydro will reconfigure the substation at the Alloy facility so that a single transmission line will land on the 138-kv bus, which would connect the Project to the existing 138-kv line between the existing AEP and Alloy substations.
- A new access road in the vicinity of the Hawks Nest powerhouse to facilitate construction of the new substation.

- Construction of a 60-ft by 80-ft prefabricated metal building in the vicinity of the existing substation and Hawks Nest powerhouse, to contain personnel offices and locker room area displaced from the existing powerhouse by new electrical equipment associated with the plant modernization.

Following completion of the project, Hawks Nest Hydro does not presently plan to provide power or ancillary services directly to Alloy.

A portion of the new switchyard and access road to the switchyard will occur outside the current Project boundary, so Hawks Nest Hydro is proposing to expand the Project boundary by approximately 1.5 acres (ac).

5. (i) The statutory or regulatory requirements of West Virginia that affect the modernization project as proposed, with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes, and with respect to the right to engage in the business of developing and transmitting power are:
 - a. Hawk's Nest Hydro is a Delaware LLC, registered to do business in West Virginia, and, as such, can engage in the activities set forth in its organizational documents, which includes the generation, transmission, and distribution of electricity from the Project.
 - b. Section 401 of the Federal Clean Water Act, 33 USC §1341 requires that applicants for a federal license or permit to conduct an activity that will or may discharge into navigable waters must present the federal authority with a certification from the appropriate state agency. Pursuant to W. Va. Code §§22-1-6(d)(7), the West Virginia Department of Environmental Protection (WVDEP) is the state agency designated to carry out the certification requirements prescribed in Section 401 of the Clean Water Act for waters of West Virginia.
 - c. Water rights involved are merely the riparian rights appurtenant, under West Virginia law, to the various lands needed for dam site, flowage and tailrace purposes.

(ii) The steps the applicant has taken or plans to take to comply with each of the laws cited above are:

- a. Applicant has complied with the requirements of the laws of the State of West Virginia with respect to the right to engage in the business of developing and transmitting power.
- b. Applicant received a Water Quality Certification (WQC) from WVDEP pursuant to Section 401 of the Federal Clean Water Act, 33 USC §1341 and W. Va. Code §§22-1-6(d)(7) and 22-11-7(a) and West Virginia Legislative Rule §47CSR5A on June 2, 2017, which was subsequently amended on August 14, 2017. Applicant is currently in compliance with the WQC. The modernization project will not result in a new discharge or amend the discharge upon which the WQC was based. As documented and described in this application, Applicant is consulting WVDEP regarding consistency of this non-capacity amendment application with the existing WQC.
- c. Applicant possesses the necessary water rights under West Virginia law to the various lands needed for the dam site, flowage and tailrace purposes, none of which are impacted by the proposed modernization project.
- d. Applicant performed studies associated with water quality, aquatic resources, terrestrial resources, wetlands, bypass reach flows, recreation, and cultural resources during the relicensing of the Project, which were analyzed by FERC during its environmental analysis. The proposed modernization project would not alter the findings of the studies and conclusion of the environmental analyses.

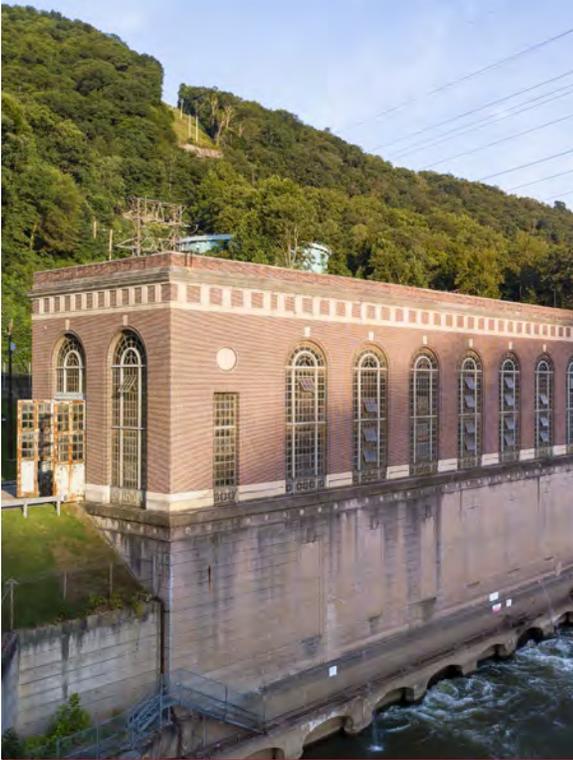
Exhibits Included in the Non-Capacity Amendment Application (18 C.F.R. § 4.201(c))

Applications for non-capacity license amendments need include only those exhibits in the existing license applicable to the proposed amendment. The exhibits included in this application are:

- Exhibit A: Project Description (18 CFR §4.51(b)). Hawks Nest Hydro is providing a revised Exhibit A, including a redline version, to include a description of the new substation, frequency converters, and replacement turbine-generators.

- Exhibit E: Environmental Summary (18 CFR §4.51(f)). Hawks Nest Hydro is providing a summary of the anticipated effects of the proposed modification on environmental, recreational, cultural, aesthetic, and socioeconomic resources. Because of the number and extent of studies conducted during relicensing, the Environmental Summary relies heavily on studies previously filed with the Commission. A milestone schedule for construction activities proposed in this non-capacity amendment application is included in Exhibit E.
- Exhibit G: Project Maps (18 CFR 4.41(h)): Hawks Nest Hydro is providing revised Exhibit G drawings of the proposed new Project boundary incorporating the proposed switchyard and access road. A drawing showing the current and proposed Project boundaries is also included in Exhibit G.
- Consultation: Documentation of consultation conducted by the Applicant with resource agencies, Tribes, and other stakeholders during preparation of this non-capacity amendment application, as required by 18 C.F.R. § 4.38. *[To be developed following consultation.]*

Hawks Nest Hydro will provide revised Exhibits F (Site Drawings), if and as applicable, following construction to accurately reflect as-built conditions.



DRAFT Exhibit A

*Application for Non-
Capacity Related
Amendment of License*

**Hawks Nest
Hydroelectric Project
FERC No. 2512**

Fayette County, West Virginia

October 2024

Exhibit A (Clean Version)

Exhibit A

Project Description (18 CFR §4.51(b))

A.1 PHYSICAL COMPOSITION, DIMENSIONS, AND GENERAL CONFIGURATION (18 CFR §4.51(b)(1))

The Hawks Nest Project is located upstream of the Glen Ferris Project, on the New River just upstream of the confluence of the New and Gauley Rivers. The Project is located in the towns of Ansted and Gauley Bridge, in Fayette County, West Virginia. As described in detail below, the Hawks Nest Project generally consists of a concrete gravity dam with 14 spillway bays, each with a steel crest gate, a power tunnel intake structure with intake gate, trashracks and a trash rake, a water-conducting tunnel, a surge basin, a surge tank, four water-conveying penstocks and one bulkheaded penstock, a manifold, and a powerhouse containing four turbine-generator units. A 5.5-mile long segment (“bypass reach”) of the New River extends between Hawks Nest Dam and the powerhouse. The bypass reach occupies a narrow gorge, with heavily wooded mountainsides forming the channel walls. The Cotton Hill Bridge crosses the bypass reach at a point 4.2 miles upstream of the powerhouse. With the exception of an access area in the vicinity of the Cotton Hill Bridge and a few informal trails, access to the bypass reach is mostly precluded by steep slopes and vegetation.

A.1.1 Dam

The dam is a concrete gravity structure (mostly a spillway). The dam is approximately 948 feet long (from left abutment to right abutment¹) oriented along a generally northwest-southeast axis, with a permanent crest elevation of 795.0 feet. The operating deck above the spillway is at elevation 832.0 feet mean sea level (msl²) with upstream and downstream concrete walls extending to elevation 835.5 feet. The maximum height of the dam from the deepest part of the foundation to the operating deck is about 90 feet. There is a drainage and inspection gallery that runs the

¹ Throughout this volume, all references to “left” and “right” are defined from the perspective looking downstream.

² All elevations in this license application are based on the msl National Geodetic Vertical Datum of 1929 (NGVD29), unless otherwise noted.

entire length of the dam with a floor elevation at 773.25 feet. There are 16 relief wells and 9 piezometers located in the drainage gallery.

The normal pool elevation of the reservoir is elevation 819.0 feet.

The 14 ogee-type spillway bays are each 50 feet wide and have a 25-foot-high by 50-foot-wide Stoney-type vertical lift gate. Each gate, including roller trains, weighs 73.3 tons. The concrete crest elevation of each bay is at elevation 795.0 feet and the top elevation of the gates is at elevation 820.0 feet in the closed position. Separating each spillway gate bay is a 9-foot-wide concrete pier.

The crest gates are operated by two gantry cranes on rails running the entire length of the dam. Each crane has a lifting capacity of 100 tons. Each crane has a lifting beam with an automatic device for engaging and disengaging the gate to be moved. The gates can be latched open at various heights of lift. The two cranes are equipped with electric controls so that all 14 gates may be raised or lowered by remote control from the powerhouse control room (gates 1 through 7 are on one trolley power system, and gates 8 through 14 are on a second trolley power system).

In 2013-2014, 49 post-tension anchors were installed in the 31 monoliths comprising the 14 spillway bays of the ogee spillway structure, with each monolith getting one or two 28- to 50-strand anchors with design loads ranging from 987 kips to 1762 kips, respectively. The encapsulated anchors with grout encased epoxy strands extend the full length of each strand. Documentation of completion of the post-tension anchor installation is contained in the final project completion report filed by Hawks Nest Hydro on March 9, 2015, with the Commission and subsequently approved by the Commission on April 16, 2015.

Located between the main spillway section and the right abutment is a 10-foot-wide trash spillway which is equipped with steel stoplogs and has a sill elevation of 810.0 feet. The trash spillway stoplogs (“trash gate”) are operated by an electric motor, as required, to pass debris and to maintain the required minimum flow.

The dam has non-overflow sections which adjoin each abutment. On the right abutment, the non-overflow section extends to the bedrock abutment, and is about 30 feet long with a 15-foot cutoff

wall to the bedrock abutment. The left non-overflow section is about 30 feet long with a core wall that is 105 feet long and ends with a vertical wall about 7 feet high.

An earthen embankment dike is located upstream of the left abutment. A buried concrete core wall with a crest elevation of approximately 832.0 feet extends into the abutment.

There are six steel-lined low level sluices located beneath gates 5, 6, and 7 in the spillway. Each sluice is 7 feet 8 inches in diameter and controlled by a 9-foot butterfly valve, with operating gear contained in the drainage and inspection tunnel that runs longitudinally through the dam. The sluice inlets are equipped with steel trashracks and stoplog slots. The low level sluices have not been regularly operated historically and are not presently operable.

A.1.2 Intake

The intake to the water-conducting tunnel is located along the right shoreline of the reservoir just upstream from the dam. The opening is rectangular in shape with dimensions of 111.5 feet wide and 52.5 feet high, tapering in a distance of 58 feet, 8 inches to a section 34 feet square. The intake is equipped with trash racks and a Stoney-type bulkhead intake gate, which is located approximately 50 feet from the opening where the trash racks are located. The gate and lift structure are situated in front of a near vertical rock face. The gate is operated from an overhead steel frame by electric motors that are controlled at the dam. The gate has dimensions of 42 feet high by 34.5 feet wide, with two internal 4.5-foot-square “filler” gates that can be independently operated. The tunnel headgate is located within the 34-foot-square section. A transition from the 34-foot-square section to the 31-foot circular tunnel section ends at a distance of 101 feet, 6 inches from the entrance.

The intake trashracks are 110 feet wide and 51 feet high and have bar spacing of 3.5 inches on center.

A.1.3 Tunnel

The underground tunnel extends from the end of the intake transition to the penstock system, a distance of 16,240 feet. Of this total length, 10,230 feet is lined, and the remaining portion is unlined through bedrock. The lined sections are circular, while the unlined sections are more oval in shape. The unlined sections are located upstream of the surge basin in the vicinity of Big Creek (about 1,300 feet), and between the surge basin and the surge tank (about 4,700 feet). The tunnel lining is generally concrete, but in the vicinity of the surge tank, an approximately 2,600-foot-long, 30-foot-diameter section is steel-lined.

A.1.4 Surge Basin

The surge basin is a large concrete-lined pool at the ground surface with a tunnel adit (a gently sloping tunnel shaft) connection from one end of the basin to the water-conducting tunnel. At a point approximately 60 percent of the distance from the intake to the powerhouse, the tunnel connects to the surge basin through the adit. The adit is also concrete-lined. The basin is approximately 600 feet long and 170 feet wide. The bottom of the basin is at elevation 800.0 feet, and the top of the parapet wall around the basin is at elevation 830.0 feet. Along one side of the basin is an approximately 150-foot-wide overflow spillway. The crest of the spillway is at elevation 820.0 feet and discharges to the New River bypass reach. Steel trash racks are installed at the portal of the adit to prevent objects from entering the tunnel from the surge basin. Steel stoplogs for sealing off the tunnel from the surge basin are stored at the adit.

A.1.5 Surge Tank

The tunnel connects through a vertical shaft to the surge tank just upstream of where the tunnel reaches the manifold. The steel differential surge tank is located at the downstream end of the water-conducting tunnel just upstream of the manifold and the penstocks. The riveted steel surge tank is 116 feet in diameter and 56 feet high and is located on the hillside east of the powerhouse. The base of the surge tank is at elevation 787.0 feet, and the rim is at elevation 843.0 feet. The surge tank is connected to the tunnel by a 28-foot-diameter, steel-lined vertical riser. The tunnel at

this point is also steel-lined and has a diameter of 30 feet. The centerline of the tunnel directly beneath the surge tank is at elevation 716.0 feet.

A.1.6 Penstocks and Manifold

As the water-conducting tunnel nears the powerhouse, the penstock to each turbine generator successively exits the tunnel and the tunnel diameter reduces to 30 feet. The penstock system includes a main penstock 30 feet in diameter and 107 feet long, a manifold, and five (5) penstocks, each 14 feet in diameter, with varying lengths of 42 feet to 132 feet, leading from the manifold to four (4) turbines in the powerhouse. The penstocks and manifold are of welded steel reinforced with concrete and heavy steel circumferential rods. The fifth penstock, which was built for an additional generating unit, is bulkheaded off with a steel and concrete bulkhead and the downstream end is filled in with approximately 10 feet of concrete. There are four butterfly penstock valves, one for each turbine unit, located at the end of the penstocks where they enter the powerhouse. The entire penstock system is located in an underground chamber, situated beneath the outdoor switchyard.

A.1.7 Powerhouse

The 210-foot-long by 50-foot-high by 74.5-foot-wide powerhouse substructure is constructed of mass and reinforced concrete and is founded on solid bedrock. The powerhouse is a multistory brick and concrete structure with five generation bays but only four turbine-generators. Each turbine generator is rated at 25.5 MW. The centerline of the scroll cases for each generating unit is at elevation 663.0 feet, which is 157 feet below the normal pool at Hawks Nest Dam. Discharge from the turbine-generators is through submerged draft tubes into the New River.

A.1.8 Tailrace

During original Project construction, a ledge was excavated for a short distance downstream of the powerhouse to improve flows out of the powerhouse. This excavation runs beneath the Chesapeake and Ohio Railway Bridge.

A.2 IMPOUNDMENT SPECIFICATIONS (18 CFR §4.51(b)(2))

The 6.9-mile-long reservoir for Hawks Nest Dam is situated in a narrow valley with an average width of approximately 500 feet. The reservoir extends from approximately the Marr Branch confluence, located downstream of the New River Gorge Bridge, to Hawks Nest Dam. The total length of the impoundment shoreline is approximately 15.7 miles. The drainage area at the reservoir is 6,913 square miles. At normal pool, the reservoir has a surface area of 243 acres and a gross storage capacity of 7,323 acre-feet. Because the Project is operated as run-of-river as further explained below, the reservoir has no significant usable storage capacity.

As presently constructed, the maximum reservoir elevation is 820.0 feet. The Hawks Nest Project operates in a run-of-river mode, with inflow to the Project approximating outflow, with an approved seasonal ramping rate. The surface of the reservoir is typically operated at 819.0 feet. Operation of the Project below 818.50 feet would require notification to WVDNR. The reservoir does not typically rise above 819.5 feet during normal operations. Operation of the Project in this range provides a minimum of 0.5 feet of freeboard to provide limited storage (approximately 122 acre-feet) to decrease the risk of overtopping the dam in the event of a typical powerhouse load rejection event and to facilitate implementation of the seasonal ramping rate requirement for the protection of downstream public safety and aquatic resources, as described more fully in Exhibit B.

A.3 TURBINE AND GENERATOR SPECIFICATIONS (18 CFR §4.51(b)(3))

The Hawks Nest powerhouse contains four units. Unit 1 and Unit 2 are identical to one another and Unit 3 and Unit 4 are identical to one another.

A.3.1 Unit 1 and Unit 2

Units 1 and 2 are identical vertical Francis turbines manufactured by Litostroj. The turbines have a nameplate rating of at 36,933 horsepower (hp) (27,700 kW) at 157 feet of net head and a speed of 150 rotations per minute (rpm). The runners are fabricated of stainless steel. The distributor centerline is located at an elevation of 663.0 feet, which is approximately 7.3 feet above tailwater at 10,000 cubic feet per second (cfs) discharge from the station. The minimum and maximum

hydraulic capacities of each turbine are 250 cfs, with smoothing air admission, and 2,650 cfs, respectively. However, maximum hydraulic capacity of each unit is mechanically constrained to 2,540 cfs by blocking the wicket gates. The turbines generally operate over this full range of flows. Turbine details are summarized in Table A-1.

The generators are Indar generators with a 37,000 kVA rating and 0.85 power factor (31,450 kW), 3-phase, frequency of 60 Hz, voltage 13,800, and speed of 150 rpm. 6.9 kilovolt (kV) generator leads are included as part of the Project. Generator details are summarized in Table A-2.

A.3.2 Unit 3 and Unit 4

Units 3 and 4 are the original identical vertical Francis turbines manufactured by I. P. Morris. The turbines are rated at 35,000 hp (26,250 kW) at 157 feet of net head and a speed of 150 rpm. The runners are fabricated of cast steel with a throat diameter of 125 inches. The distributor centerline is located at an elevation of 663.0 feet, which is approximately 7.3 feet above tailwater at 10,000 cfs discharge. The minimum and maximum hydraulic capacities of each turbine are 800 cfs and 2,540 cfs, respectively. The turbines generally operate over this full range of flows. Turbine details are summarized in Table A-1.

The identical original generators are Westinghouse umbrella-type generators with a 30,000 kVA rating and 0.85 power factor (25,500 kW), 3-phase, frequency of 25 Hz, voltage 6,900, and speed of 150 rpm. 6.9 kilovolt (kV) generator leads are included as part of the Project. Unit 4 suffered a generator failure in 2013 and was subsequently reassembled, refurbished, and rewound to match its original specifications. Generator details are summarized in Table A-2.

A.3.3 Unit Capacities

As defined by FERC, the authorized installed capacity means the lesser of the ratings of the generators or turbine units. The authorized installed capacity for each turbine-generator unit, and for the entire Hawks Nest Project, is provided in Table A-3. With Units 1 and 2 upgraded (estimated in service date 2026), the total authorized capacity of the Project will be 106.4 MW,

and at this output, the design maximum hydraulic capacity of the Project is considered to be 10,380 cfs.

TABLE A-1 HAWKS NEST PROJECT TURBINE SPECIFICATIONS

	Unit 1	Unit 2	Unit 3	Unit 4
Type	Vertical, Francis	Vertical, Francis	Vertical, Francis	Vertical, Francis
Manufacturer	Litostroj	Litostroj	I.P. Morris	I.P. Morris
Year installed	2026 ¹	2027 ¹	1931-1933 ²	1931-1933 ²
Last overhaul date	2026 ¹	2026 ¹	None	None
Rated capacity (hp)	36,933	36,933	35,000	35,000
Rated capacity (kW)	27,700	27,700	26,250	26,250
Rated head (ft)	157	157	157	157
Speed (rpm)	150	150	150	150
Runner replacement date	2026 ¹	2027 ¹	N/A - Original	N/A - Original
Runner material	Stainless Steel	Stainless Steel	Cast Steel	Cast Steel
Runner Manufacturer	Litostroj	Litostroj	Original	Original
Minimum hydraulic capacity	250 cfs w/air admission	250 cfs w/air admission	800 cfs	800 cfs
Maximum hydraulic capacity	2,650 ³	2,650 ³	2,540 cfs	2,540 cfs
Governor Type	Electro-hydraulic	Electro-hydraulic	Woodward GS Electro-mechanical	Woodward GS Electro-mechanical
Governor Installation Date	2026 ¹	2027 ¹	Upgrade 1972-1973	Upgrade 1972-1973

¹ Proposed installation dates

² Hawks Nest began partial commercial operation in 1936 and full operation in 1937. The units were installed between 1931 and 1933. Plant operation was delayed until 1936 due to an earlier penstock collapse requiring redesign, major repairs, and addition of the surge tank.

³ Unit maximum hydraulic capacity will be mechanically constrained to 2,540 cfs by blocking the wicket gates.

TABLE A-2 HAWKS NEST PROJECT GENERATOR SPECIFICATIONS

	Unit 1	Unit 2	Unit 3	Unit 4
Type	Vertical	Vertical	Vertical	Vertical
Manufacturer	Indar	Indar	Westinghouse	Westinghouse (refurbished by NEC)
Year installed	2026 ¹	2027 ¹	1931-1933	1931-1933 (refurbished 2014)
Rating (kVA)	37,000	37,000	30,000	30,000
Power Factor	0.85	0.85	0.85	0.85
Rating (kW)	31,450	31,450	25,500	25,500
Phases	3	3	3	3
Frequency (Hz)	60	60	25	25
Speed (rpm)	150	150	150	150
Voltage (V)	13,800	13,800	6,900	6,900
Last rewind	None	None	None	2014

¹ Proposed installation dates

TABLE A-3 HAWKS NEST PROJECT AUTHORIZED INSTALLED CAPACITIES

Unit	Existing				Proposed			
	Turbine Rating (kW) ¹	Generator Rating (kW) ²	AIC (kW) ³	Maximum Hydraulic Capacity (cfs)	Turbine Rating (kW) ¹	Generator Rating (kW) ²	AIC (kW) ³	Maximum Hydraulic Capacity (cfs)
1	26,250	25,500	25,500	2,540	27,700	31,450	27,700	2,650 (Note 4)
2	26,250	25,500	25,500	2,540	27,700	31,450	27,700	2,650 (Note 4)
3	26,250	25,500	25,500	2,540	26,250	25,500	25,500	2,540
4	26,250	25,500	25,500	2,540	26,250	25,500	25,500	2,540
Total	105,000	102,000	102,000	10,160	107,900	113,900	106,400	10,380

Notes: kW – kilowatts; cfs – cubic feet per second

¹ At best efficiency gate position under 157 feet of net head

² At 0.85 power factor

³ Authorized Installed Capacity (AIC) - the lesser of the ratings of the generator or turbine units, as defined by 18 CFR § 11.1(i)

⁴ The maximum hydraulic capacity is mechanically limited to 2,540 cfs by blocking the wicket gates.

A.4 TRANSMISSION LINE AND EQUIPMENT SPECIFICATIONS (18 CFR §4.51(b)(4-5))

A.4.1 Transmission Lines

The Hawks Nest Project features four generating units, two that generate at 25Hz and two that generate at 60Hz; two switchyards that contain both 25Hz and 60Hz infrastructure, one 25Hz to 60Hz Frequency Converter; three high-voltage transmission lines; and two medium voltage transmission lines.

The four generating units are connected to Hawks Nest Switchyard located directly behind the Hawks Nest Powerhouse. The output of the two 25Hz units are each directly connected to an independent step-up transformer located within the Hawks Nest Switchyard, both of which connect to the 25Hz 69kV bus. A 69kV 25Hz overhead transmission line is routed approximately 500 feet from the Hawks Nest Switchyard to the Hawks Nest Frequency Converter Switchyard (Line 2). The output of the two 60Hz units are connected to a 13.8kV 60Hz generator switchgear located within the powerhouse. The Generator switchgear is connected to a common step-up transformer located within the Hawks Nest Switchyard which is then connected to the Hawks Nest Frequency Converter Switchyard via an approximately 500-foot-long 138kV 60Hz overhead transmission line (Line 1).

The Hawks Nest Frequency Converter Switchyard contains the Frequency Converter and marshals the output of the four Hawks Nest Units as well as the eight Glen Ferris Project Units to the overall power grid. The output of the two 25Hz Hawks Nest units is stepped down to 13.8kV at the Hawks Nest Frequency Converter Switchyard via a transformer and connected to the Frequency Converter for conversion to 60Hz. The output of the Frequency Converter is connected to a 13.8kV 60Hz switchgear co-located with the Frequency Converter. The output of the Glen Ferris facility is also connected to this same switchgear. The 60Hz Frequency Converter switchgear is then stepped up to 138kV via a transformer in the Hawks Nest Frequency Converter Switchyard and connected to the Frequency Converter 60Hz bus. The output of the two Hawks Nest 60Hz units is connected to the same Hawks Nest Frequency Converter Switchyard 60Hz bus via Line 1. An approximately 6-

mile-long 138kV 60Hz overhead transmission line connects the Hawks Nest Frequency Converter Switchyard 60Hz bus to the 138kV 60Hz Alloy substation (Line 3).

The Glen Ferris facility is connected to the Hawks Nest Frequency Converter via a 3.6 mile 13.8kV overhead transmission line routed in parallel with Line 3. The line terminates in the 13.8kV 60Hz Frequency Converter switchgear located in the Hawks Nest Frequency Converter Switchyard.

A.4.2 Appurtenant Equipment

The turbine-generators are controlled by digital governors rated at 30,000 foot-pounds. Each governor is equipped with a solenoid-operated shutdown system, oil pressure relays, and limit switches.

Each turbine is provided with a 15-foot-diameter hydraulically operated, butterfly style, shutoff valve. Each valve has its own hydraulic system with pressure tank, pressure pumps and motors.

The governor hydraulic oil system for Unit 1 and 2 was installed in 2026-2027. It is a high pressure system with two main circulating oil pumps one main and one standby. Each pump has sufficient capacity to handle the complete circulating oil requirements from the unit.

The governor hydraulic oil system for Unit 3 and 4 contains most of the original hydraulic components although the governors were upgraded to Woodward Type GS actuator in 1972 to 1973. The governor oil system for Unit 3 and 4 is a low-pressure system with a normal operating pressure of 175 psig. Each unit has a 25 hp electric motor driven rotary oil pump, unloader valve and sump tank. There is a common pressure (accumulator) tank for Units 3 and 4.

The air system consists of two 10 hp electric motor driven air compressors, two receiver tanks, and two refrigerated air driers. The normal air system operating pressure is 175 psig. Air is supplied to the governor and accumulator tanks to provide the pressure cushion and to the generator air brake mechanisms. Air is also supplied for the general plant air system for maintenance uses.

The basement elevation includes a small sump pit for accumulating and discharging accumulated station leakage to the tailrace. The sump pit contains two vertical shaft sump pumps each rated at

200 gallons per minute. There is an emergency sump pump rated at 400 gallons per minute. The sump includes an oil detector which alarms to the plant control room plus a closed circuit TV camera for the operator to monitor the sump.

Service water is normally supplied off head pressure with takeoffs at each penstock. The normal water pressure is approximately 60 to 65 psig. There are also two emergency service water pumps tied into the service water system rated at 125 gallons per minute (gpm). Each generator is equipped with a water-based fire suppression system. All four units are equipped with a water-based fire suppression system.

Each generator has a shaft mounted exciter rated at 100 kilowatt (kW).

The generator room is spanned by an overhead traveling crane with a main hoist of 175 tons capacity and two auxiliary hoists of 35 tons each. The crane is operated by 60 Hz, 480 volt motors.

The Hawks Nest facility is monitored and operated from the control desk located in the control room in the powerhouse. The control room contains the main and auxiliary switchboards, water level recording instruments, and an annunciator panel alarm system panel. The main switchboard has a panel for each of the four turbine-generators, and one for each of the two connected transmission lines .

The original outdoor switchyard (Hawks Nest Switchyard) contains transformers, oil circuit breakers, SF6 circuit breakers, disconnecting switches, lightning arrestors, and duplicate bus bars on the high tension side of the transformers.

There are two main power transformers for Units 3 and 4, each rated at 30,000 kVA, 3 phase, 25 Hz, which step voltage up from 6,900 volts to 69,000 volts. A third main power transformer for Units 1 and 2, rated 80,000 kVA, 3 phase, 60 Hz steps up the voltage from 13,800 volts to 138,000 volts. A single auxiliary power transformer in the powerhouse steps down the 13,800 volt generator voltage on Units 1 and 2 to auxiliary bus voltage of 480 volts. Additionally, an auxiliary dam feeder transformer, supplied from new 60 Hz switchgear, increases the voltage from the 60 Hz bus to the 6,900 volt, 3-phase service line that carries energy from the Hawks Nest Station

auxiliary power bus to electrical equipment at Hawks Nest Dam. The voltage at the dam is then stepped down by a service transformer to 480 volts.

In 2026, a switchyard (Hawks Nest Frequency Converter Switchyard) was constructed southeast to the powerhouse. It houses a 53MVA General Electric static frequency converter. 69kV 25Hz power generated by Units 3 and 4 is fed from the original Hawks Nest substation to Substation 2 via an approximately 200-ft-long transmission line. The 69kV power is stepped down to 13.8kV 25Hz via a transformer and connected to 13.8kV 25Hz switchgear which then flows to the Frequency Converter. The Frequency Converter output is connected to 13.8kV 60Hz switchgear which is connected to a 138kV/13.8kV 60Hz step-up transformer connected to a 138kV bus. A primary Project transmission line connects the Hawks Nest Frequency Converter Switchyard 138kV bus to a 138kV breaker in the Alloy substation.

A.5 UNITED STATES LANDS WITHIN PROJECT BOUNDARY (18 CFR §4.51(b)(6))

There are no lands of the United States included within the project boundary of the Hawks Nest Project.

Exhibit A (Redline)

Exhibit A

Project Description (18 CFR §4.51(b))

A.1 PHYSICAL COMPOSITION, DIMENSIONS, AND GENERAL CONFIGURATION (18 CFR §4.51(b)(1))

The Hawks Nest Project is located upstream of the Glen Ferris Project, on the New River just upstream of the confluence of the New and Gauley Rivers. The Project is located in the towns of Ansted and Gauley Bridge, in Fayette County, West Virginia. As described in detail below, the Hawks Nest Project generally consists of a concrete gravity dam with 14 spillway bays, each with a steel crest gate, a power tunnel intake structure with intake gate, trashracks and a trash rake, a water-conducting tunnel, a surge basin, a surge tank, four water-conveying penstocks and one bulkheaded penstock, a manifold, and a powerhouse containing four turbine-generator units. A 5.5-mile long segment (“bypass reach”) of the New River extends between Hawks Nest Dam and the powerhouse. The bypass reach occupies a narrow gorge, with heavily wooded mountainsides forming the channel walls. The Cotton Hill Bridge crosses the bypass reach at a point 4.2 miles upstream of the powerhouse. With the exception of an access area in the vicinity of the Cotton Hill Bridge and a few informal trails, access to the bypass reach is mostly precluded by steep slopes and vegetation.

A.1.1 Dam

The dam is a concrete gravity structure (mostly a spillway). The dam is approximately 948 feet long (from left abutment to right abutment¹) oriented along a generally northwest-southeast axis, with a permanent crest elevation of 795.0 feet. The operating deck above the spillway is at elevation 832.0 feet mean sea level (msl²) with upstream and downstream concrete walls extending to elevation 835.5 feet. The maximum height of the dam from the deepest part of the foundation to the operating deck is about 90 feet. There is a drainage and inspection gallery that runs the

¹ Throughout this volume, all references to “left” and “right” are defined from the perspective looking downstream.

² All elevations in this license application are based on the msl National Geodetic Vertical Datum of 1929 (NGVD29), unless otherwise noted.

Hawks Nest Hydro, LLC – Hawks Nest Project
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entire length of the dam with a floor elevation at 773.25 feet. There are 16 relief wells and 9 piezometers located in the drainage gallery.

The normal pool elevation of the reservoir is elevation 819.0 feet.

The 14 ogee-type spillway bays are each 50 feet wide and have a 25-foot-high by 50-foot-wide Stoney-type vertical lift gate. Each gate, including roller trains, weighs 73.3 tons. The concrete crest elevation of each bay is at elevation 795.0 feet and the top elevation of the gates is at elevation 820.0 feet in the closed position. Separating each spillway gate bay is a 9-foot-wide concrete pier.

The crest gates are operated by two gantry cranes on rails running the entire length of the dam. Each crane has a lifting capacity of 100 tons. Each crane has a lifting beam with an automatic device for engaging and disengaging the gate to be moved. The gates can be latched open at various heights of lift. The two cranes are equipped with electric controls so that all 14 gates may be raised or lowered by remote control from the powerhouse control room (gates 1 through 7 are on one trolley power system, and gates 8 through 14 are on a second trolley power system).

In 2013-2014, 49 post-tension anchors were installed in the 31 monoliths comprising the 14 spillway bays of the ogee spillway structure, with each monolith getting one or two 28- to 50-strand anchors with design loads ranging from 987 kips to 1762 kips, respectively. The encapsulated anchors with grout encased epoxy strands extend the full length of each strand. Documentation of completion of the post-tension anchor installation is contained in the final project completion report filed by Hawks Nest Hydro on March 9, 2015, with the Commission and subsequently approved by the Commission on April 16, 2015.

Located between the main spillway section and the right abutment is a 10-foot-wide trash spillway which is equipped with steel stoplogs and has a sill elevation of 810.0 feet. The trash spillway stoplogs (“trash gate”) are operated by an electric motor, as required, to pass debris and to maintain the required minimum flow.

The dam has non-overflow sections which adjoin each abutment. On the right abutment, the non-overflow section extends to the bedrock abutment, and is about 30 feet long with a 15-foot cutoff

wall to the bedrock abutment. The left non-overflow section is about 30 feet long with a core wall that is 105 feet long and ends with a vertical wall about 7 feet high.

An earthen embankment dike is located upstream of the left abutment. A buried concrete core wall with a crest elevation of approximately 832.0 feet extends into the abutment.

There are six steel-lined low level sluices located beneath gates 5, 6, and 7 in the spillway. Each sluice is 7 feet 8 inches in diameter and controlled by a 9-foot butterfly valve, with operating gear contained in the drainage and inspection tunnel that runs longitudinally through the dam. The sluice inlets are equipped with steel trashracks and stoplog slots. The low level sluices have not been regularly operated historically and are not presently operable.

A.1.2 Intake

The intake to the water-conducting tunnel is located along the right shoreline of the reservoir just upstream from the dam. The opening is rectangular in shape with dimensions of 111.5 feet wide and 52.5 feet high, tapering in a distance of 58 feet, 8 inches to a section 34 feet square. The intake is equipped with trash racks and a Stoney-type bulkhead intake gate, which is located approximately 50 feet from the opening where the trash racks are located. The gate and lift structure are situated in front of a near vertical rock face. The gate is operated from an overhead steel frame by electric motors that are controlled at the dam. The gate has dimensions of 42 feet high by 34.5 feet wide, with two internal 4.5-foot-square “filler” gates that can be independently operated. The tunnel headgate is located within the 34-foot-square section. A transition from the 34-foot-square section to the 31-foot circular tunnel section ends at a distance of 101 feet, 6 inches from the entrance.

The intake trashracks are 110 feet wide and 51 feet high and have bar spacing of 3.5 inches on center.

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Deleted: either by the local operator or by remote control from the powerhouse control room

A.1.3 Tunnel

The underground tunnel extends from the end of the intake transition to the penstock system, a distance of 16,240 feet. Of this total length, 10,230 feet is lined, and the remaining portion is unlined through bedrock. The lined sections are circular, while the unlined sections are more oval in shape. The unlined sections are located upstream of the surge basin in the vicinity of Big Creek (about 1,300 feet), and between the surge basin and the surge tank (about 4,700 feet). The tunnel lining is generally concrete, but in the vicinity of the surge tank, an approximately 2,600-foot-long, 30-foot-diameter section is steel-lined.

A.1.4 Surge Basin

The surge basin is a large concrete-lined pool at the ground surface with a tunnel adit (a gently sloping tunnel shaft) connection from one end of the basin to the water-conducting tunnel. At a point approximately 60 percent of the distance from the intake to the powerhouse, the tunnel connects to the surge basin through the adit. The adit is also concrete-lined. The basin is approximately 600 feet long and 170 feet wide. The bottom of the basin is at elevation 800.0 feet, and the top of the parapet wall around the basin is at elevation 830.0 feet. Along one side of the basin is an approximately 150-foot-wide overflow spillway. The crest of the spillway is at elevation 820.0 feet and discharges to the New River bypass reach. Steel trash racks are installed at the portal of the adit to prevent objects from entering the tunnel from the surge basin. Steel stoplogs for sealing off the tunnel from the surge basin are stored at the adit.

A.1.5 Surge Tank

The tunnel connects through a vertical shaft to the surge tank just upstream of where the tunnel reaches the manifold. The steel differential surge tank is located at the downstream end of the water-conducting tunnel just upstream of the manifold and the penstocks. The riveted steel surge tank is 116 feet in diameter and 56 feet high and is located on the hillside east of the powerhouse. The base of the surge tank is at elevation 787.0 feet, and the rim is at elevation 843.0 feet. The surge tank is connected to the tunnel by a 28-foot-diameter, steel-lined vertical riser. The tunnel at

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this point is also steel-lined and has a diameter of 30 feet. The centerline of the tunnel directly beneath the surge tank is at elevation 716.0 feet.

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As the water-conducting tunnel nears the powerhouse, the penstock to each turbine generator successively exits the tunnel and the tunnel diameter reduces to 30 feet. The penstock system includes a main penstock 30 feet in diameter and 107 feet long, a manifold, and five (5) penstocks, each 14 feet in diameter, with varying lengths of 42 feet to 132 feet, leading from the manifold to four (4) turbines in the powerhouse. The penstocks and manifold are of welded steel reinforced with concrete and heavy steel circumferential rods. The fifth penstock, which was built for an additional generating unit, is bulkheaded off with a steel and concrete bulkhead and the downstream end is filled in with approximately 10 feet of concrete. There are four butterfly penstock valves, one for each turbine unit, located at the end of the penstocks where they enter the powerhouse. The entire penstock system is located in an underground chamber, situated beneath the outdoor switchyard.

A.1.7 Powerhouse

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A.1.8 Tailrace

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A.2 IMPOUNDMENT SPECIFICATIONS (18 CFR §4.51(b)(2))

The 6.9-mile-long reservoir for Hawks Nest Dam is situated in a narrow valley with an average width of approximately 500 feet. The reservoir extends from approximately the Marr Branch confluence, located downstream of the New River Gorge Bridge, to Hawks Nest Dam. The total length of the impoundment shoreline is approximately 15.7 miles. The drainage area at the reservoir is 6,913 square miles. At normal pool, the reservoir has a surface area of 243 acres and a gross storage capacity of 7,323 acre-feet. Because the Project is operated as run-of-river as further explained below, the reservoir has no significant usable storage capacity.

As presently constructed, the maximum reservoir elevation is 820.0 feet. The Hawks Nest Project operates in a run-of-river mode, with inflow to the Project approximating outflow, with an approved seasonal ramping rate. The surface of the reservoir is typically operated at 819.0 feet. Operation of the Project below 818.50 feet would require notification to WVDNR. The reservoir does not typically rise above 819.5 feet during normal operations. Operation of the Project in this range provides a minimum of 0.5 feet of freeboard to provide limited storage (approximately 122 acre-feet) to decrease the risk of overtopping the dam in the event of a typical powerhouse load rejection event and to facilitate implementation of the seasonal ramping rate requirement for the protection of downstream public safety and aquatic resources, as described more fully in Exhibit B.

A.3 TURBINE AND GENERATOR SPECIFICATIONS (18 CFR §4.51(b)(3))

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A.3.1 Unit 1 and Unit 2

Units 1 and 2 are identical vertical Francis turbines manufactured by Litostroj. The turbines have a nameplate rating of at 36,933 horsepower (hp) (27,700 kW) at 157 feet of net head and a speed of 150 rotations per minute (rpm). The runners are fabricated of stainless steel. The distributor centerline is located at an elevation of 663.0 feet, which is approximately 7.3 feet above tailwater at 10,000 cubic feet per second (cfs) discharge from the station. The minimum and maximum

hydraulic capacities of each turbine are 250 cfs, with smoothing air admission, and 2,650 cfs, respectively. However, maximum hydraulic capacity of each unit is mechanically constrained to 2,540 cfs by blocking the wicket gates. The turbines generally operate over this full range of flows. Turbine details are summarized in Table A-1.

The generators are Indar generators with a 37,000 kVA rating and 0.85 power factor (31,450 kW), 3-phase, frequency of 60 Hz, voltage 13,800, and speed of 150 rpm. 6.9 kilovolt (kV) generator leads are included as part of the Project. Generator details are summarized in Table A-2.

A.3.2 Unit 3 and Unit 4

Units 3 and 4 are the original identical vertical Francis turbines manufactured by I. P. Morris. The turbines are rated at 35,000 hp (26,250 kW), at 157 feet of net head and a speed of 150 rpm. The runners are fabricated of cast steel with a throat diameter of 125 inches. The distributor centerline is located at an elevation of 663.0 feet, which is approximately 7.3 feet above tailwater at 10,000 cfs discharge. The minimum and maximum hydraulic capacities of each turbine are 800 cfs and 2,540 cfs, respectively. The turbines generally operate over this full range of flows. Turbine details are summarized in Table A-1.

The identical original generators are Westinghouse umbrella-type generators with a 30,000 kVA rating and 0.85 power factor (25,500 kW), 3-phase, frequency of 25 Hz, voltage 6,900, and speed of 150 rpm. 6.9 kilovolt (kV) generator leads are included as part of the Project. Unit 4 suffered a generator failure in 2013 and was subsequently reassembled, refurbished, and rewound to match its original specifications. Generator details are summarized in Table A-2.

A.3.3 Unit Capacities

As defined by FERC, the authorized installed capacity means the lesser of the ratings of the generators or turbine units. The authorized installed capacity for each turbine-generator unit, and for the entire Hawks Nest Project, is provided in Table A-3. With Units 1 and 2 upgraded (estimated in service date 2026), the total authorized capacity of the Project will be 106.4 MW.

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and at this output, the design maximum hydraulic capacity of the Project is considered to be 10,380 cfs.

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TABLE A-1 HAWKS NEST PROJECT TURBINE SPECIFICATIONS

Type	Unit 1	Unit 2	Unit 3	Unit 4
Vertical, Francis	Vertical, Francis	Vertical, Francis	Vertical, Francis	Vertical, Francis
Manufacturer	<u>Litostroj</u>	<u>Litostroj</u>	I.P. Morris	I.P. Morris
Year installed	<u>2026¹</u>	<u>2027¹</u>	1931-1933 ²	1931-1933 ²
Last overhaul date	<u>2026¹</u>	<u>2026¹</u>	None	None
Rated capacity (hp)	<u>36,933</u>	<u>36,933</u>	35,000	35,000
Rated capacity (kW)	<u>27,700</u>	<u>27,700</u>	<u>26,250</u>	<u>26,250</u>
Rated head (ft)	157	157	157	157
Speed (rpm)	150	150	150	150
Runner replacement date	<u>2026¹</u>	<u>2027¹</u>	N/A - Original	N/A - Original
Runner material	<u>Stainless Steel</u>	<u>Stainless Steel</u>	Cast Steel	Cast Steel
Runner Manufacturer	<u>Litostroj</u>	<u>Litostroj</u>	Original	Original
Minimum hydraulic capacity	<u>250 cfs w/air admission</u>	<u>250 cfs w/air admission</u>	800 cfs	800 cfs
Maximum hydraulic capacity	<u>2,650³</u>	<u>2,650³</u>	2,540 cfs	2,540 cfs
Governor Type	<u>Electro-hydraulic</u>	<u>Electro-hydraulic</u>	Woodward GS Electro-mechanical	Woodward GS Electro-mechanical
Governor Installation Date	<u>2026¹</u>	<u>2027¹</u>	Upgrade 1972-1973	Upgrade 1972-1973

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¹ Proposed installation dates
² Hawks Nest began partial commercial operation in 1936 and full operation in 1937. The units were installed between 1931 and 1933. Plant operation was delayed until 1936 due to an earlier penstock collapse requiring redesign, major repairs, and addition of the surge tank.
³ Unit maximum hydraulic capacity will be mechanically constrained to 2,540 cfs by blocking the wicket gates.

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TABLE A-2 HAWKS NEST PROJECT GENERATOR SPECIFICATIONS

	Unit 1	Unit 2	Unit 3	Unit 4
Type	Vertical	Vertical	Vertical	Vertical
Manufacturer	Jndar	Jndar	Westinghouse	Westinghouse (refurbished by NEC)
Year installed	2026¹	2027¹	1931-1933	1931-1933 (refurbished 2014)
Rating (kVA)	37,000	37,000	30,000	30,000
Power Factor	0.85	0.85	0.85	0.85
Rating (kW)	31,450	31,450	25,500	25,500
Phases	3	3	3	3
Frequency (Hz)	60	60	25	25
Speed (rpm)	150	150	150	150
Voltage (V)	13,800	13,800	6,900	6,900
Last rewind	None	None	None	2014

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¹ Proposed installation dates

TABLE A-3 HAWKS NEST PROJECT AUTHORIZED INSTALLED CAPACITIES

Unit	Existing				Proposed			
	Turbine Rating (kW) ¹	Generator Rating (kW) ²	AIC (kW) ³	Maximum Hydraulic Capacity (cfs)	Turbine Rating (kW) ¹	Generator Rating (kW) ²	AIC (kW) ³	Maximum Hydraulic Capacity (cfs)
1	26,250	25,500	25,500	2,540	27,700	31,450	27,700	2,650 (Note 4)
2	26,250	25,500	25,500	2,540	27,700	31,450	27,700	2,650 (Note 4)
3	26,250	25,500	25,500	2,540	26,250	25,500	25,500	2,540
4	26,250	25,500	25,500	2,540	26,250	25,500	25,500	2,540
Total	105,000	102,000	102,000	10,160	107,900	113,900	106,400	10,380

Notes: kW – kilowatts; cfs – cubic feet per second

¹ At best efficiency gate position under 157 feet of net head

² At 0.85 power factor

³ Authorized Installed Capacity (AIC) - the lesser of the ratings of the generator or turbine units, as defined by 18 CFR § 11.1(i)

⁴ The maximum hydraulic capacity is mechanically limited to 2,540 cfs by blocking the wicket gates.

A.4 TRANSMISSION LINE AND EQUIPMENT SPECIFICATIONS (18 CFR §4.51(b)(4-5))

A.4.1 Transmission Lines

The Hawks Nest Project features four generating units, two that generate at 25Hz and two that generate at 60Hz; two switchyards that contain both 25Hz and 60Hz infrastructure, one 25Hz to 60Hz Frequency Converter; three high-voltage transmission lines; and two medium voltage transmission lines.

The four generating units are connected to Hawks Nest Switchyard located directly behind the Hawks Nest Powerhouse. The output of the two 25Hz units are each directly connected to an independent step-up transformer located within the Hawks Nest Switchyard, both of which connect to the 25Hz 69kV bus. A 69kV 25Hz overhead transmission line is routed approximately 500 feet from the Hawks Nest Switchyard to the Hawks Nest Frequency Converter Switchyard (Line 2). The output of the two 60Hz units are connected to a 13.8kV 60Hz generator switchgear located within the powerhouse. The Generator switchgear is connected to a common step-up transformer located within the Hawks Nest Switchyard which is then connected to the Hawks Nest Frequency Converter Switchyard via an approximately 500-foot-long 138kV 60Hz overhead transmission line (Line 1).

The Hawks Nest Frequency Converter Switchyard contains the Frequency Converter and marshals the output of the four Hawks Nest Units as well as the eight Glen Ferris Project Units to the overall power grid. The output of the two 25Hz Hawks Nest units is stepped down to 13.8kV at the Hawks Nest Frequency Converter Switchyard via a transformer and connected to the Frequency Converter for conversion to 60Hz. The output of the Frequency Converter is connected to a 13.8kV 60Hz switchgear co-located with the Frequency Converter. The output of the Glen Ferris facility is also connected to this same switchgear. The 60Hz Frequency Converter switchgear is then stepped up to 138kV via a transformer in the Hawks Nest Frequency Converter Switchyard and connected to the Frequency Converter 60Hz bus. The output of the two Hawks Nest 60Hz units is connected to the same Hawks Nest Frequency Converter Switchyard 60Hz bus via Line 1. An approximately 6-

mile-long 138kV 60Hz overhead transmission line connects the Hawks Nest Frequency Converter Switchyard 60Hz bus to the 138kV 60Hz Alloy substation (Line 3).

The Glen Ferris facility is connected to the Hawks Nest Frequency Converter via a 3.6 mile 13.8kV overhead transmission line routed in parallel with Line 3. The line terminates in the 13.8kV 60Hz Frequency Converter switchgear located in the Hawks Nest Frequency Converter Switchyard.

A.4.2 Appurtenant Equipment

The turbine-generators are controlled by digital governors rated at 30,000 foot-pounds. Each governor is equipped with a solenoid-operated shutdown system, oil pressure relays, and limit switches.

Each turbine is provided with a 15-foot-diameter hydraulically operated, butterfly style, shutoff valve. Each valve has its own hydraulic system with pressure tank, pressure pumps and motors.

The governor hydraulic oil system for Unit 1 and 2 was installed in 2026-2027. It is a high pressure system with two main circulating oil pumps one main and one standby. Each pump has sufficient capacity to handle the complete circulating oil requirements from the unit.

The governor hydraulic oil system for Unit 3 and 4 contains most of the original hydraulic components although the governors were upgraded to Woodward Type GS actuator in 1972 to 1973. The governor oil system for Unit 3 and 4 is a low-pressure system with a normal operating pressure of 175 psig. Each unit has a 25 hp electric motor driven rotary oil pump, unloader valve and sump tank. There is a common pressure (accumulator) tank for Units 3 and 4.

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The air system consists of two 10 hp electric motor driven air compressors, two receiver tanks, and two refrigerated air driers. The normal air system operating pressure is 175 psig. Air is supplied to the governor and accumulator tanks to provide the pressure cushion and to the generator air brake mechanisms. Air is also supplied for the general plant air system for maintenance uses.

Deleted: The pressure tanks, oil pumps and motors are located on the operating floor. The sump tank is located on the floor below the operating floor. ¶

The basement elevation includes a small sump pit for accumulating and discharging accumulated station leakage to the tailrace. The sump pit contains two vertical shaft sump pumps each rated at

Hawks Nest Hydro, LLC – Hawks Nest Project
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200 gallons per minute. There is an emergency sump pump rated at 400 gallons per minute. The sump includes an oil detector which alarms to the plant control room plus a closed circuit TV camera for the operator to monitor the sump.

Service water is normally supplied off head pressure with takeoffs at each penstock. The normal water pressure is approximately 60 to 65 psig. There are also two emergency service water pumps tied into the service water system rated at 125 gallons per minute (gpm). Each generator is equipped with a water-based fire suppression system. All four units are equipped with a water-based fire suppression system. ↓

Each generator has a shaft mounted exciter rated at 100 kilowatt (kW).

The generator room is spanned by an overhead traveling crane with a main hoist of 175 tons capacity and two auxiliary hoists of 35 tons each. The crane is operated by 60 Hz, 480 volt motors.

The Hawks Nest facility is monitored and operated from the control desk located in the control room in the powerhouse. The control room contains the main and auxiliary switchboards, water level recording instruments, and an annunciator panel alarm system panel. The main switchboard has a panel for each of the four turbine-generators, and one for each of the two connected transmission lines. ↓

The original outdoor switchyard (Hawks Nest Switchyard) contains transformers, oil circuit breakers, SF6 circuit breakers, disconnecting switches, lightning arrestors, and duplicate bus bars on the high tension side of the transformers.

There are two main power transformers for Units 3 and 4, each rated at 30,000 kVA, 3 phase, 25 Hz, which step voltage up from 6,900 volts to 69,000 volts. A third main power transformer for Units 1 and 2, rated 80,000 kVA, 3 phase, 60 Hz steps up the voltage from 13,800 volts to 138,000 volts. A single auxiliary power transformer in the powerhouse steps down the 13,800 volt generator voltage on Units 1 and 2 to auxiliary bus voltage of 480 volts. Additionally, an auxiliary dam feeder transformer, supplied from new 60 Hz switchgear, increases the voltage from the 60 Hz bus to the 6,900 volt, 3-phase service line that carries energy from the Hawks Nest Station

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Deleted: The Hawks Nest facility is equipped with an oil storage and purification system which is used during unit outages. The system consists of two large oil tanks of approximately 1,800 gallon capacity each, one for storing dirty oil and the other clean oil. The system also includes a centrifuge style oil purifier with two rotary pumps. ¶

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Deleted: These transformers are protected by an automatic fire protection sprinkler system connected to an adjacent pump house which contains appropriate pumps, deluge valves, alarms, and automatic control devices. Duplicate auxiliary power transformers in the switchyard step down the 6,900-volt generator voltage to auxiliary bus voltage of 460 volts, increases the voltage from the 60 Hz bus to the 6,900- volts, and a 3-phase 25-hertz service line

Hawks Nest Hydro, LLC – Hawks Nest Project
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auxiliary power bus to electrical equipment at Hawks Nest Dam. The voltage at the dam is then stepped down by a service transformer to 480 volts.

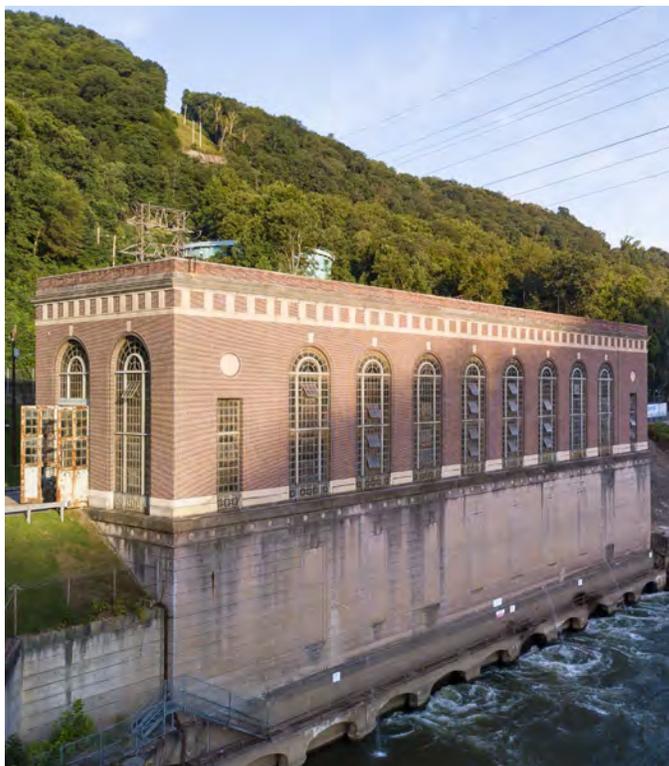
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In 2026, a switchyard (Hawks Nest Frequency Converter Switchyard) was constructed southeast to the powerhouse. It houses a 53MVA General Electric static frequency converter. 69kV 25Hz power generated by Units 3 and 4 is fed from the original Hawks Nest substation to Substation 2 via an approximately 200-ft-long transmission line. The 69kV power is stepped down to 13.8kV 25Hz via a transformer and connected to 13.8kV 25Hz switchgear which then flows to the Frequency Converter. The Frequency Converter output is connected to 13.8kV 60Hz switchgear which is connected to a 138kV/13.8kV 60Hz step-up transformer connected to a 138kV bus. A primary Project transmission line connects the Hawks Nest Frequency Converter Switchyard 138kV bus to a 138kV breaker in the Alloy substation.

Deleted: A 28-conductor remote control and communication cable is installed from the powerhouse to the dam. Also installed is a multiplex tone operated system with transmitters and receivers at the dam and at the powerhouse control room.¶

A.5 UNITED STATES LANDS WITHIN PROJECT BOUNDARY (18 CFR §4.51(b)(6))

There are no lands of the United States included within the project boundary of the Hawks Nest Project.



DRAFT Environmental Review

*Application for Non-Capacity
Related Amendment of License*

Hawks Nest Hydroelectric
Project

FERC No. 2512

October 2024

Fayette County, West Virginia



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Acronyms and Abbreviations

APE	Area of Potential Effects
cfs	cubic feet per second
ESA	Endangered Species Act
FC	frequency converter
ft	feet/foot
Hawks Nest Hydro or Licensee	Hawks Nest Hydro, LLC
HN FC Switchyard	Hawks Nest Frequency Converter Switchyard
HPMP	Historic Properties Management Plan
Hz	hertz
IPaC	Information for Planning and Consultation
kV	kilovolt
MW	megawatt
MVA	megavolt ampere
NRHP	National Register of Historic Places
PJM	PJM Interconnection, LLC
Project	Hawks Nest Project
SHPO	State Historic Preservation Office
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water quality certification
WVAM	WVA Manufacturing, LLC
WVDEP	West Virginia Department of Environmental Protection
WVDNR	West Virginia Division of Natural Resources

1.0 Background

Hawks Nest Hydro, LLC (Hawks Nest Hydro or Licensee) is the Licensee, owner, and operator of the Hawks Nest Project (Federal Energy Regulatory Commission [FERC] No. 2512; Project) in Fayette County, West Virginia. The Project recently underwent relicensing following FERC's Integrated Licensing Process with a new license issued by FERC on December 22, 2017. The new license was effective as of January 1, 2018, and expires on January 31, 2064.

The Licensee's operations of the Project began upon acquiring the Project in 2006. The Project was built in the 1930s to provide 25-Hertz (Hz) power for the smelter furnaces at the Union Carbide ferroalloy plant near Alloy, West Virginia. Today, the Project generates an average of 534,100 megawatt-hours (MWh) of renewable energy annually. The Licensee is proposing a life extension and modernization capital project, including generating unit and electrical system updates, to allow the Project to generate power at 60Hz for the regional (PJM) grid.

The proposed life extension and modernization project is indicative of the Licensee's continued long-term commitment to renewable generation at the Project. In addition to implementing protection, mitigation, and enhancement measures required by the new license, over the past decade the Licensee has been investing in life extension and modernization activities at the Project to provide continued safe, reliable, and economical energy generation through the new license term. Past activities have included refurbishment of the Unit 4 generator, post-tension anchoring of the dam to meet modern design criteria, a dewatered tunnel inspection, crest gate rehabilitation, projects to rehabilitate and upgrade the spillway gantry crane, rehabilitation of the surge tank, and rehabilitation of the surge basin. The current life extension and modernization capital project would convert energy generation and transmission from the Project from 25Hz to 60Hz. The proposed Project modifications require FERC authorization in the form of a non-capacity amendment of license. As such, the Licensee has prepared this non-capacity amendment application in accordance with FERC regulations. To facilitate FERC staff's assessment of the proposal, the Licensee is providing this brief environmental review of the potential effects of the proposed Project modifications to the Project on environmental, recreational, socioeconomic, aesthetic, and cultural resources.

For a comprehensive overview of issues studied and resulting recommendations from the relicensing, refer to the previous Final Environmental Assessment (FERC 2017) and the new license order.¹

¹ 161 FERC ¶ 62,228, Hawks Nest Hydro, LLC, Project No. 2512-075, Order Issuing New License (December 22, 2017).

1.1 Description of Existing Conditions

1.1.1 Regional Overview

The Project is located in the Kanawha section of the Appalachian Plateaus Physiographic Province (Covington 2005; U.S. Department of Agriculture [USDA] 2006; Fenneman 1917). The Appalachian Plateaus Province is part of the Appalachian Highlands, a major physiographic division that includes the Appalachian Mountains and is bordered on the east by the Ridge and Valley Province. The Kanawha section is a mountainous highland region occurring as a series of long side slopes between narrow ridgetops (USDA 2006; Messinger and Hughes 2000).

The Project is located within the New-Kanawha River basin. The Kanawha River and its major tributary, the New River, drain 12,223 square miles (mi²) in North Carolina, Virginia, and West Virginia (Paybins et al. 2000). The New River originates in North Carolina at the confluence of the North Fork New River and the South Fork; the New River then flows northward for 320 miles through Virginia before entering West Virginia. The 6,964.6-mi² New River watershed in West Virginia lies mostly within Fayette, Mercer, Monroe, Raleigh, and Summers counties (NPS 2024).

Five large dams are present upstream of the Project on the New River, the nearest being Bluestone Dam, located in the City of Hinton, West Virginia. Most of the New River between Bluestone Dam and Hawks Nest Dam is encompassed within the National Park Service (NPS)-protected New River Gorge National Park and Preserve, however the protected portion of the river reach ends at the upstream extent of the Hawks Nest reservoir/project boundary. Upstream of the Project, the New River Gorge is a prominent physiographic feature characterized by exposed cliffs, rock cities, massive boulders, rock overhangs, exposed coal-bearing sediments, and unique formations caused by spheroidal weathering of the surrounding rock (NPS 2009).

Downstream of Hawks Nest Dam, the New River follows a narrow valley to its confluence with the Gauley River where the rivers combine to form the Kanawha River. The Kanawha River empties into the Ohio River which eventually drains into the Gulf of Mexico via the Mississippi River.

1.1.2 Existing Project Facilities

The Project consists of a concrete gravity dam with 14 gated spillway bays, a power tunnel intake structure with intake gate, trashracks and a trash rake, water conveyance tunnel, surge basin, surge tank, four water-conveying penstocks and one bulkheaded penstock, manifold, the reservoir, and a powerhouse containing four turbine-generator units (Figure 1-1). As described in the Project's license, licensed transmission facilities consist of an outdoor substation located next to the powerhouse containing transformers (Hawk Nest Switchyard), circuit breakers, and disconnecting switches. Electricity generated at the Project is transmitted by two parallel, approximately 5.5-mile-long, 69-kilovolt (kV) transmission lines that connect the Hawks Nest Switchyard at the powerhouse to the Alloy Substation located at WVAM's alloy plant in Alloy, West Virginia.

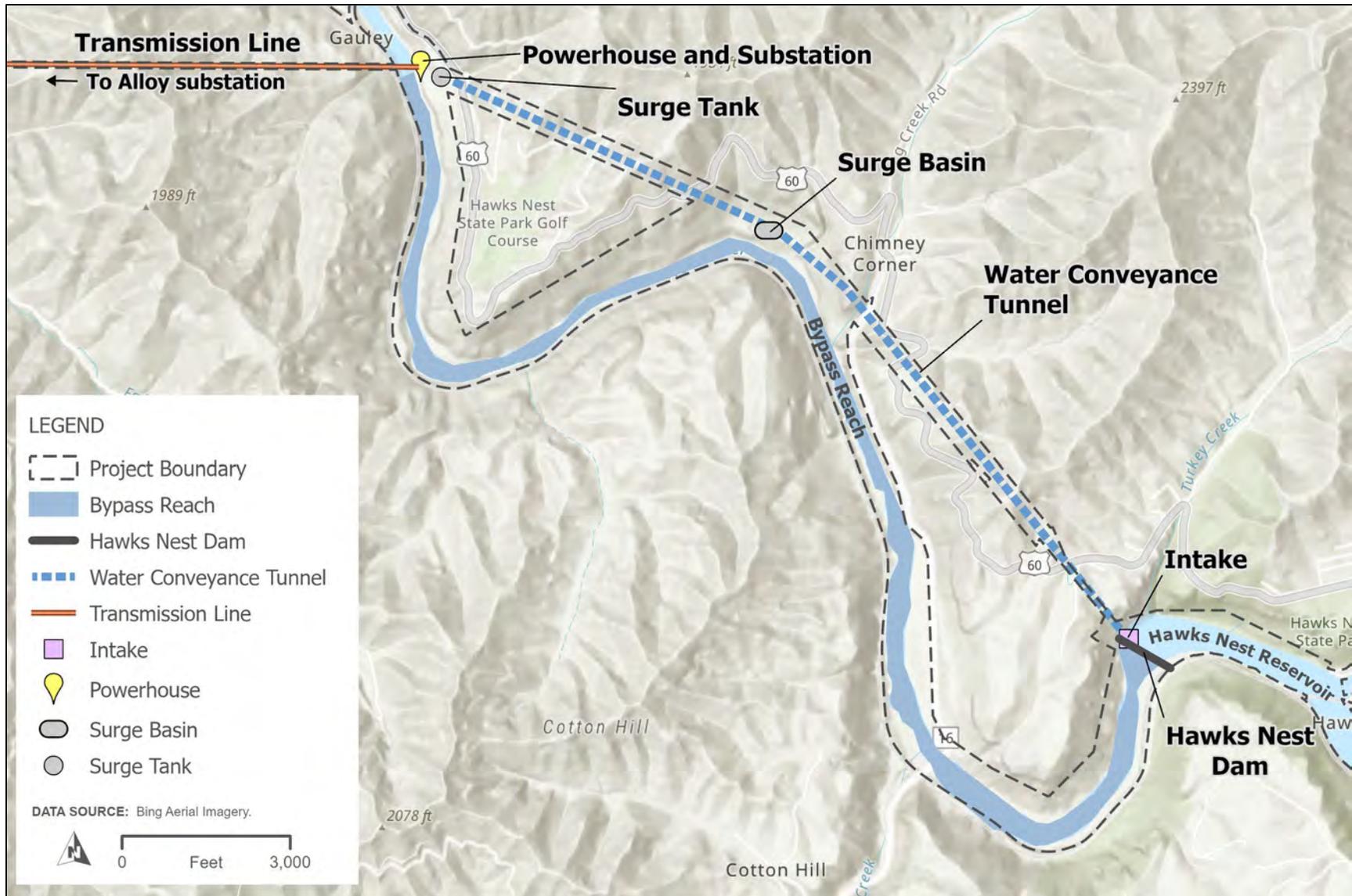


Figure 1-1. Hawks Nest Project Layout

1.2 Description of Proposed Modifications

1.2.1 Proposed Facility Modifications

The modernization project includes multiple phases to complete civil, electrical, and mechanical engineering scopes of work to modernize the Project and convert two of the four units and one transmission line from 25Hz to 60Hz, along with associated electrical system modifications. Proposed modifications include:

- Replacement of Units 1 and 2 turbines and generators with two new turbine-generators.
- Construction of the Hawks Nest Frequency Converter Switchyard (HN FC Switchyard) near the powerhouse, an access road to the HN FC Switchyard, and a 13.8kV line (generator lead) from the powerhouse to the new HN FC Switchyard.
- Installation of a new 53-megavolt ampere (MVA) 60Hz frequency converter (FC) in the HN FC Switchyard for Units 3 and 4).
- Conversion of the existing 69-kV, 25-Hz primary transmission lines to 138-kV, 60-Hz.
- Relocation of the break room, locker room, shop, and office area from the powerhouse to a new prefabricated metal building, 60 ft by 80 ft, (“O&M Building”), near the powerhouse. This relocation of personnel facilities is necessary to accommodate new 480-volt switchgear inside the powerhouse.
- Modifications to the electrical system at the Hawks Nest Dam including relocation of the standby generator from the dam mezzanine to an exterior location and replacing the existing 25-Hz switchgear with 60-Hz switchgear.
- Transfer of four existing FCs in the Alloy Substation from the Licensee to WV Alloy Manufacturing, LLC (WVAM).
- Reconfiguring of the Alloy Substation so a Hawks Nest primary transmission line lands on the 138kv bus.

These modifications are further described below.

1.2.1.1 Units 1 and 2 Turbine-Generators Replacements

Units 1 and 2 turbine and generators are at the end of their service life. The existing vertical Francis turbines (I.P. Morris, installed 1931-1933) would be replaced with new vertical Francis turbines. The existing 25Hz generators (Westinghouse, installed 1931-1933) would be replaced by new 60Hz generators, which would allow for 51 MW of 60Hz generation from Units 1 and 2. The scope of work for the unit upgrades includes replacement of all components of Unit 1 and 2 generators starting from the concrete embedded parts including new turbine, shaft, rotor, generator, governor, exciter, controls, and main power circuit. New 13.8kV 60Hz generator switchgear internal to the powerhouse will also be installed. The replacement units would have a slightly higher hydraulic and generating capacities as described in Exhibit A of this application. However, the Licensee would mechanically constrain the wicket gates with blocking to limit flows to the existing maximum hydraulic capacity. Additional details are provided in Exhibit A of this non-capacity amendment application. No significant changes are planned for the exterior of the powerhouse that would change the look of the historic structure.

The Units 1 and 2 upgrades will require retrofit of new 138 kV equipment, including a new 83MVA oil-filled step-up transformer and gas insulated breaker, into the existing Hawks Nest 69 kV Switchyard.

1.2.1.2 New HN FC Switchyard and Access Road

The HN FC Switchyard would be constructed southeast of the Project powerhouse. It would include a new 53MVA 13.8kV 25Hz/13.8kV 60Hz static FC enclosed within a 230-ft by 50-ft prefabricated metal building; two new approximately 500-foot [ft]-long 13.8 kV lines (generator leads) from the powerhouse to the HN FC Switchyard; a 0.7-acre temporary laydown area for use during construction; a turnaround area for delivery trucks, cranes, and other maintenance vehicles; an area for a mobile 150-ton crane near the locations of the transformers; crane pad in the vicinity of the existing surge basin approximately 60 ft by 40 ft in size; smaller pad areas and temporary access paths for the construction of new transmission line structures; and a new access road (Figure 1-2).

A new paved road would be needed for access to the HN FC Switchyard. The new access road would extend from Highway 60 to the HN FC Switchyard, including one crossing of the Project's underground water-conveyance tunnel (Figure 1-3). The road would be 20 feet (ft) wide with 2.5-ft shoulders on each side and a maximum 10 percent slope along the roadway. It would be constructed in a manner that minimizes stress on the Project underground water conveyance tunnel. Similarly, the Licensee would restrict the weight of vehicles using the road to limit potential effects to the tunnel. Hawks Nest Hydro will consult with the FERC Division of Dam Safety and Inspections-New York Regional Office (D2SI-NYRO) regarding construction activities associated with the access road.

Construction of the new access road will require the following activities:

- Clearing of approximately 10 acres of vegetation to facilitate construction of roadway and pad.
- Civil site works including cuts up to approximately 35 ft and fills up to 40 ft to establish final project grades for the new roadways and HN FC Switchyard pad.
- Construction of multiple earth retention systems to support the proposed cuts and fills.
- Site flatwork improvements to include paved parking/turn around area, drainage aprons, and/or sidewalks, and deep foundations for HN FC Switchyard and ancillary structures.
- Establishment of new transmission right of way for the generator leads and installation of associated pole and transmission lines.
- New area drainage connecting to existing outlet.
- Modification to the existing Hawks Nest Switchyard to facilitate new interconnection.
- As necessary, other site improvements such as retaining walls, drainageway crossings, and drainage features may be supported on shallow foundations, deep foundations, or a combination of foundation types.

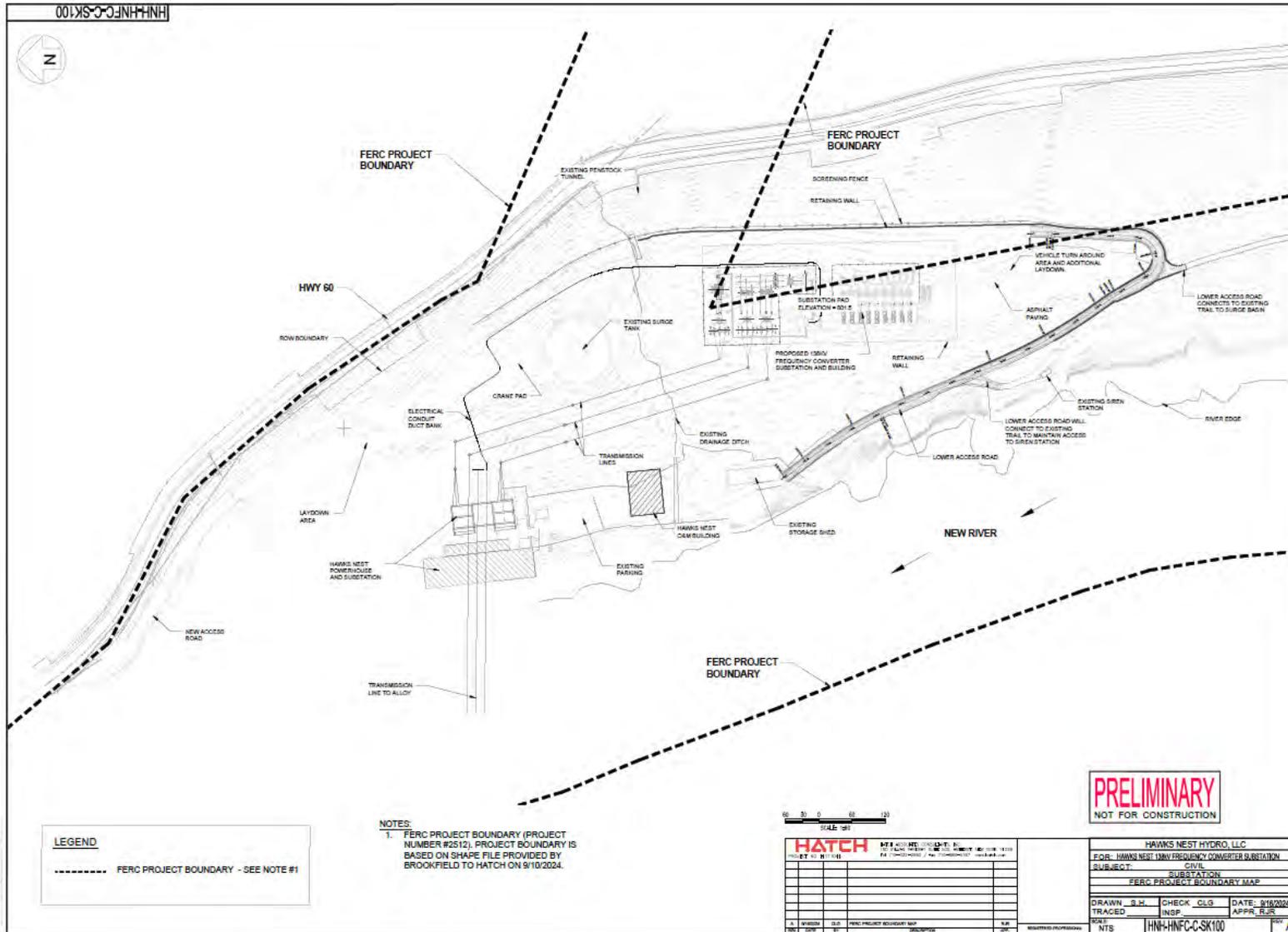


Figure 1-2. Proposed Powerhouse Area Modifications

1.2.1.3 Units 3 and 4 Frequency Converter

A new FC would be installed in the HN FC Switchyard which would allow for 48 MW of 25Hz generation from Units 3 and 4 to be converted from 25Hz to 60Hz for generation sales into the PJM market. (There would be no change to the generators for Units 3 and 4, which would provide the maximum output of the converter.) Following completion of this work, 25Hz power would no longer be transmitted to WVAM; the 69kV, 25Hz power would be fed from the existing Hawks Nest Switchyard to the new FC in HN FC Switchyard via a short new transmission line (approx. 500 ft away).

1.2.1.4 Primary Transmission Line

The existing transmission lines (3) would be converted to 138kV, 60Hz operation and used to connect the new 138kV Hawks Nest bus to a new 138kV breaker in the Alloy Substation.

1.2.1.5 Alloy Substation Reconfiguration

A new 138kV substation will be constructed to facilitate interconnection of Project generation to the PJM market via the existing 138kV line. A new breaker in the Alloy Substation would be connected to the existing 138kV Alloy bus which connects to the existing 138kV 60Hz AEP (American Electric Power) Kanawha River-Alloy transmission line. There will be no change to the licensed point of interconnection.

1.2.1.6 Hawks Nest Dam 60Hz Conversion

The existing 25Hz auxiliary switchgear at the dam will be replaced with new 60Hz equipment and a new duct bank will be routed from the West Abutment electrical room to the intake gate. Both gantry crane power rail supply systems will be converted to 60Hz switchgear and the existing intake gate motor will be replaced. A new standby diesel generator will be installed between the intake gate and trash racks. The new standby generator will have a concrete foundation with secondary containment.

1.2.1.7 Hawks Nest 60Hz Auxiliary Conversion

Additional system and Project upgrades to ancillary equipment will be necessitated by conversion of the energy generated at the Project to 60Hz. This includes replacement of the existing facility 25Hz, 460V power distribution system with a new 60Hz, 480V system at the powerhouse, surge basin, and dam. This upgrade of antiquated 25Hz distribution equipment with modern, safer, and standard 60Hz equipment will increase system reliability through diversification of power sources, installation of new standby generators, use of standard equipment, and additional emergency power supply means. The Licensee will consult with and provide construction plans, specifications, and procedures to FERC D2SI-NYRO regarding excavation required at the Hawks Nest Dam west abutment to install the generator foundation and electrical duct bank and temporary impacts to gate operations. Additionally, the Licensee will notify the FERC Division of Hydropower Administration and Compliance and Project stakeholders regarding temporary closure(s) of the Bike-Hike Trail in accordance with the Recreation Management Plan.

1.2.2 Proposed Project Operations

The Licensee is not proposing modifications to its current operations. The Project would continue its run-of-river operations, maintain reservoir elevations consistent with existing reservoir

elevations, provide existing continuous minimum bypass flows and recreational release flows, and continue its flow ramping rates during and following construction.

1.2.3 Milestone Schedule

A schedule for major milestones to perform the activities above follows:

- January 2025: Grading and clearing for the new short 13.8-kV, 69kV, and 138kV line sections from the existing Hawks Nest Switchyard to the new 138-kV HN FC Switchyard where the new FC would be installed
- January 2025: Break ground for the new break room, locker room, shop and office area
- December 2025: Power Purchase Agreement with WVAM expires
- March 2026 to January 2027: Unit 1 replacement
- April 2026: Electrical/ HN FC Switchyard installation begins
- April to June 2026: New FC comes online
- February 2027 to November 2027: Unit 2 replacement



2.0 Effects of Proposed Modifications

The Licensee is proposing only facility modifications; no modifications to Project operations are proposed. Therefore, potential effects are limited to resources that would be directly affected by construction activities or short-term, temporary operational effects (i.e., powerhouse outage increasing spillway releases), approximately five to six months, during construction.

The Project is operated consistent with the requirements of the new FERC and the West Virginia Department of Environmental Protection (WVDEP) Water Quality Certification (WQC). FERC license requirements, WQC Special Conditions, and the potential effects of the proposed facility modifications are summarized in Table 2-1 and Table 2-2.

Table 2-1. Summary of FERC License Requirements 401 through 410 and Potential Modernization Project Effects

Article No.	Description	Potential Effects
401	Submit the Recreation Management Plan and Report of Short Duration Spiking Flows in the Bypassed Reach	No effect.
402	Operation Compliance Monitoring	No effect; the Licensee would continue to monitor and report compliance activities during and after construction.
403	Fishways reservation	No effect.
404	Bald Eagle Protection Plan	No effect; the Licensee would implement the protection measures in the Bald Eagle Protection Plan prior to, during, and after construction.
405	Running Buffalo Clover Management Plan ²	No effect; running buffalo clover is not present within areas of proposed modifications.
406	Timing of Tree Clearing	No effect; tree clearing is proposed to be done in accordance with the timing requirements as discussed in Section 2.4.
407	Recreation flow releases	Construction phase: Temporary effects; see Section 2.7.2. Post-construction phase: No effect
408	Recreation management	Construction phase: Temporary effects to the Bike-Hike Trail; see Section 2.7. Post-construction phase: No effect
409	Historic Properties	No effect presently anticipated, but consultation on-going; see Section 2.5.
410	Use and Occupancy	No effect; the Licensee owns or has easements for all areas where proposed modifications would occur.

² During relicensing, running buffalo clover was listed as federally endangered. By final rule issued by the U.S. Fish and Wildlife Service on September 7, 2021, it has since been de-listed.



Table 2-2. Summary of WQC Special Conditions and Potential Modernization Project Effects

Special Condition No.	Summary of Special Condition	Potential Effects
1	Operate in “run-of-the-river” mode.	No effect; the Project would continue to operate in run-of-the-river mode during and after construction.
2	Maintain a minimum flow of 300 cubic feet per second (cfs) flows into the Hawks Nest bypassed reach beginning March 1 through June 30, and a minimum of 250 cfs for all other months.	No effect; minimum bypass flows would be maintained during and after construction.
3	Maintain a stage gage in the vicinity of the Cotton Hill bridge and have the information available via the internet real-time.	No effect.
4	Develop and maintain a central public website for information relevant to flows in the bypassed reach.	No effect; Hawks Nest Hydro would update its public website with flow information during and after construction. See Section 2.7.2.
5	Open a biking and hiking trail beginning approximately 1,000 feet downstream of the mouth of Mill Creek and continuing downstream to the Hawks Nest Dam.	Construction phase: The Bike-Hike trail would be intermittently closed during construction activities at the Hawks Nest Dam. Post-construction phase: No effect.
6	Provide one-time funding of \$50,000 for improvements or enhancements to the Cotton Hill Bridge Day-Use Area.	Not applicable.
7	Improve the Cotton Hill Bridge Day-Use Area parking area.	Not applicable.
8	Maintain angler access to the existing Hawks Nest Tailrace Fishing Access Area and continue to allow angler access to the bypassed reach.	No effect.
9	Work with WV Division of Natural Resources on a take-out location on the New River in the Gauley Bridge area.	Not applicable.
10	Provide annual funding in the amount of \$25,000, to WVDNR- WRS for recreation facilities on Project-associated lands.	Not applicable.
11	Develop an updated Recreation Management Plan.	Not applicable.
12	Meet with stakeholders to schedule the recreational release dates and start times pursuant to Special Condition 13.	No effect; Hawks Nest Hydro would continue to meet with stakeholders regarding the schedule of recreational release dates during and after construction.
13	Provide a total of seven planned 6-hour recreational releases of 2,200 cfs to 2,500 cfs annually, generally during the last weekend of June and the weekends in July and August and two scheduled whitewater	Construction phase: When station outage required for 60Hz conversion activities, all inflow would be diverted to the bypass reach. Outage duration not expected to last more than 90 days. See Section 2.7.2



Special Condition No.	Summary of Special Condition	Potential Effects
	releases during the last two weekends in March, contingent upon 1,600 cfs being first available for critical power generation.	Post-construction phase: No effect
14	Submit to WVDEP a report describing its examination of short duration spiking flow increases in the bypass reach.	Not applicable.
15	Between March 1 and October 31, operate the Project such that water levels in the Hawks Nest bypassed reach are up-ramped and down-ramped no more than 1-ft-per-hour as measured in the New River below Hawks Nest Dam, West Virginia at the U.S. Geological Survey (USGS) Gage No. 380649081083301 when reservoir inflow is less than 12,600 cfs and flow in the bypassed reach is less than or equal to 2,600 cfs.	No effect. The Licensee would continue to comply with the requirements of the FERC license and WQC.
16	Mitigation for the incidental take of fish due to the Project's operation shall be provided in an amount made payable to the WVDNR annually. Monetary reimbursement will be consistent with fish entrainment calculations from the 2015 desktop entrainment analysis, based on a 2003 American Fisheries Society Special Publication 30 Appendix A: Replacement Cost of Fish, adjusted for inflation.	Construction phase: Entrainment of fish through the turbines would be eliminated during outage periods when all inflow is spilled to the bypass reach. Post-construction phase: No effect; no changes to the number of fish entrained or fish mortality are anticipated due to the similarities in replacement turbine design and mechanical limits on replacement unit hydraulic capacity.
17	Amendment to the FERC license may be subject to recertification consistent with FERC Consultation Requirements in 18 CFR §4.38(a). Further, if the 25-Hz power generated by the Project is no longer needed to fulfill the current industrial end-use presently served, WVDEP reserves the right to re-examine and modify the conditions established in this certification as they pertain to the current end-use.	No effect anticipated. Hawks Nest Hydro is consulting with WVDEP regarding the WQC.
18	Comply with water quality standards as contained in Title 47CSR2 of the WV Code of State Regulations, Requirements Governing Water Quality Standards.	No effect; the Project is currently meeting water quality standards and will comply with standards during and after construction.
19	Measure and report Large Quantity Water Use pursuant to §22-26-let seq of the WV Code of State Regulations.	No effect; the Licensee would continue submitting license-required reports during and after construction.
20	Violation of any of the conditions listed above shall negate this water quality certification.	No effect; the Project is presently operated in compliance with the WQC and expects to maintain compliance with the WQC during and following the modernization activities proposed in this non-capacity amendment application.



Potentially affected environmental, recreational, cultural, aesthetic, and socioeconomic resources are summarized in Table 2-3 and further described below.



Table 2-3. Summary of Potential Effects by Resource Area

Resource Area	Description of Activity that Could Affect Resource	Potential Construction Effects	Potential Post-Construction Effects
Geological and Soil Resources	Clearing, grading, and ground-disturbing activities ¹	See Section 2.1	No effect
Water Quality and Water Quantity	Replacement of Unit 1 and Unit 2 with similar units	No effect	No effect
Fisheries – Minimum bypass flows, entrainment, ramping rates	Replacement of Unit 1 and Unit 2 with similar units	All Project inflows would be temporarily released to the bypass reach during powerhouse outage periods	No effect
Special status species – critical habitat	Clearing, grading, and ground-disturbing activities ¹	No effect. No terrestrial critical habitat is present at the Project.	No effect
Special status species – bats	Clearing, grading, and ground-disturbing activities ¹	No effect (tree removal is proposed to take place outside of the roosting season between October 15 and March 31)	Loss of approximately 10 acres of potential summer roosting habitat; no direct effects to bat species
Special status species – bald eagle	Clearing, grading, and ground-disturbing activities ¹	No effect (no nesting eagles are known within the Project boundary or areas to be disturbed)	No effect
Archaeological resources	Clearing, grading, and ground-disturbing activities ¹	No effect. Ground-disturbing activities will not affect known archaeological sites or occur in archaeologically-sensitive areas.	No effect
Architectural resources	Replacement of historic Units 1 and Unit 2; addition of new structures and facilities adjoining historic powerhouse, addition of new electrical equipment at the dam	Consultation with the West Virginia State Historic Preservation Office (WV SHPO) under the Historic Properties Management Plan (HPMP) is ongoing. See Section 2.5.	No effects that would impact the Project's eligibility for listing in the National Register of Historic Places (NRHP)
Socio-economic resources	Continued reliable, economic operation of the Project through the new license term	No effect	Project provides clean, renewable generation to the PJM market
Recreation – recreational facilities	Construction activities that affect recreation facilities	Temporary closures of Bike-Hike Trail	No effect
Recreation – recreation flow releases	Replacement of Unit 1 and Unit 2 with similar units	Temporary effect due to periods when all inflow is released to the	No effect



Resource Area	Description of Activity that Could Affect Resource	Potential Construction Effects	Potential Post-Construction Effects
		bypass reach during temporary powerhouse outages	
Aesthetics and land use	Clearing, grading, and ground-disturbing activities ¹	Temporary visual effects associated with construction of the HN FC Switchyard and access road	No effect

¹ Activities associated with the construction of the HN FC Switchyard, the new access road, and laydown areas.

2.1 Geological and Soil Resources

Little to no effect to geological and soil resources is expected as explained below.

Vegetation clearing, grading, and other earth-moving and site preparation activities associated with proposed facility modifications have the potential to disturb soil stability and subsurface geology. Grading would be performed to minimize cut and fill volumes, and the length of access road retaining walls would be limited to the extent feasible.

The proposed HN FC Switchyard pad design would require significant grading given the sloping terrain, and some amount of bedrock excavation may be required. The finished pad elevation would minimize bedrock removal to the extent feasible, although fill volumes to raise grades on the west sides of the pad would increase.

The smaller pad areas would be designed using best practices. Access paths may include a thin gravel section to facilitate off-road equipment access during construction activities.

Excavation of rock along the access road may be necessary. Blasting with controlled explosives in close proximity to the water conveyance tunnel would be avoided. Rock breaking using heavy equipment would cause vibrations that may transmit through the rock to the tunnel, but vibrations would be minor. The road grades would be designed to minimize the need for rock removal in close proximity to existing features such as the surge tank and above the water conveyance tunnel.

The Licensee would obtain applicable Erosion and Sediment Control permits from WV DEP consistent with regulatory requirements and develop a Stormwater Pollution Prevention Plan. Best Management Practices such as silt fencing would be used to prevent disturbed sediments from leaving the construction site. Obtaining and following appropriate permit conditions would minimize effects to geological and soil resources.

2.2 Water Quality and Water Quantity

2.2.1 Water Quality

No direct impacts to water quality are anticipated from the proposed modifications. The existing drainage patterns of the site would be maintained where possible, and stormwater treatment would meet the requirements of the Stormwater Construction General Permit the Licensee would acquire. The rate of outflow would be controlled to reduce potential erosion at discharge locations. Ditch lines would be sized to pass 10-year (24-hour) storm events and culverts sized to pass 2-year (24-hour) storm events. Treatment of stormwater would consist of a stilling basin or underground chamber, and temporary sediment basins would be installed during construction. Stormwater Pollution Prevention Plans would be developed for each phase of construction.

Contaminated soils may be present in the area that would be subject to grading and excavation activities in the vicinity of the existing 138kV Alloy Substation. If contaminated soils are

encountered, they would be removed in accordance with state and federal requirements for the protection of water quality.

2.2.2 Water Quantity

No effects to water quantity are expected during or following the proposed Project modifications as further described below.

Due to the lack of significant usable storage capacity in the Hawks Nest reservoir, the Project is operated as a run-of-river facility under all conditions of stream flow, except as needed to implement the FERC-required ramping rate (see Section 2.3.3) or if temporarily modified if required by emergencies beyond the Licensee's control. The control room operators monitor the reservoir to minimize reservoir elevation changes and maintain the normal pool level of approximately 819 ft above mean sea level (amsl). The reservoir level is maintained through power generation and release of the required minimum flow from the trash gate at the right end of the spillway, and additional spill through the spillway gates when inflow exceeds powerhouse capacity.

The reservoir is typically operated within 0.5 feet of the normal pool level. Operation of the Project in this range provides flexibility to maintain the required minimum flow release and make minor adjustments in anticipation of significant inflow based on releases from the upstream Bluestone Dam or local precipitation events.

Upstream river stage below Bluestone Dam is monitored (via USGS gage 03184500 New River at Hinton, West Virginia and periodic communications with U.S. Army Corps of Engineers) such that the Project operator can anticipate spillway gate and power generation operations. Control room operators are responsible for controlling the 14 spillway gates and the trash gate at the Project dam to balance the river flow released into the New River bypass reach and the river flow diverted into the power tunnel for generation purposes. The upstream USGS gage below Bluestone Dam is utilized to determine the need for additional spillway gates and discharge.

With the bypass reach minimum flow requirement of 250 or 300 cfs provided at the dam, the balance of the flow is dispatched through the power tunnel for powerhouse operations. The individual turbine-generator units each currently have a discharge rating of approximately 2,500 cfs, for a four-unit discharge capacity of approximately 10,000 cfs. While the new Unit 1 and Unit 2 turbines would have higher hydraulic capacities, the Licensee will limit the maximum hydraulic capacity to the current unit capacity by blocking wicket gates. Therefore, while the FERC-defined maximum hydraulic capacity would increase, no operational increase in Project flows is expected.

Based on the annual flow duration curve, the normal river flow is less than or equal to 10,250 cfs approximately 77 percent of the time (Figure 2-1).

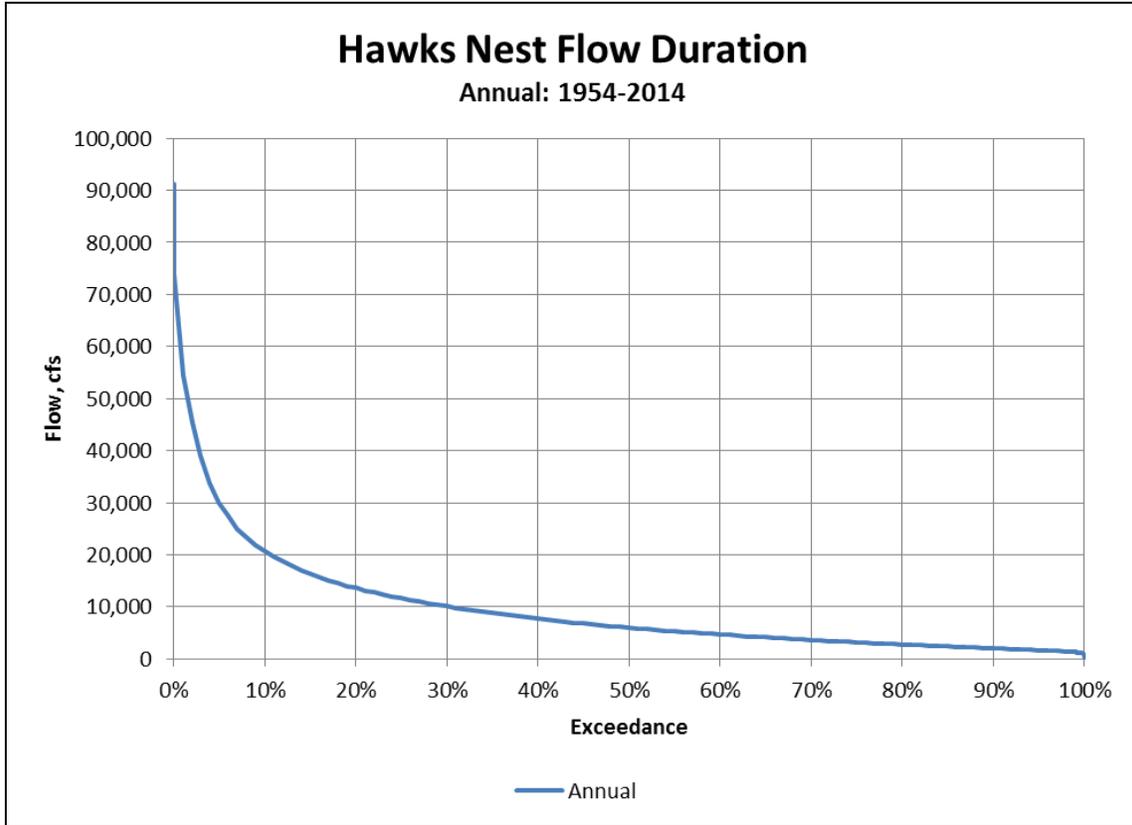


Figure 2-1. Hawks Nest Project Annual Flow Duration Curve³

The Project would continue to operate as run-of-river during and following construction. A planned powerhouse outage would occur during construction during which all inflows would spill to the bypass reach. Modifications to powerhouse operations may also be implemented ahead of construction to reduce capacity to full outage, in which case excess inflow would be spilled into the bypass reach. Temporary changes to operations and flows would be updated on the Safe Waters website⁴ maintained by Brookfield, consistent with the WVDEP WQC Special Condition No. 3.

2.3 Fisheries Resources

2.3.1 Minimum Bypass Flows

No changes or effects to minimum bypass flows are proposed or expected during or following the proposed Project modifications, as further described below.

Consistent with FERC License requirements, the WVDEP WQC Special Condition No. 2, and the Operation Compliance Monitoring Plan (approved by FERC by order dated August 9, 2018), a minimum flow of 300 cfs is released into the Hawks Nest bypass reach from March 1 through June 30, and a minimum flow of 250 cfs for all other months (Table 2-2). Typically, the bypass

³ Based on data from the Gauley River above Belva, WV and Kanawha River at Kanawha Falls, WV USGS gages, adjusted for the Hawks Nest drainage area.

⁴ <https://www.safewaters.com/facility/hawks-nest>

minimum flow release is provided from the trash gate at the right end of the spillway which can discharge up to 333 cfs.

The instream flow study (HDR 2015a) found the bypass reach provides a variety of habitats to support aquatic resources and sustains a diverse warm water fishery and macroinvertebrate community. Changes in flows have varying effects on different species, life stages, and guilds depending on preferences for water velocities and depths. For example, an increase in bypass flows provide an increase of spawning habitat, with concurrent decrease of available fry habitat. The study also showed that the quantity of suitable habitat does not change significantly with increasing flows. FERC relied on these study findings to establish the current FERC license requirements.

All flow through the Project would be diverted to the bypass reach during powerhouse outage during construction (anticipated to be five to six months), temporarily altering bypass flow conditions. No permanent changes to bypass flow operations would occur. Minimum bypass flow requirements would be met during this time. Therefore, the Bypass Reach Aquatic Habitat Use/Instream Flow Study and analysis and recommendations from FERC's previous EA (FERC 2017) remain applicable for the proposed modifications.

2.3.2 Entrainment

No changes are proposed or expected to occur that would affect entrainment rates or survival rates of entrained fish.

Field entrainment studies were conducted at the Project in 1985 (EA Engineering 1986) and 1989-1990 (Kleinschmidt Associates, Inc. 1990). A desktop entrainment evaluation was also completed during the recent relicensing (HDR 2015b) which included a predictive blade strike model to estimate turbine survival for fish passing through the Project turbines (entrained) using the Advanced Hydro Turbine model (Franke et al. 1997).

In general, entrainment rates for all species increased in the summer and fall months, likely due to increased activity related to foraging, spring reproduction, and subsequent dispersal (GeoSyntec 2005; EPRI 1997; Jenkins and Burkhead 1993). Gizzard shad and channel catfish represent the majority of entrainment, particularly in the fall, winter, and summer months, respectively. Episodic entrainment of gizzard shad is a known occurrence at the Project, driven by this species' sensitivity to cold stress (and unrelated to Project operations).

The entrainment studies and blade strike model showed that 94 percent of fish entrained are four inches in length or less with survival rate of 95 percent. This and prior studies suggest little to no adverse effects are occurring to resident New River fish communities due to entrainment through the Project.

No entrainment would occur during powerhouse outage periods (anticipated to be five to six months) when all inflow would be spilled to the bypass reach. Following construction, the proposed modifications are not expected to affect numbers or survival of fish entrained at the Project. While the new Unit 1 and Unit 2 turbines would have slightly higher hydraulic capacities, the Licensee would limit the maximum hydraulic capacity to the current unit capacity by blocking

wicket gates and the intake structure would not be modified. Therefore, the current approach velocity at the trashracks would remain the same, and the existing trashracks would remain in place with no changes to the openings. Since no changes are expected that would affect rates or survival of entrainment, the Fish Entrainment Report (HDR 2015b) and analysis and recommendations from FERC's previous EA (FERC 2017) remain applicable for proposed modifications.

2.3.3 Ramping Rates

The proposed modifications are not expected to affect ramping rates during or after construction. The FERC license and WQC Special Condition 15 require the Licensee to upramp or downramp flows from the Project from March through October when river flows are less than 12,600 cfs, and when there are flows of 2,600 cfs or less in the bypass reach. During such conditions, the Licensee operates the Project to maintain a ramping rate not greater than 1 ft per hour, as measured at the USGS gage in the vicinity of the Cotton Hill Bridge (USGS 380649081083301 New River below Hawks Nest Dam, West Virginia).

As described in the Operation Compliance Monitoring Plan, the ramping rate consists of 0.5-ft gate opening increments with a 45-minute time delay between gate movements. The incremental gate openings and time steps remain in place until the minimum opening of 2 ft is reached, corresponding to a spillway discharge of approximately 2,600 cfs. The intent is to maintain an upward or downward ramping rate not greater than 1 ft per hour and to maintain the reservoir elevation below the 820 feet amsl. In accordance with the approved Operation Compliance Monitoring Plan, the approved ramping rate may be modified, if necessary, to prevent overtopping of the Project dam or spillway gates.

There are no proposed changes to ramping rates with the facility modifications; between March 1 and October 31, water levels in the bypass reach would continue to be down-ramped no more than 1 ft per hour as measured in the New River below Hawks Nest Dam at USGS Survey Gage No. 380649081083301 when reservoir inflow is less than 12,600 cfs and flow in the bypass reach is less than or equal to 2,600 cfs. Down-ramping at this rate would provide fish protection from possible stranding in the bypass reach.

2.4 Wildlife and Botanical Resources

2.4.1 Federally Protected Species

Hawks Nest Hydro conducted a review of species listed as threatened, endangered, and candidate species under the Endangered Species Act (ESA) using U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) online system on September 9, 2024. The IPaC report (USFWS 2024a) identified a total of 13 threatened or endangered species, and 3 proposed or candidate species that have the potential to occur within the Project boundary (Table 2-5).

Table 2-4. Federally Listed Species Potentially Occurring within the Project Boundary

Common Name	Scientific Name	Status
Mammals		
Gray Bat ⁺	<i>Myotis grisescens</i>	Endangered
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered
Tricolored Bat ⁺	<i>Perimyotis subflavus</i>	Proposed Endangered
Virginia Big-eared Bat	<i>Corynorhinus townsendi virginianus</i>	Endangered
Clams		
Fanshell	<i>Cyprogenia stegaria</i>	Endangered
Green Floater ⁺	<i>Lasmigona subviridis</i>	Proposed Threatened
Longsolid	<i>Fusconaia subrotunda</i>	Threatened
Northern Riffleshell	<i>Epioblasma rangiana</i>	Endangered
Pink Mucket	<i>Lampsilis abrupta</i>	Endangered
Round Hickorynut ⁺	<i>Obovaria subrotunda</i>	Threatened
Sheepnose Mussel	<i>Plethobasus cyphus</i>	Endangered
Snuffbox Mussel	<i>Epioblasma triquetra</i>	Endangered
Spectaclecase ⁺	<i>Cumberlandia monodonta</i>	Endangered
Insects		
Monarch Butterfly ⁺	<i>Danaus plexippus</i>	Candidate
Plants		
Virginia Spiraea	<i>Spiraea virginiana</i>	Threatened

Source: IPaC consultation; accessed on September 9, 2024.

⁺Species added to the IPaC list since Project relicensing. Running buffalo clover was classified as Endangered during relicensing but is no longer listed.

2.4.1.1 Designated Critical Habitat

Designated critical habitat is the specific areas within the geographic area occupied by the species at the time it was listed that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection (USFWS 2017). Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation.

Final designated critical habitat has been established under the ESA for the Indiana bat (*Myotis sodalis*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), longsolid (*Fusconaia subrotunda*), and round hickorynut (*Obovaria subrotunda*) (Table 2-6). Critical habitat is also

proposed to be designated for the green floater (*Lasmigona subviridis*). Only the longsolid and round hickorynut were found to have designated critical habitat that overlaps with the Project boundary according to the 2024 USFWS IPaC report.

Table 2-5. Federally Listed Species with Designated Critical Habitat

Common Name	Scientific Name	Year Critical Habitat Established	Critical Habitat within Project Boundary
Indiana Bat	<i>Myotis sodalis</i>	Final - 1977	No
Virginia Big-eared Bat	<i>Corynorhinus townsendii virginianus</i>	Final - 1979	No
Green Floater	<i>Lasmigona subviridis</i>	Proposed - 2023	No
Longsolid	<i>Fusconaia subrotunda</i>	Final - 2023	Yes
Round Hickorynut	<i>Obovaria subrotunda</i>	Final - 2023	Yes

2.4.1.2 Migratory Birds and Eagles

The IPaC reports migratory birds with the potential to occur within the Project boundary (Table 2-7). The Migratory Bird Treaty Act of 1918 implements four international conservation treaties that the U.S. entered into with Canada, Mexico, Japan, and Russia, with intent to ensure the sustainability of populations of all protected migratory bird species (USFWS 2024b). In addition to the Migratory Bird Treaty Act, the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are also protected under Bald and Golden Eagle Protection Act.

Table 2-6. Migratory Birds Potentially Occurring within the Project Boundary

Common Name	Scientific Name	Breeding Season
Bald Eagle	<i>Haliaeetus leucocephalus</i>	February 1 to June 30 ^a
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	May 15 to October 10
Black-capped Chickadee	<i>Poecile atricapillus praticus</i>	April 10 to July 31
Bobolink	<i>Dolichonyx oryzivorus</i>	May 20 to July 31
Canada Warbler	<i>Cardellina canadensis</i>	May 20 to August 10
Cerulean Warbler	<i>Setophaga cerulea</i>	April 27 to July 20
Chimney Swift	<i>Chaetura pelagica</i>	March 15 to August 25
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	May 1 to August 20
Golden Eagle	<i>Aquila chrysaetos</i>	Breeds elsewhere
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	May 1 to July 20
Kentucky Warbler	<i>Geothlypis formosa</i>	April 20 to August 20
Prairie Warbler	<i>Setophaga discolor</i>	May 1 to July 31

Common Name	Scientific Name	Breeding Season
Prothonotary Warbler	<i>Protonotaria citrea</i>	April 1 to July 31
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	May 10 to September 20
Rusty Blackbird	<i>Euphagus carolinus</i>	Breeds elsewhere
Wood Thrush	<i>Hylocichla mustelina</i>	May 10 to August 31

^a As described in the FERC-approved Hawks Nest Bald Eagle Protection Plan (HDR 2018).
Source: USFWS 2024a

2.4.1.3 Potential Effects to Federally Protected Species

Bats

Five bat species were identified on the IPaC report as potentially occurring in the Project boundary: gray bat, Indiana bat, northern long-eared bat, tricolored bat, and Virginia big-eared bat. Gray bats and Virginia big-eared bats occupy caves year-round, whereas Indiana bats, Northern long-eared bats, and tricolored bats roost in forested areas during summer. No caves have been identified within the Project boundary.

Summer roosting habitat used by the Indiana bat consists of trees greater than five inches in diameter with cracks, crevices, and/or exfoliating bark, often within canopy gaps in a forest, fenceline, along a wooded edge, or riparian zone (USFWS 2024c). The trees typically comprise snags in early to mid-decay stages. If live trees are used, it is most often species with naturally sloughing bark such as shagbark hickory. Summer roosting habitat for the northern long-eared bat includes the same or similar habitat as the Indiana bat (USFWS 2024d). During the spring, summer, and fall, tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees (USFWS 2024e). They have also been found using artificial structures such as barns, porch roofs, bridges, or concrete bunkers.

A bat habitat and acoustic survey was performed in 2013 in support of relicensing (HDR 2015c). Since the study was performed prior to the listing of the northern long-eared bat (2015) or proposed listing of the tricolored bat (2022) (and since the Virginia big-eared bat resides year-round in caves), only summer roosting habitat for the Indiana bat was surveyed. Because of the similarity in habitat between the Indiana bat and northern long-eared bat, it can be reasonably assumed that the results of the 2013 survey apply to the northern long-eared bat as well. However, given the habitat requirements of the tricolored bat which are substantially different from the Indiana or northern long-eared bats, the study results cannot be extrapolated to this species.

According to the Rare, Threatened, and Endangered Terrestrial Species Study (HDR 2015c), only foraging habitat is present in the immediate area around the powerhouse and surge tank. Areas with high potential for roosting habitat were primarily associated with proximity to water resources and consisted of the left-descending bank of the New River within the bypass reach and the forested area surrounding the surge basin. Forty-five potentially suitable Indiana bat roost trees were identified within the Project boundary; these trees are generally available within the surrounding landscape. Five stands were identified as having moderate foraging potential

for Indiana bats, 11 stands had low foraging potential, and the remaining three had no foraging potential.

The acoustic survey detected eight species of bats within the Project boundary including the Indiana bat. The Indiana bat and northern long-eared bat are known from Fayette County, West Virginia, and confirmed to occur within the Hawks Nest Project boundary. While not detected during the Licensee's studies, Virginia big-eared bat may also be transient in the area.

The proposed HN FC Switchyard, access road, and construction laydown area would require clearing of approximately 10 acres of land. Tree removal is proposed to occur outside of the summer roosting season for Indiana and northern long-eared bats, from October 15 to March 31 (WVDEP 2013, 2015). With the limited quantity of tree clearing proposed and appropriate conservation measures taken, the actions associated with the proposed modifications may affect but is not likely to adversely affect the Indiana bat, northern long-eared bat, or tricolored bat. The proposed modifications would have no effect on the cave-roosting gray bat or Virginia big-eared bat.

Mussels

The Licensee conducted mussel surveys in the Project reservoir bypass reach in early September 2013 based on established state protocols (WVDNR and USFWS). No mussels were found at locations surveyed within the Hawks Nest reservoir, even though apparent suitable substrate, water quality, and host species were present (HDR 2015d, 2015e).

Only two live mussels were found in the Hawks Nest bypass reach during the study, which were the same species previously identified at this location by the WVDNR: the purple wartyback (*Cyclonaias tuberculata*) and mucket (*Actinonaias ligamentina*), neither of which are federally protected species. The bypass reach contained limited pockets of suitable mussel habitat. Nearly 70 percent of the habitat in this reach consists of deep pools, cascades, and shoals that are dominated by boulder and bedrock substrates; mussels generally prefer stable substrate composed of a mix of cobble, gravel, and sand, which allows the mussel to anchor or bury itself in the substrate without risk of being swept downstream under high flow conditions.

The bypass reach would experience increased flows during when the powerhouse is offline to facilitate construction and 60Hz conversion. However, flow is currently spilled to the bypass during high-flow events when the powerhouse is at maximum capacity and for recreational releases. The bypass reach does not contain an abundance of suitable habitat for mussels and has been shown to support low mussel presence, therefore the actions associated with the proposed modifications, which result in spillway operations within the normal and licensed range for the Project, would have no effect on mussel populations in this reach of the New River.

Insects and Plants

Virginia spiraea (*Spiraea virginiana*) is a flowering shrub listed under the ESA in 1990. In West Virginia, it is found among large boulders and bedrock, and in flood debris along scoured stream-sides with soils consisting of silt and sand (NatureServe 2021). A historical record of Virginia spiraea is believed to have occurred within the Project boundary. However, since it has not been identified since 1961 and has since been listed as extirpated, it is therefore assumed

not to be present. The proposed Project operations would not impact reservoir operations or potential habitat for this species.

The monarch butterfly (*Danaus plexippus*) was listed as a candidate species in 2020. This species feeds on the nectar of many flowers during breeding and migration, but can only lay eggs on milkweed plants (USFWS 2024f). The majority of land cover within the Project boundary is riparian forest, wetlands, or upland deciduous forest. However, the maintained transmission right-of-way may contain suitable habitat for this species depending on botanical diversity and presence of wildflowers, density of invasive species, and presence of milkweed. The transmission line upgrades would not result in significant new ground disturbance and therefore the actions associated with the proposed modifications may affect, but are unlikely to adversely affect the monarch butterfly.

Birds

Some migratory bird species may use the riparian and upland forested areas for habitat within the Project boundary. The limited amount of tree clearing that is proposed for removal would occur outside of the breeding season for migratory bird species except for the chimney swift (*Chaetura pelagica*), which has a breeding season commencing just before the end of the restriction on tree clearing on March 15 (USFWS 2024a).

Surveys to document bald eagle use within the Project boundary were conducted in 2012 and suitable habitat for bald eagle breeding and foraging was observed, however no stick nests were identified (WVDNR 2012). Bald eagles, if in the vicinity of the Project (outside of the Project boundary), may experience temporary noise disturbance during the period of construction, which would occur over the period that bald eagles are nesting (beginning in January or February in West Virginia [WVDNR 2022]). As required by the License Article 404, the Licensee developed and is implementing a Bald Eagle Protection Plan and would continue to do so during and after construction. Consistent with the procedures established by Section 3 of the Bald Eagle Protection Plan, the Licensee has inspected areas that would be cleared for the proposed modifications to identify potential bald eagle nests. No potential nests have been identified.

Due to the small amount of tree removal to be completed outside of the breeding window for almost all species, and transmission line upgrades to be performed within an existing right-of-way, it is not anticipated that migratory birds or bald eagles would be adversely affected by the proposed modifications.

Designated Critical Habitat

Final critical habitat has been designated for the Indiana bat and Virginia big-eared bat, and proposed for the green floater, but none of these locations overlap with the Project boundary. Designated critical habitat for two federally protected mussel species (longsolid and round hickorynut) is present within the Project boundary, however the overlap occurs downstream of Hawks Nest powerhouse where the existing overhead transmission line crosses the New River at the Glen Ferris development, and no in-water work or Project operations that could impact aquatic habitat is proposed. Therefore, no impacts to designated critical habitat are anticipated.

2.5 Historic and Archaeological Resources

2.5.1 Relicensing Background

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such actions. Historic properties include significant sites, buildings, structures, districts, and individual objects listed in or eligible for inclusion in the NRHP.

The Commission's issuances of new licenses for the continued operation of the Projects are considered undertakings subject to the requirements of Section 106 and its implementing regulations at 36 CFR Part 800. FERC initiated consultation under Section 106 with federally recognized Indian tribes by letter dated October 26, 2011. By notice dated September 20, 2012, FERC designated Hawks Nest Hydro as its non-federal representative for purposes of conducting informal consultation pursuant to Section 106.

The area of potential effects (APE) for an undertaking is defined in 36 CFR 800.16(d) as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. By letter dated July 8, 2013, the Licensee consulted with the WV SHPO, Indian tribes, and the NPS (collectively, the "Consulting Parties") regarding the APEs for relicensing the Project in accordance with 36 C.F.R §§ 800.4(a) and 16(d). The WV SHPO concurred with the proposed APE by letter dated August 9, 2013. Hawks Nest Hydro did not receive a response from other Consulting Parties.

The Licensee developed a Historic Properties Management Plan (HPMP) in consultation with agencies and interested parties, which was approved in the new license order. The HPMP provides measures for management of historic properties within the APE, including goals of supporting continued normal operation of the Project while maintaining and preserving the integrity of historic properties within the APE, and, to the fullest extent possible, avoiding, minimizing, or mitigating adverse effects on historic properties within the APE.

In accordance with the framework established by the Final HPMP, the Licensee is required to consult with the WV SHPO regarding activities that could affect historic buildings and structures in the Project's Area of Potential Effect (APE) which includes the Hawks Nest Development Historic Site. The HPMP also requires the Licensee to consult with the WVSHPO and Indian Tribes before undertaking ground-disturbing activities within the archaeological site locations or areas with a moderate to high archaeological potential for containing sites.

2.5.2 Archaeological Resources

Archaeological and architectural investigations were conducted by Cultural Resource Analysts, Inc. within the APE (Hunter 2015). Eight archaeological sites, three historic period archaeological sites, and one historic property were identified within the APE. None of the archaeological sites or historic period archaeological sites fall within the area of proposed disturbance, therefore there would be no effects to known archaeological resources. If previously unknown sites were

identified during construction, the Licensee would implement the procedures for inadvertent discoveries as stated in Section 7.6 of the HPMP.

2.5.3 Historic Structures

As stated in the HPMP, the Hawks Nest Development Historic Site is eligible for the NRHP under Criteria A and C. Contributing resources include the Hawks Nest Dam, surge basin, surge tank, intake, Hawks Nest tunnel, and powerhouse, all of which are managed by the Licensee in accordance with the Secretary's Standards for Preservation.

The Licensee does not anticipate visual effects to the character-defining features of the powerhouse or other structures that comprise the Hawks Nest Development Historic Site in association with the modernization project. No changes are proposed to the exterior of the historic powerhouse. The new facilities in the vicinity of the powerhouse (access road, retaining wall, HN FC Switchyard, O&M building) will be visible from the existing powerhouse and will result in minor aesthetic changes to this area. The Licensee notes that because this is an active (i.e., operating) hydroelectric power plant, this area already includes equipment and facilities not associated with the original Project construction. While turbines are proposed to be replaced in-kind to the extent practicable, the Unit 1 and Unit 2 replacement turbine-generator units will likely differ in appearance from the existing units. However, the only portion of the replacement units that will be visible from the powerhouse generator floor is the generator housing. The generator housing will be designed to look similar to the existing generator housing and be painted the same color as the generator housing for Unit 3 and Unit 4. The modernization project is not expected to change Project operations in a manner that would impact the site's NRHP eligibility or result in other modifications of licensed Project structures that would impact the site's NRHP eligibility.

By letter electronically transmitted on September 24, 2024, the Licensee provided this information to WV SHPO and requested WV SHPO provide, within 30 days, comments on the proposed action or concurrence that the proposed modernization project activities will have no adverse effects on the NRHP eligibility of the Hawks Nest Development Historic Site. By letter to Hawks Nest Hydro dated October 15, 2024, the WV SHPO concurred with Hawks Nest Hydro's findings of no adverse effects to architectural or archaeological resources. Refer to the Consultation exhibit of this non-capacity amendment application for documentation of this consultation.

2.6 Socio-Economic Resources

The Licensee is an important contributor to the regional economy by supporting local business for power needs as well as tourism. The New River Gorge National Park and Preserve attracts more than 1 million visitors annually. More than 101,100 individuals participated in guided whitewater paddling trips on the New or Gauley Rivers in 2014 (WVDNR 2014). The total annual economic impact of whitewater boating on the New and Gauley rivers is estimated at more than \$40 million (WVPRO 2011). Annual employee payroll for New and Gauley rivers outfitters exceeds \$8.4 million, with over \$7.5 million spent with local and out-of-state vendors (WVPRO 2011). The New and Gauley rivers are also a major draw for private boaters. The Licensee will continue to support these economies by providing recreational releases as

required by the License and the WQC. The Licensee has also made numerous improvements to recreational facilities in the Project vicinity, as outlined by WQC Special Condition Nos. 5-13. No changes to these requirements are being proposed.

The Licensee directly employs approximately 25 full-time employees at the Project and the Licensee's regional office. Numerous contractors routinely provide services at the Project. The annual payroll for the Project is approximately \$2.5 million per year, with annual spending of local suppliers of approximately \$1 million. The proposed modifications would benefit the local economy through the creation of local construction jobs and subcontracted services. As an added benefit, the proposed modifications would ensure continued generation of clean, reliable, renewable energy that supports regional energy needs over the remainder of the new license term.

2.7 Recreational Resources

2.7.1 Recreation Facilities

License-required recreation facilities include the Cotton Hill Bridge Day-Use Area, the Hawks Nest Power Station Fishing Access Site, and the Bike-Hike Trail. In addition to the formal recreation facilities, various informal recreation areas comprising parking areas, trail heads, and boat launching areas are also present in the Project vicinity. Temporary closure of the Bike-Hike Trail (estimated at up to 60 days) would be necessary during construction activities at the Hawks Nest Dam associated with 60Hz auxiliary conversion. However, such temporary closures are contemplated in the FERC-approved Recreation Management Plan. The Licensee would implement the public notification measures included in the Recreation Management Plan, including notification of the Bike-Hike Trail closure on the Project's public Safe Waters website.

2.7.2 Recreation Flow Releases

The proposed Project modifications could have a temporary effect on recreational flow releases during construction as discussed below. No effects on recreational flow release are anticipated following construction.

Consistent with FERC License Article 407 and the WVDEP WQC Special Condition No. 13, Hawks Nest Hydro provides a total of seven planned 6-hour recreational releases of 2,200 cfs to 2,500 cfs annually, generally during the last weekend of June and the weekends in July and August. These releases are contingent upon 1,600 cfs being first available for power generation. The goal is to achieve 7 days of weekend releases (including the possibility for July 4th) as early in the period as possible. However, if total flow approximating 3,800 cfs (2,200 cfs +1,600 cfs) is not available to satisfy a planned recreational release as described above, there are no make-up days beyond the last weekend of August.

Hawks Nest Hydro also provides two scheduled whitewater releases during the last two weekends in March, again contingent upon 1,600 cfs being first available for power generation. If total flow approximating 3,800 cfs is not available, there are no make-up days (WQC Condition 13).

The Project's run-of-river operating mode restricts the potential for the Project to reliably provide scheduled whitewater releases far in advance, or on a regular schedule. Recreational flow releases were determined based on the Recreation Flow Assessment in 2013 and 2014 (HDR 2015f) that included the evaluation of flow releases into the approximately 5.5-mile-long bypass reach extending from Hawks Nest Dam to the Hawks Nest powerhouse. As part of this study, Hawks Nest Hydro assessed the range of optimal and acceptable flows for recreation and commercial paddling and rafting in the bypass reach. Other objectives of this study included identifying the limitations and feasibility of providing scheduled releases to the bypass reach, methods of providing flow information to the public, impacts of whitewater releases to other resources (including recreational users), and existing and potential launch and take-out sites and the potential challenges and solutions for utilizing those locations. Findings related to flow releases include:

- A variety of whitewater crafts, including hard shell and inflatable kayaks and self-bailing rafts, are suitable for use in the Hawks Nest bypass reach.
- 1,500 cfs was generally considered the minimum acceptable flow in terms of navigability and overall whitewater experience, as well as the minimum flow required for self-bailing rafts. A majority of study participants indicated they would at least probably return if this flow were provided. Additional comments provided by study participants suggested that a slightly higher flow (2,000 cfs) may be the minimum desirable flow, particularly for commercial rafting.
- Study participants indicated a flow higher than all of the study flows would be optimal, though survey results did support that the optimal flow range varies based on the intended experience and type of craft. The controlled whitewater releases between 2,000 and 3,000 cfs were considered acceptable by most study participants.
- Most study participants indicated that a minimum whitewater skill level of at least intermediate was required to boat the study reach at the range of study flows.
- A number of whitewater reaches in the region that provide a similar whitewater experience were identified by Comparative Survey respondents.

During the construction phase of the proposed modifications, all Project inflow would be spilled to the bypass reach during planned the powerhouse outage (anticipated to be less than 90 days). While planned recreational releases would not be possible during the powerhouse outage, bypass flows would support recreational boating, contingent on Project inflow conditions, and be facilitated by information provided to the public on the Project's Safe Waters website.

2.8 Aesthetic Resources and Land Use

Aesthetic resources would not be affected by the proposed facility modifications. Views of the slope upstream of the Hawks Nest Powerhouse are limited to vantage points across the river, where there is no public access due to the active rail line that runs along the river opposite the powerhouse. The new O&M building will be constructed in a previously disturbed area that is already occupied by operating equipment and storage. The HN FC Switchyard equipment would be protected and shielded from view from the public and would be located the greatest distance

from Highway 60 as practicable. Slope stability (e.g., retaining wall) measures will also help limit visibility of the HN FC Switchyard components from below the powerhouse (i.e., in the New River) and Highway 60.

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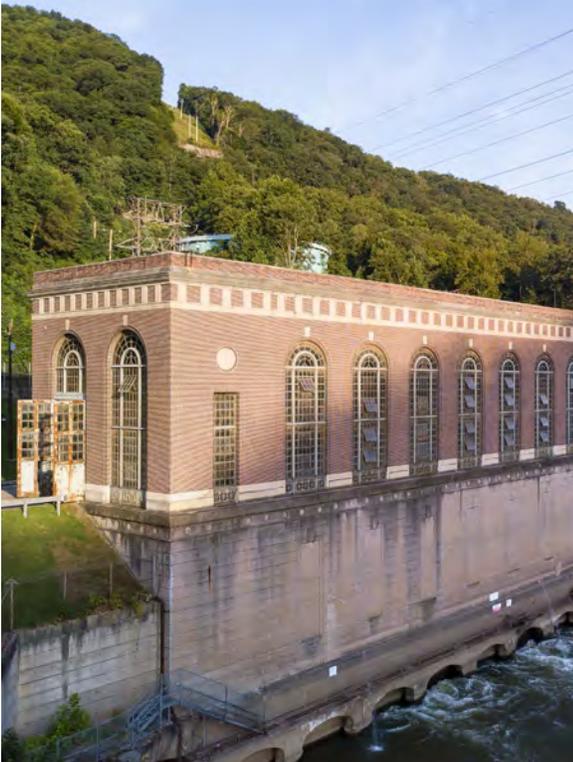


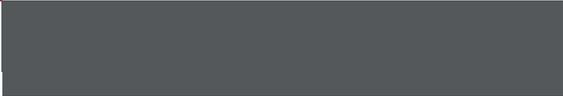
Exhibit G

*Application for Non-Capacity Related
Amendment of License*

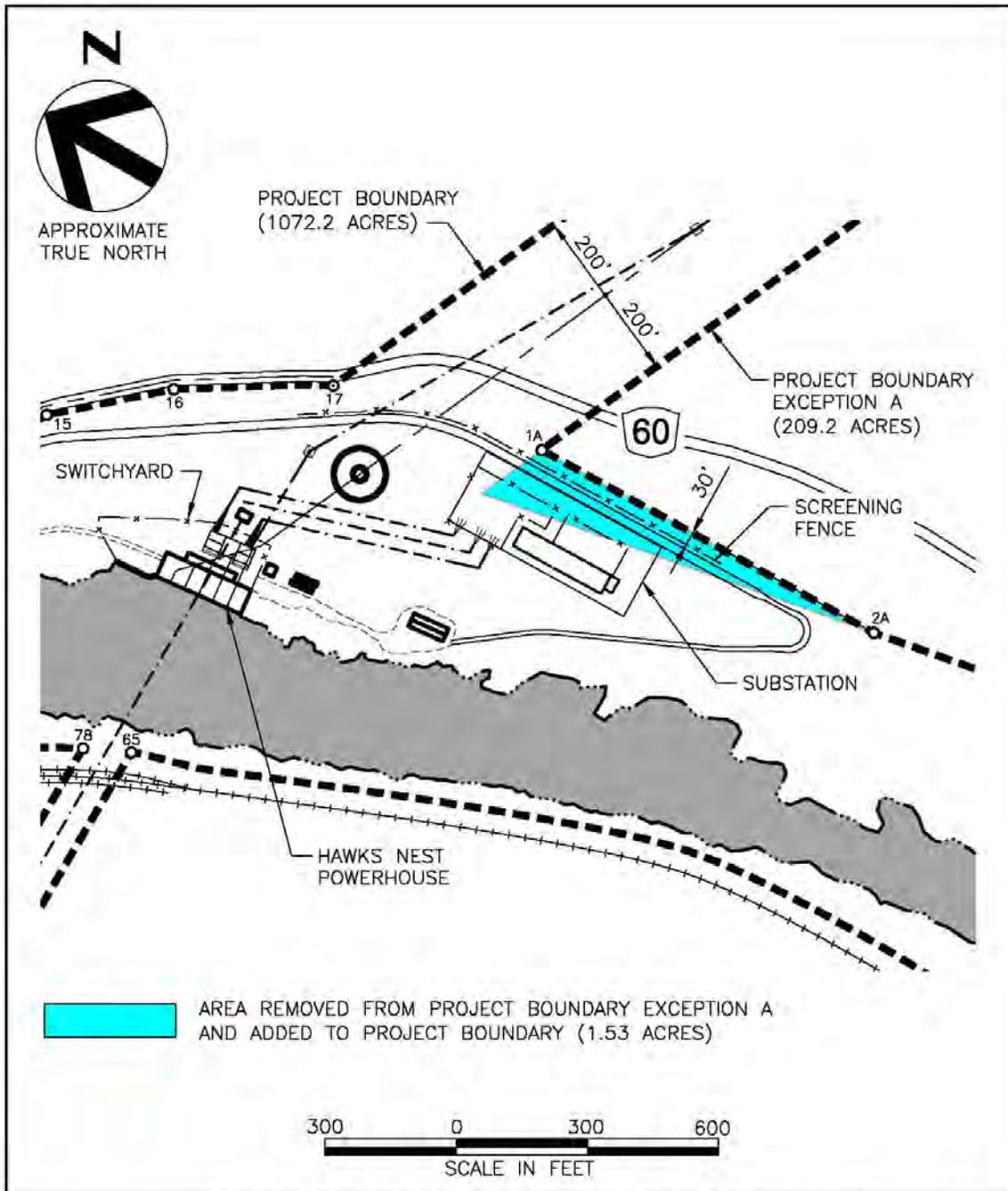
**Hawks Nest
Hydroelectric Project
FERC No. 2512**

Fayette County, West Virginia

October 2024



Project Boundary Revision Map



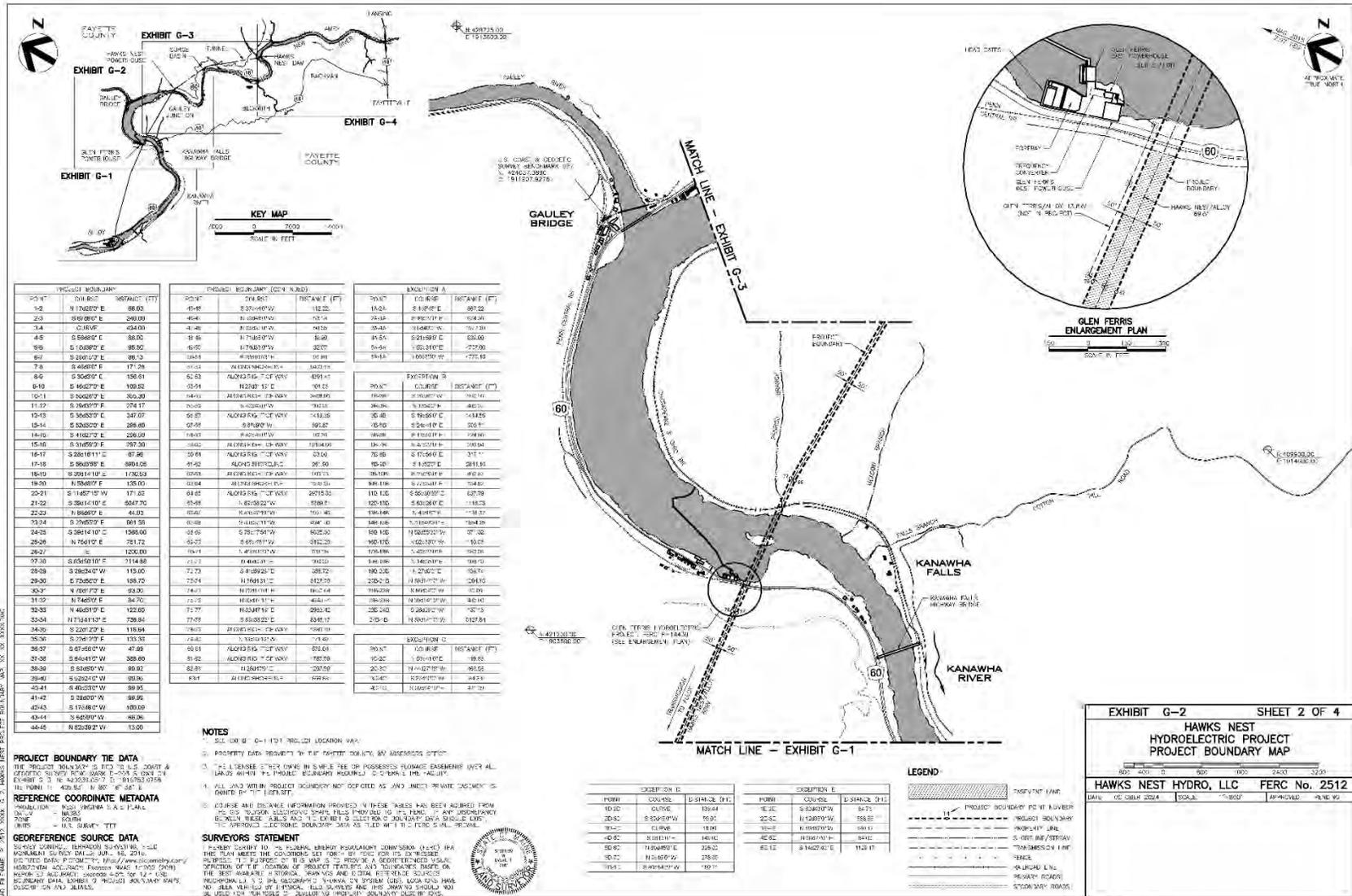
HAWKS NEST HYDROELECTRIC PROJECT
FERC No. P-2512
PROJECT BOUNDARY REVISION
EXPLANATION MAP

Reference Map: P-2512-1013, G-3, Project Boundary Map, 12-22-2017

DATE
October, 2024
FIGURE
1



Revised Exhibit G Drawings



POINT	NORTHING	EASTING
1-2	N 112.6070° E	88.00
2-3	S 85.9801° E	240.00
3-4	S 0.1016° E	434.00
4-5	S 55.8807° E	88.00
5-6	S 15.8807° E	88.00
6-7	S 2.2812° E	88.13
7-8	S 45.8807° E	177.28
8-9	S 55.8807° E	156.81
9-10	S 14.8807° E	118.00
10-11	S 55.8807° E	353.30
11-12	S 2.2812° E	274.17
12-13	S 55.8807° E	347.07
13-14	S 15.8807° E	288.49
14-15	S 41.8807° E	228.00
15-16	S 51.8807° E	297.30
16-17	S 2.2812° E	87.86
17-18	S 55.8807° E	289.00
18-19	S 3.2812° E	176.53
19-20	N 55.8807° E	138.00
20-21	S 14.8807° W	177.85
21-22	S 2.2812° E	587.75
22-23	N 1.8807° E	4.00
23-24	S 2.2812° E	861.58
24-25	S 3.2812° E	1568.00
25-26	N 1.8807° E	73.12
26-27	S	1226.00
27-28	S 65.8807° E	3114.80
28-29	S 2.2812° E	118.00
29-30	S 7.2812° E	188.75
30-31	N 6.2812° E	93.00
31-32	N 74.8807° E	84.70
32-33	N 45.8807° E	122.00
33-34	N 71.8807° E	73.84
34-35	S 2.2812° E	118.84
35-36	S 2.2812° E	133.33
36-37	S 67.8807° W	47.86
37-38	S 64.8807° W	388.89
38-39	S 53.8807° W	89.92
39-40	S 52.8807° W	90.06
40-41	S 46.8807° W	89.95
41-42	S 3.8807° W	89.96
42-43	S 17.8807° W	100.00
43-44	S 6.8807° W	88.06
44-45	N 82.8807° W	13.00

POINT	NORTHING	EASTING
45-46	N 3.2812° E	118.00
46-47	N 3.2812° E	118.00
47-48	N 3.2812° E	118.00
48-49	N 3.2812° E	118.00
49-50	N 3.2812° E	118.00
50-51	N 3.2812° E	118.00
51-52	N 3.2812° E	118.00
52-53	N 3.2812° E	118.00
53-54	N 3.2812° E	118.00
54-55	N 3.2812° E	118.00
55-56	N 3.2812° E	118.00
56-57	N 3.2812° E	118.00
57-58	N 3.2812° E	118.00
58-59	N 3.2812° E	118.00
59-60	N 3.2812° E	118.00
60-61	N 3.2812° E	118.00
61-62	N 3.2812° E	118.00
62-63	N 3.2812° E	118.00
63-64	N 3.2812° E	118.00
64-65	N 3.2812° E	118.00
65-66	N 3.2812° E	118.00
66-67	N 3.2812° E	118.00
67-68	N 3.2812° E	118.00
68-69	N 3.2812° E	118.00
69-70	N 3.2812° E	118.00
70-71	N 3.2812° E	118.00
71-72	N 3.2812° E	118.00
72-73	N 3.2812° E	118.00
73-74	N 3.2812° E	118.00
74-75	N 3.2812° E	118.00
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76-77	N 3.2812° E	118.00
77-78	N 3.2812° E	118.00
78-79	N 3.2812° E	118.00
79-80	N 3.2812° E	118.00
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82-83	N 3.2812° E	118.00
83-84	N 3.2812° E	118.00
84-85	N 3.2812° E	118.00

POINT	NORTHING	EASTING
85-86	N 3.2812° E	118.00
86-87	N 3.2812° E	118.00
87-88	N 3.2812° E	118.00
88-89	N 3.2812° E	118.00
89-90	N 3.2812° E	118.00
90-91	N 3.2812° E	118.00
91-92	N 3.2812° E	118.00
92-93	N 3.2812° E	118.00
93-94	N 3.2812° E	118.00
94-95	N 3.2812° E	118.00
95-96	N 3.2812° E	118.00
96-97	N 3.2812° E	118.00
97-98	N 3.2812° E	118.00
98-99	N 3.2812° E	118.00
99-100	N 3.2812° E	118.00
100-101	N 3.2812° E	118.00
101-102	N 3.2812° E	118.00
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103-104	N 3.2812° E	118.00
104-105	N 3.2812° E	118.00
105-106	N 3.2812° E	118.00
106-107	N 3.2812° E	118.00
107-108	N 3.2812° E	118.00
108-109	N 3.2812° E	118.00
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111-112	N 3.2812° E	118.00
112-113	N 3.2812° E	118.00
113-114	N 3.2812° E	118.00
114-115	N 3.2812° E	118.00
115-116	N 3.2812° E	118.00
116-117	N 3.2812° E	118.00
117-118	N 3.2812° E	118.00
118-119	N 3.2812° E	118.00
119-120	N 3.2812° E	118.00
120-121	N 3.2812° E	118.00
121-122	N 3.2812° E	118.00
122-123	N 3.2812° E	118.00
123-124	N 3.2812° E	118.00
124-125	N 3.2812° E	118.00
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126-127	N 3.2812° E	118.00
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135-136	N 3.2812° E	118.00
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138-139	N 3.2812° E	118.00
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141-142	N 3.2812° E	118.00
142-143	N 3.2812° E	118.00
143-144	N 3.2812° E	118.00
144-145	N 3.2812° E	118.00
145-146	N 3.2812° E	118.00
146-147	N 3.2812° E	118.00
147-148	N 3.2812° E	118.00
148-149	N 3.2812° E	118.00
149-150	N 3.2812° E	118.00
150-151	N 3.2812° E	118.00
151-152	N 3.2812° E	118.00
152-153	N 3.2812° E	118.00
153-154	N 3.2812° E	118.00
154-155	N 3.2812° E	118.00
155-156	N 3.2812° E	118.00
156-157	N 3.2812° E	118.00
157-158	N 3.2812° E	118.00
158-159	N 3.2812° E	118.00
159-160	N 3.2812° E	118.00
160-161	N 3.2812° E	118.00
161-162	N 3.2812° E	118.00
162-163	N 3.2812° E	118.00
163-164	N 3.2812° E	118.00
164-165	N 3.2812° E	118.00
165-166	N 3.2812° E	118.00
166-167	N 3.2812° E	118.00
167-168	N 3.2812° E	118.00
168-169	N 3.2812° E	118.00
169-170	N 3.2812° E	118.00
170-171	N 3.2812° E	118.00
171-172	N 3.2812° E	118.00
172-173	N 3.2812° E	118.00
173-174	N 3.2812° E	118.00
174-175	N 3.2812° E	118.00
175-176	N 3.2812° E	118.00
176-177	N 3.2812° E	118.00
177-178	N 3.2812° E	118.00
178-179	N 3.2812° E	118.00
179-180	N 3.2812° E	118.00
180-181	N 3.2812° E	118.00
181-182	N 3.2812° E	118.00
182-183	N 3.2812° E	118.00
183-184	N 3.2812° E	118.00
184-185	N 3.2812° E	118.00
185-186	N 3.2812° E	118.00
186-187	N 3.2812° E	118.00
187-188	N 3.2812° E	118.00
188-189	N 3.2812° E	118.00
189-190	N 3.2812° E	118.00
190-191	N 3.2812° E	118.00
191-192	N 3.2812° E	118.00
192-193	N 3.2812° E	118.00
193-194	N 3.2812° E	118.00
194-195	N 3.2812° E	118.00
195-196	N 3.2812° E	118.00
196-197	N 3.2812° E	118.00
197-198	N 3.2812° E	118.00
198-199	N 3.2812° E	118.00
199-200	N 3.2812° E	118.00

NOTES
1. SEE EXHIBIT G-1 FOR PROJECT LOCATION MAP.
2. PROPERTY DATA PROVIDED IN THIS PLANETARY COORDINATE METADATA FILE IS FOR INFORMATION ONLY. THE PROJECT BOUNDARY DATA IS THE AUTHORITY.

PROJECT BOUNDARY TIE DATA
THE PROJECT BOUNDARY TIE DATA IS BASED ON THE 2011 U.S. COUNTY & GEOGRAPHIC SURVEY FOR WEST VIRGINIA. THE DATA IS BASED ON THE 2011 U.S. COUNTY & GEOGRAPHIC SURVEY FOR WEST VIRGINIA. THE DATA IS BASED ON THE 2011 U.S. COUNTY & GEOGRAPHIC SURVEY FOR WEST VIRGINIA.

REFERENCE COORDINATE METADATA
PROJ: NAD83
DATUM: NAD83
SPHEROID: GRS80
SEMIMAJOR AXIS: 6378137.0
FLATTENING: 0.00447101411644
UNIT: METERS
PRIME MERIDIAN: WEST VIRGINIA
TWO POINT STRIP: FALSE

SURVEYS STATEMENT
I, the undersigned, being a duly qualified and licensed Professional Surveyor in the State of West Virginia, do hereby certify that the foregoing boundary data was prepared by me or under my direct supervision and that I am a duly qualified and licensed Professional Surveyor in the State of West Virginia.



POINT	DESCRIPTION	SURFACE (FT)	POINT	DESCRIPTION	SURFACE (FT)
10-10	CURVE	19.44	10-10	CURVE	19.44
20-20	SURFACE	19.44	20-20	SURFACE	19.44
30-30	CURVE	19.44	30-30	CURVE	19.44
40-40	SURFACE	19.44	40-40	SURFACE	19.44
50-50	CURVE	19.44	50-50	CURVE	19.44
60-60	SURFACE	19.44	60-60	SURFACE	19.44
70-70	CURVE	19.44	70-70	CURVE	19.44
80-80	SURFACE	19.44	80-80	SURFACE	19.44

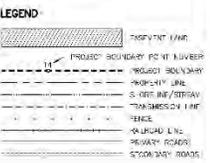
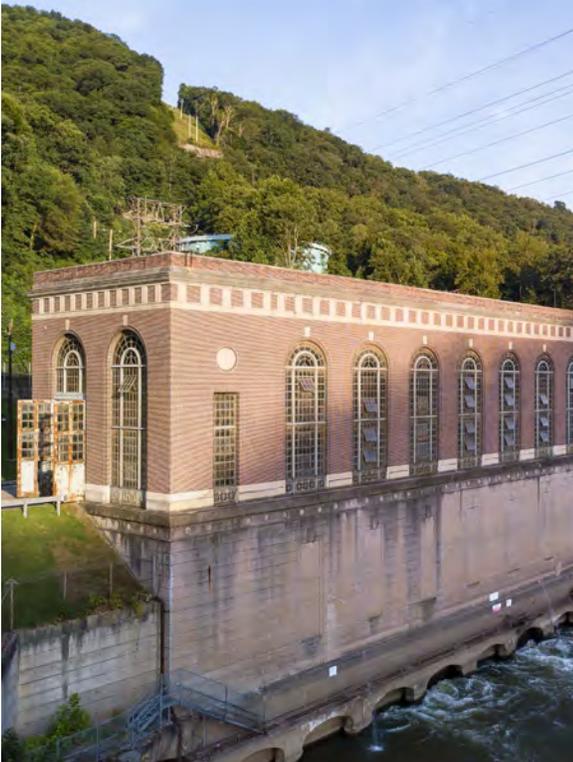


EXHIBIT G-2 SHEET 2 OF 4
HAWKS NEST HYDROELECTRIC PROJECT BOUNDARY MAP
 HAWKS NEST HYDRO, LLC FERC No. 2512
 DATE: 02/08/2024 SCALE: 1"=800' APPROVED: [Signature]



Consultation

*Application for Non-Capacity Related
Amendment of License*

**Hawks Nest
Hydroelectric Project
FERC No. 2512**

Fayette County, West Virginia

October 2024



West Virginia Department of
**ARTS, CULTURE
AND HISTORY**

The Culture Center
1900 Kanawha Blvd., E.
Charleston, WV 25305-0300

Randall Reid-Smith, Cabinet Secretary
Phone 304.558.0220 * www.wvculture.org
Fax 304.558.2779 * TDD 304.558.3562
EEO/AA Employer

October 15, 2024

Mr. Clint Henry
Compliance Specialist
Brookfield Renewable
Via email: clint.henry@brookfieldrenewable.com

RE: Hawks Nest Hydroelectric – Modernization Project
FR# 24-1025-FA-1

Dear Mr. Henry:

We have reviewed the information submitted in support of the above-mentioned project. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR § 800: “Protection of Historic Properties,” we submit our comments.

According to the submitted information, Hawks Nest Hydro, LLC, proposes to submit an application to FERC for a non-capacity amendment of the license to begin modernization efforts of the Hawks Nest Hydroelectric Facility at the Hawks Nest Dam in Fayette County, West Virginia. The proposed work includes replacing turbine-generator Units 1 and 2; constructing a second substation and retaining wall for slope stability; converting existing 69-kV, 25-Hz primary transmission lines to 138-kV, 60-Hz lines using existing transmission towers and transmission corridor; constructing a new paved access road from US Route 60 to facilitate the construction of the second substation; constructing a new O&M building between the existing powerhouse parking area and storage yard; establishing a new laydown area north of the surge tank with a crane pad to service the surge tank; and modifying various electrical systems to support the frequency conversion at Hawks Nest Dam.

Architectural Resources:

We have reviewed the submitted information, and the Hawks Nest Development Historic Site is eligible for the National Register of Historic Places under Criteria A and C. Contributing resources to the historic site include the Hawks Nest Dam, surge basin, surge tank, intake, tunnel, and powerhouse. However, we concur that the proposed modernization project will not adversely affect the above-mentioned resource because the facility will retain its significance as a power generating facility without any substantial alterations to the character defining features of the facility. No further consultation is necessary regarding architectural resources; however, we do ask that you contact our office if your project should change.

Archaeological Resources:

As stated in the submitted materials, none of the archaeological sites identified during earlier surveys conducted at the Hawks Nest Hydroelectric Facility are located within the vicinity of the powerhouse and proposed project area. In addition, available information indicates the proposed

October 15, 2024

Mr. Henry

FR#: 24-1025-FA-1

Page 2

project will be confined to areas that have been previously disturbed, making it unlikely that significant resources would be encountered. As a result, we concur that the proposed project will have no effect on archaeological historic properties.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Benjamin M. Riggle, Structural Historian, or Lora A. Lamarre-DeMott, Senior Archaeologist, at (304) 558-0240.*

Sincerely,



Susan M. Pierce

Deputy State Historic Preservation Officer

SMP/BMR/LLD

From: McCloskey, John <john_mccloskey@fws.gov>
Sent: Monday, October 28, 2024 11:13 AM
To: Lester, Katie
Subject: Re: [EXTERNAL] Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

Katie,

Matt Bearden with our PA Field Office is the lead for this project. I forwarded him your request for comments.

matthew_bearden@fws.gov

John

John McCloskey
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, VA 23061
T: (804) 774-7584
F: (804) 693-9032
Work cell (while teleworking): 757-378-8410
Visit us at <https://www.fws.gov/office/virginia-ecological-services>

From: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Sent: Monday, October 28, 2024 9:47 AM
Cc: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: [EXTERNAL] Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

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Dear stakeholders,

Hawks Nest Hydro, LLC, owner, operator, and licensee of the Hawks Nest Hydroelectric Project on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These powerhouse and electrical system modifications require approval from the Federal Energy Regulatory Commission (FERC) in the form of a Non-Capacity Amendment of License. FERC’s regulations require the licensee to provide a draft version of the amendment application to agencies, Tribes, and stakeholders for a 60-day review period, unless this requirement is waived by agencies and stakeholders.

Please review the attached and provide comments you have about the proposed modifications or draft amendment application no later than December 27, 2024 by email. So that we may file the application with FERC as soon as possible, comments and questions earlier in this review period (or confirmation that your organization has no comments or questions) would be greatly appreciated. The stakeholder list is included in the cover letter.

Thank you for your time,

Katie Lester
Senior Compliance Manager

T 570.226.1371

C 570.881.9067

kathleen.lester@brookfieldrenewable.com

www.brookfieldrenewable.com

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Renewable U.S.

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From: Thornton, Jackie N <jackie.n.thornton@wv.gov>

Sent: Wednesday, November 20, 2024 8:26 AM

To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>

Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Dixon, Nancy J <nancy.j.dixon@wv.gov>; Dawn A Newell <dawn.a.newell@wv.gov>

Subject: Re: FW: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

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*****ATTENTION ! EXPÉDITEUR EXTERNE *** ARRÊTEZ, ÉVALUEZ ET VÉRIFIEZ !: NE CLIQUEZ PAS SUR LES LIENS OU N'OUVREZ PAS LES PIÈCES JOINTES À MOINS DE SAVOIR QUE LE CONTENU EST SÉCURISÉ. Si vous recevez un courriel suspect, veuillez utiliser le bouton de signalement.**

Good morning Clint,

WVDEP 401 Program does not have any comments at this time. Please keep me in the loop along with Nancy Dixon and Dawn Newell with respect to this project FERC license activity.

Thank you,

Jackie Thornton

On Mon, Nov 11, 2024 at 9:50 AM Henry, Clint <Clint.Henry@brookfieldrenewable.com> wrote:

Ms. Jackie Thornton,

Good morning. On October 28th we sent to you for review and comment the Draft Application for Non-Capacity Amendment (NCA) of License at the Hawks Nest Hydroelectric Project. We just wanted to confirm you had received that email, and to let you know we are available to answer any question you may have. For your convenience I have reattached the Draft NCA Application and Stakeholder Review Cover Letter. The comment period for Stakeholders is open for 60-days and we would be glad to have your input. Please reply to this email to let us know you have received the draft NCA document, and feel free to reach out with any questions you may have.

Thank you,

Clint Henry

Clint Henry

Compliance Specialist

From: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Sent: Monday, October 28, 2024 9:48 AM
Cc: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

Dear stakeholders,

Hawks Nest Hydro, LLC, owner, operator, and licensee of the Hawks Nest Hydroelectric Project on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These powerhouse and electrical system modifications require approval from the Federal Energy Regulatory Commission (FERC) in the form of a Non-Capacity Amendment of License. FERC's regulations require the licensee to provide a draft version of the amendment application to agencies, Tribes, and stakeholders for a 60-day review period, unless this requirement is waived by agencies and stakeholders.

Please review the attached and provide comments you have about the proposed modifications or draft amendment application no later than December 27, 2024 by email. So that we may file the application with FERC as soon as possible, comments and questions earlier in this review period (or confirmation that your organization has no comments or questions) would be greatly appreciated. The stakeholder list is included in the cover letter.

Thank you for your time,

Katie Lester

Senior Compliance Manager

T 570.226.1371

C 570.881.9067
kathleen.lester@brookfieldrenewable.com

www.brookfieldrenewable.com

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Jackie Thornton
Environmental Resource Specialist
WVDEP-Water Quality Standards
401 Certification Program
601 57th Street SE
Charleston, WV 25304
304-414-3822
jackie.n.thornton@wv.gov

From: [Huff, Jen](#)
To: [Huff, Jen](#)
Subject: FW: [EXTERNAL] RE: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)
Date: Thursday, February 12, 2026 11:41:00 AM

From: Mendik, Kevin R <Kevin_Mendik@nps.gov>
Sent: Thursday, December 5, 2024 10:03 AM
To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Duncan, Jeffrey R <Jeff_Duncan@nps.gov>; Flippin, Jennifer L <jennifer_l_flippin@nps.gov>
Subject: Re: [EXTERNAL] RE: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

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*****ATTENTION ! EXPÉDITEUR EXTERNE *** ARRÊTEZ, ÉVALUEZ ET VÉRIFIEZ !: NE CLIQUEZ PAS SUR LES LIENS OU N'OUVREZ PAS LES PIÈCES JOINTES À MOINS DE SAVOIR QUE LE CONTENU EST SÉCURISÉ. Si vous recevez un courriel suspect, veuillez utiliser le bouton Phish Alert.**

Thanks Clint.

I understand your concerns and can assure you that the applicant or licensee in this case, will only receive one set of comments from our agency. If the NPS needs to review any CUI and CEII information which would normally be so designated and withheld by Hawks Nest Hydro, we will ask you all for it and provide written assurance that it will not be shared outside those in NPS who need the information in order to conduct our reviews, as is standard procedure.

Since the License Order in late 2017, several NPS New River staff have moved on to other positions, including a key resource manager, who is now at FERC. Superintendent Sellars has been in his position just over two years and was until recently not aware of my role (since the early 1990s) and that of our program to provide assistance to NPS units affected by FERC licensed projects. When I reached out, he gave me a list of people with whom I should coordinate our reviews and responses; that list included Jennifer Flipper, who has been copied on numerous project filings based on my review of the docket from the last 365 days, so would appreciate you adding her to your distribution list at this time. I've encouraged NPS park staff to subscribe to the docket.

We do appreciate your circulating the draft amendment application at this time, so we can collectively assist you in developing an application that has the support of the NPS and other stakeholders. Now that we've made the various connections, that should be simpler going forward.

Regards,

From: Henry, Clint <Clint.Henry@brookfieldrenewable.com>

Sent: Monday, December 2, 2024 12:38 PM

To: Mendik, Kevin R <Kevin_Mendik@nps.gov>

Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Duncan, Jeffrey R <Jeff_Duncan@nps.gov>

Subject: RE: [EXTERNAL] RE: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

Kevin,

Early on, and in preparation for this project, we contacted the NRG NPS to determine the correct persons who should be included in all correspondence for this project. At their request, the list of people who should be included were:

Charles Sellers

Park Superintendent

New River Gorge National Park & Preserve

US National Park Service

PO Box 246

104 Main St.

Glen Jean, WV 25846

NERI_Superintendent@nps.gov

bryan_wender@nps.gov

jay_martin@nps.gov

While we have added you to our distribution list for this project, we would prefer to maintain a central contact (or two) for each stakeholder organization for several reasons. Firstly, It is possible that some of the information that will be distributed during this process will be considered Controlled Unclassified Information (CUI) or Critical Energy Infrastructure Information (CUII) by FERC, and should not be widely distributed. Secondly, we would appreciate that comments and correspondence come from the NPS and be approved by a central organizational representative, as

opposed to receiving myriad unvetted comments from individuals within each stakeholder group. If you feel that additional persons within the NPS should review the draft proposal or other shared information for this project, please feel free to distribute it internally as necessary, collect their input, and forward all approved comments as a package. If it is determined by the NPS that additional contacts should be included in our distribution list, please have Charles, Brian or Jay send us an email to that effect. We do appreciate your interest and look forward to receiving feedback from the NPS.

Thanks,

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Mendik, Kevin R <Kevin_Mendik@nps.gov>
Sent: Monday, December 2, 2024 11:46 AM
To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Flippin, Jennifer L <jennifer_l_flippin@nps.gov>; Wender, Bryan W <bryan_wender@nps.gov>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Duncan, Jeffrey R <Jeff_Duncan@nps.gov>
Subject: Re: [EXTERNAL] RE: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

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***** ATTENTION ! EXPÉDITEUR EXTERNE *** ARRÊTEZ, ÉVALUEZ ET VÉRIFIEZ !: NE CLIQUEZ PAS SUR LES LIENS OU N'OUVREZ PAS LES PIÈCES JOINTES À MOINS DE SAVOIR QUE LE CONTENU EST SÉCURISÉ. Si vous recevez un courriel suspect, veuillez utiliser le bouton de signalement.**

Thanks Clint, I've connected with a number of staff at the park and have copied them here. They should also be included in the distribution list going forward.

Regards,

From: Henry, Clint <Clint.Henry@brookfieldrenewable.com>

Sent: Monday, December 2, 2024 11:35 AM

To: Mendik, Kevin R <Kevin_Mendik@nps.gov>

Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Duncan, Jeffrey R <Jeff_Duncan@nps.gov>

Subject: [EXTERNAL] RE: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

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Good morning Kevin,

As requested, we have added you to our contact and distribution list for the Non-Capacity Amendment Application (NCA) process. Going forward we will include you in all Stakeholder correspondence regarding this project. I am forwarding to you the Draft NCA package we sent out to Stakeholders at the end of October for the 60-day review period to solicit comments and feedback. If you would like to respond prior to December 27th, 2024, we will include your (NPS) comments in our final application submission to the FERC. We appreciate your interest and look forward to hearing back from you. If you have any questions please feel free to reach out to me at this email or at the number listed below.

Thanks,

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Mendik, Kevin R <Kevin_Mendik@nps.gov>

Sent: Wednesday, November 27, 2024 10:52 AM

To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Lester, Katie

<Kathleen.Lester@brookfieldrenewable.com>; Duncan, Jeffrey R <Jeff_Duncan@nps.gov>

Subject: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

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Kathleen, Clint,

Could you please add me to your distribution list for this project. I worked on the 2017 relicensing on behalf of NPS and am still in the position.

Also have you all reached out to the New River Gorge National Park and Preserve as we will likely be involved again as well.

Regards,

Kevin R. Mendik

DOI R1 NPS Hydro Assistance Program

15 State Street

Boston, MA 02109

617-320-3496

kevin_mendik@nps.gov

Hours M-F 800-1730

<https://www.nps.gov/orgs/1988/hydropower-and-nps.htm>

Permanent Remote Status

From: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Sent: Tuesday, December 17, 2024 3:59 PM
To: Aaron Schneider
Cc: Matt Carpenter; Henry, Clint
Subject: RE: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC
Attachments: Letter to Brookfield.pdf

Good afternoon Aaron and Matt,

Thank you for reaching out and submitting comments on the Hawks Nest modernization project. We will include them in our submission to FERC. I would also be happy to reach out to you after the holidays to set up a time to talk so that we can better understand your operations and interests.

We look forward to working with you in the future. Have a great holiday season!

Katie Lester
Senior Compliance Manager

T 570.226.1371
C 570.881.9067
kathleen.lester@brookfieldrenewable.com
www.brookfieldrenewable.com

Brookfield
Renewable U.S.

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From: Aaron Schneider <ajschn.md@gmail.com>
Sent: Monday, December 16, 2024 10:19 AM
To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Cc: Matt Carpenter <mcarpenter@newriverclimbing.net>
Subject: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

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Katie,

I am a local rock climber and representative for the New River Alliance of Climbers, the Fayetteville based climbing access non-profit. I had your letter regarding the Hawks Nest Hydro Modernization Project forwarded to me; while the letter explains water levels are unlikely to be affected, my contact suggested rafting companies and boaters were submitting comments pertaining to this. I have attached a letter from myself and NRAC, discussing climber's interest in maintaining the current minimum flow level; per your letter, this will likely fall in line with existing plans anyway.

NRAC and climbers have had loose contact with Brookfield/Hawks Nest Hydro in the past, many years ago through Nic Spruil and more recently Amanda Smith. Amanda has recently stepped down from her

board position with NRAC. I was hoping to re-open lines of communication, with the goal of benefit to both climbers/NRAC and Brookfield. We would appreciate being informed of any future stakeholder meetings and comment periods that could influence recreational use. As well, I would love to meet in person with yourself or the appropriate person within Brookfield/Hawks Nest Hydro to discuss your concerns with climbing and climber's interests along this stretch of river.

I have cc'ed Matt Carpenter who is president of NRAC.
Feel free to reach out at any time by email or cell.

Thank you!
Aaron Schneider
Cell 513-262-6621

December 16, 2024

To Katie Lester and Brookfield Renewable U.S.,

I am responding in regards to the open comment period for the Hawks Nest Hydro Modernization Project. I am a representative of the New River Alliance of Climbing (NRAC), the Fayetteville, WV based climbing access advocacy organization. As well, I am a climbing guidebook author including areas on the New River from Hawks Nest Dam to the powerhouse, and I live locally in Nicholas county, employed as a faculty Emergency Medicine physician with WVU.

Climbing, especially bouldering – climbing without a rope, falling on portable foam pads – has been enjoyed along the New River Dries for 30+ years. Along with parking and trails, water levels are the most important climbing access concern along this stretch of river. Many of the best and most unique climbs sit in the river bed, only climbable with low water levels. During periods of low precipitation, the minimum flow level out of Hawks Nest Dam directly impacts what boulders are climbable, and which are inaccessible due to fall zones being under water. For example, increase in minimum flow in 2018 did result in many previously established climbs becoming unclimbable year round.

I, and NRAC, as representatives of the local climbing community, ask that the current minimum flow of ~4.35 ft be maintained. We would benefit further from even lower minimum flow during winter months, when environmental impact from low water levels may be less.

We understand the importance of the currently established minimum flow during warm months, and respect the environmental significance of this flow level. Additionally, we see the value of multi-sport recreational access along the New River, and applaud regularly scheduled releases to benefit the whitewater community. Just as whitewater sports have grown rapidly since the pandemic, so has rock climbing. We hope that our interests will fit along with, not in opposition to, those of other user groups. The importance of climbing to the community and economies of the New River Gorge region and West Virginia cannot be overstated; reflected most recently with the creation of Summersville Lake State Park and its highlight of rock climbing opportunities.

NRAC has fostered a strong, productive, and formalized partnership with the Army Corps at Summersville Lake, maintains a critical and growing relationship with the NPS and most recently has begun working with the WV State Parks, especially in collaboration with developers and management of the new Summersville Lake State Park. We hope to add Brookfield Renewable U.S. and Hawks Nest Hydro, LLC to our wealth of relationships.

Please reach me at any time by email ajschn.md@gmail.com or cell/text 513-262-6621.

Thank you,
Aaron Schneider
NRAC Representative

From: Wenonah Haire <Wenonah.Haire@catawba.com>
Sent: Tuesday, December 17, 2024 5:40 PM
To: Lester, Katie
Subject: Re: Hawks Nest Hydro Project (FERC Project No. 2512) - Modernization Project Capacities

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We have no concerns at this time.

Wenonah G. Haire, DMD
Cultural Division Director
THPO Office
Catawba Indian Nation
1536 Tom Steven Road
Rock Hill, South Carolina 29730
803-417-9057

On Dec 17, 2024, at 5:03 PM, Lester, Katie <Kathleen.Lester@brookfieldrenewable.com> wrote:

Dear Stakeholders,

Hawks Nest Hydro, LLC, owner, operator, and Federal Energy Regulatory Commission (FERC) licensee of the Hawks Nest Hydroelectric Project on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These were described in the draft Non-Capacity Amendment (NCA) Application provided to you for review and comment on October 28, 2024.

The modernization project is not expected to significantly increase the powerhouse's hydraulic capacity or authorized installed capacity, change run-of-river Project operations or minimum or recreation flow releases at the dam, or result in other modifications of licensed Project structures. However, as planning for the work has progressed, we wanted to clarify the proposed changes to both the Authorized Installed Capacity (as defined by FERC) and the maximum hydraulic capacity for the Project that will be included in the final non-capacity amendment application filed with FERC. Please note that these changes still meet the criteria for a non-capacity license amendment application, so only minor changes to the draft application are needed.

Hawks Nest Project	Existing	Draft NCA	Final NCA
Maximum hydraulic capacity (cubic feet per second)	10,160	10,380*	10,380
Authorized Installed Capacity (megawatts)	102	107.9	108.5

*Project capacity of 10,160 cfs with Unit 1 and Unit 2 hydraulic capacity limited by mechanical blocks.

Attached please find the Initial Statement and Environmental Review reflecting these new capacities in track changes.

As a reminder, the comment period for the draft NCA application ends on December 27, 2024. Please don't hesitate to contact me if you have concerns about this revision.

Thank you,

Katie Lester
Senior Compliance Manager

T 570.226.1371
C 570.881.9067
kathleen.lester@brookfieldrenewable.com
www.brookfieldrenewable.com

<image001.jpg>
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From: Lester, Katie
Sent: Monday, October 28, 2024 9:48 AM
Cc: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

Dear stakeholders,

Hawks Nest Hydro, LLC, owner, operator, and licensee of the Hawks Nest Hydroelectric Project on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These powerhouse and electrical system modifications require approval from the Federal Energy Regulatory Commission (FERC) in the form of a Non-Capacity Amendment of License. FERC's regulations require the licensee to provide a draft version of the amendment application to agencies, Tribes, and stakeholders for a 60-day review period, unless this requirement is waived by agencies and stakeholders.

Please review the attached and provide comments you have about the proposed modifications or draft amendment application no later than December 27, 2024 by email. So that we may file the application with FERC as soon as possible, comments and questions earlier in this review period (or confirmation that your organization has no comments or questions) would be greatly appreciated. The stakeholder list is included in the cover letter.

Thank you for your time,

Katie Lester
Senior Compliance Manager

T 570.226.1371
C 570.881.9067
kathleen.lester@brookfieldrenewable.com
www.brookfieldrenewable.com

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From: [Lester, Katie](#)
Cc: [Henry, Clint](#); [Lester, Katie](#)
Bcc: matthew_bearde@fws.gov; "[NERI Superintendent@nps.gov](mailto:NERI_Superintendent@nps.gov)"; [Bryan Wender@nps.gov](mailto:Bryan_Wender@nps.gov); jay_martin@nps.gov; "kevin_mendik@nps.gov"; jennifer_l_flippin@nps.gov; "jeff_duncan@nps.gov"; "106NAGPRA@astribe.com"; "wenonah.haire@catawba.com"; "elizabeth-toombs@cherokee.org"; "sallen@delawarenation-nsn.gov"; "syerka@nc-cherokee.com"; "thpo@estoo.net"; "wtarrant@sctribe.com"; "thpo@shawnee-tribe.com"; "tuscationhouse@gmail.com"; rcain@ukb-nsn.gov; Dixon, Nancy J; "Mary.A.Deweese@wv.gov"; "Jackie.N.Thornton@wv.gov"; "Danny.A.Bennett@wv.gov"; "drake.a.propson@wv.gov"; Baughman, Joe D; "Susan.M.Pierce@wv.gov"; "abigail.m.ayers@wv.gov"; "ace@aceraft.com"; Roger Wilson; l.hanger@onthegorge.com; kevin@americanwhitewater.org; "info@raftinginfo.com"; rick@raftinginfo.com; westvirginiafishing@gmail.com; rlang@ferroglobe.com; ajschn.md@gmail.com; mcarpenter@newriverclimbing.net
Subject: Hawks Nest Hydro Project (FERC Project No. 2512) - Modernization Project Capacities
Date: Tuesday, December 17, 2024 5:02:00 PM
Attachments: [2024.12.16 Hawks Nest NCA App revisions.pdf](#)

Dear Stakeholders,

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Attached please find the Initial Statement and Environmental Review reflecting these new capacities in track changes.

As a reminder, the comment period for the draft NCA application ends on December 27, 2024. Please don’t hesitate to contact me if you have concerns about this revision.

Thank you,

Katie Lester
 Senior Compliance Manager

T 570.226.1371

C 570.881.9067
kathleen.lester@brookfieldrenewable.com
www.brookfieldrenewable.com



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From: Lester, Katie
Sent: Monday, October 28, 2024 9:48 AM
Cc: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

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Please review the attached and provide comments you have about the proposed modifications or draft amendment application no later than December 27, 2024 by email. So that we may file the application with FERC as soon as possible, comments and questions earlier in this review period (or confirmation that your organization has no comments or questions) would be greatly appreciated. The stakeholder list is included in the cover letter.

Thank you for your time,

Katie Lester
Senior Compliance Manager

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C 570.881.9067
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DRAFT

Initial Statement (18 CFR §4.201(a))

**BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**HAWKS NEST HYDROELECTRIC PROJECT
(PROJECT NO. 2512)**

**APPLICATION FOR A NON-CAPACITY RELATED AMENDMENT OF LICENSE
FOR MAJOR PROJECT – EXISTING DAM**

1. Hawks Nest Hydro, LLC (Hawks Nest Hydro, Licensee, or Applicant) applies to the Federal Energy Regulatory Commission (FERC or Commission) for a non-capacity amendment of license for the Hawks Nest Hydroelectric Project (FERC No. 2512) (Project), an existing licensed major project. The current license for the Project was issued on December 22, 2017, and expires on January 31, 2064.
2. The exact name, business address, and telephone number of the applicant are:

Hawks Nest Hydro, LLC
439 Elizabeth Way
Fayetteville, WV 25840
+1 304.574.8558

The name and business address of each person authorized to act as agent for the applicant in this application is:

Katie Lester
Senior Compliance Manager
Brookfield Renewable
439 Elizabeth Way
Fayetteville, WV 25840
(570) 226-1371
kathleen.lester@brookfieldrenewable.com

3. The applicant is a domestic corporation, licensee for the water power project, designated as Project No. 2512 in the records of the Federal Energy Regulatory Commission, issued on the 22nd day of December, 2017.
4. The amendment of license proposed and the reason(s) why the proposed changes are necessary, are:

Hawks Nest Hydro is proposing a modernization project to convert energy generation and transmission from the Project from 25-Hz to 60-Hz, consistent with the frequency of the regional (PJM) system. The frequency conversion project includes:

- Turbine-generator replacements for Units 1 and 2. The new turbines will have higher ratings than the original Units 1 and 2 (27,700 kW). The new 60-Hz generators will also have higher ratings than the original Units 1 and 2 (37,000 kVA, PF 0.85, compared to 30,000 kVA, P.F. 0.85). The authorized installed capacity of the Project, as defined by 18 C.F.R. §11.1(i), will increase from 102 MW to 106.4 MW. The maximum hydraulic capacity of the Project will increase by 2 percent.
- Construction of a new switchyard near the Hawks Nest powerhouse including a 60-Hz frequency converter (for Units 3 and 4).
- Conversion of the existing 69-kV, 25-Hz primary transmission lines to 138-kV, 60-Hz. The transmission line upgrade will utilize existing transmission towers and the existing transmission corridor.
- Additionally, Hawks Nest Hydro will reconfigure the substation at the Alloy facility so that a single transmission line will land on the 138-kv bus, which would connect the Project to the existing 138-kv line between the existing AEP and Alloy substations.
- A new access road in the vicinity of the Hawks Nest powerhouse to facilitate construction of the new substation.

- Construction of a 60-ft by 80-ft prefabricated metal building in the vicinity of the existing substation and Hawks Nest powerhouse, to contain personnel offices and locker room area displaced from the existing powerhouse by new electrical equipment associated with the plant modernization.

Following completion of the project, Hawks Nest Hydro does not presently plan to provide power or ancillary services directly to Alloy.

A portion of the new switchyard and access road to the switchyard will occur outside the current Project boundary, so Hawks Nest Hydro is proposing to expand the Project boundary by approximately 1.5 acres (ac).

5. (i) The statutory or regulatory requirements of West Virginia that affect the modernization project as proposed, with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes, and with respect to the right to engage in the business of developing and transmitting power are:
 - a. Hawk's Nest Hydro is a Delaware LLC, registered to do business in West Virginia, and, as such, can engage in the activities set forth in its organizational documents, which includes the generation, transmission, and distribution of electricity from the Project.
 - b. Section 401 of the Federal Clean Water Act, 33 USC §1341 requires that applicants for a federal license or permit to conduct an activity that will or may discharge into navigable waters must present the federal authority with a certification from the appropriate state agency. Pursuant to W. Va. Code §§22-1-6(d)(7), the West Virginia Department of Environmental Protection (WVDEP) is the state agency designated to carry out the certification requirements prescribed in Section 401 of the Clean Water Act for waters of West Virginia.
 - c. Water rights involved are merely the riparian rights appurtenant, under West Virginia law, to the various lands needed for dam site, flowage and tailrace purposes.

(ii) The steps the applicant has taken or plans to take to comply with each of the laws cited above are:

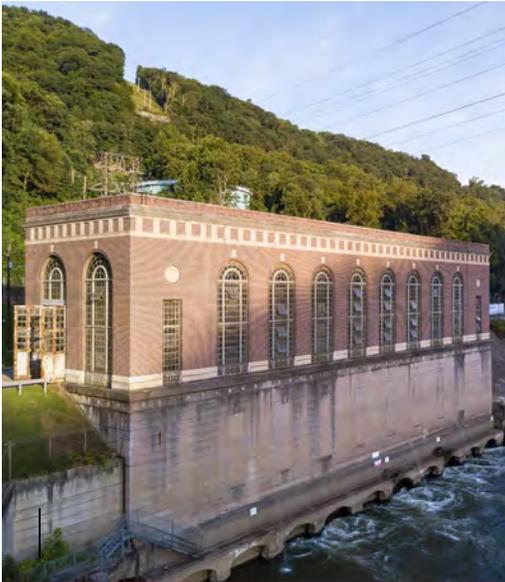
- a. Applicant has complied with the requirements of the laws of the State of West Virginia with respect to the right to engage in the business of developing and transmitting power.
- b. Applicant received a Water Quality Certification (WQC) from WVDEP pursuant to Section 401 of the Federal Clean Water Act, 33 USC §1341 and W. Va. Code §§22-1-6(d)(7) and 22-11-7(a) and West Virginia Legislative Rule §47CSR5A on June 2, 2017, which was subsequently amended on August 14, 2017. Applicant is currently in compliance with the WQC. The modernization project will not result in a new discharge or substantially amend the discharge upon which the WQC was based. As documented and described in this application, Applicant is consulting WVDEP regarding consistency of this non-capacity amendment application with the existing WQC.
- c. Applicant possesses the necessary water rights under West Virginia law to the various lands needed for the dam site, flowage and tailrace purposes, none of which are impacted by the proposed modernization project.
- d. Applicant performed studies associated with water quality, aquatic resources, terrestrial resources, wetlands, bypass reach flows, recreation, and cultural resources during the relicensing of the Project, which were analyzed by FERC during its environmental analysis. The proposed modernization project would not alter the findings of the studies and conclusion of the environmental analyses.

Exhibits Included in the Non-Capacity Amendment Application (18 C.F.R. § 4.201(c))

Applications for non-capacity license amendments need include only those exhibits in the existing license applicable to the proposed amendment. The exhibits included in this application are:

- Exhibit A: Project Description (18 CFR §4.51(b)). Hawks Nest Hydro is providing a revised Exhibit A, including a redline version, to include a description of the new substation, frequency converters, and replacement turbine-generators.
- Exhibit E: Environmental Summary (18 CFR §4.51(f)). Hawks Nest Hydro is providing a summary of the anticipated effects of the proposed modification on environmental, recreational, cultural, aesthetic, and socioeconomic resources. Because of the number and extent of studies conducted during relicensing, the Environmental Summary relies heavily on studies previously filed with the Commission. A milestone schedule for construction activities proposed in this non-capacity amendment application is included in Exhibit E.
- Exhibit G: Project Maps (18 CFR 4.41(h)): Hawks Nest Hydro is providing revised Exhibit G drawings of the proposed new Project boundary incorporating the proposed switchyard and access road. A drawing showing the current and proposed Project boundaries is also included in Exhibit G.
- Consultation: Documentation of consultation conducted by the Applicant with resource agencies, Tribes, and other stakeholders during preparation of this non-capacity amendment application, as required by 18 C.F.R. § 4.38. *[To be developed following consultation.]*

Hawks Nest Hydro will provide revised Exhibits F (Site Drawings), if and as applicable, following construction to accurately reflect as-built conditions.



DRAFT Environmental Review

*Application for Non-Capacity
Related Amendment of License*

Hawks Nest Hydroelectric
Project

FERC No. 2512

October 2024 ([Revised December 2024](#))

Fayette County, West Virginia



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Acronyms and Abbreviations

APE	Area of Potential Effects
cfs	cubic feet per second
ESA	Endangered Species Act
FC	frequency converter
ft	feet/foot
Hawks Nest Hydro or Licensee	Hawks Nest Hydro, LLC
HN FC Switchyard	Hawks Nest Frequency Converter Switchyard
HPMP	Historic Properties Management Plan
Hz	hertz
IPaC	Information for Planning and Consultation
kV	kilovolt
MW	megawatt
MVA	megavolt ampere
NRHP	National Register of Historic Places
PJM	PJM Interconnection, LLC
Project	Hawks Nest Project
SHPO	State Historic Preservation Office
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water quality certification
WVAM	WVA Manufacturing, LLC
WVDEP	West Virginia Department of Environmental Protection
WVDNR	West Virginia Division of Natural Resources



1.0 Background

Hawks Nest Hydro, LLC (Hawks Nest Hydro or Licensee) is the Licensee, owner, and operator of the Hawks Nest Project (Federal Energy Regulatory Commission [FERC] No. 2512; Project) in Fayette County, West Virginia. The Project recently underwent relicensing following FERC's Integrated Licensing Process with a new license issued by FERC on December 22, 2017. The new license was effective as of January 1, 2018, and expires on January 31, 2064.

The Licensee's operations of the Project began upon acquiring the Project in 2006. The Project was built in the 1930s to provide 25-Hertz (Hz) power for the smelter furnaces at the Union Carbide ferroalloy plant near Alloy, West Virginia. Today, the Project generates an average of 534,100 megawatt-hours (MWh) of renewable energy annually. The Licensee is proposing a life extension and modernization capital project, including generating unit and electrical system updates, to allow the Project to generate power at 60Hz for the regional (PJM) grid.

The proposed life extension and modernization project is indicative of the Licensee's continued long-term commitment to renewable generation at the Project. In addition to implementing protection, mitigation, and enhancement measures required by the new license, over the past decade the Licensee has been investing in life extension and modernization activities at the Project to provide continued safe, reliable, and economical energy generation through the new license term. Past activities have included refurbishment of the Unit 4 generator, post-tension anchoring of the dam to meet modern design criteria, a dewatered tunnel inspection, crest gate rehabilitation, projects to rehabilitate and upgrade the spillway gantry crane, rehabilitation of the surge tank, and rehabilitation of the surge basin. The current life extension and modernization capital project would convert energy generation and transmission from the Project from 25Hz to 60Hz. The proposed Project modifications require FERC authorization in the form of a non-capacity amendment of license. As such, the Licensee has prepared this non-capacity amendment application in accordance with FERC regulations. To facilitate FERC staff's assessment of the proposal, the Licensee is providing this brief environmental review of the potential effects of the proposed Project modifications to the Project on environmental, recreational, socioeconomic, aesthetic, and cultural resources.

For a comprehensive overview of issues studied and resulting recommendations from the relicensing, refer to the previous Final Environmental Assessment (FERC 2017) and the new license order.¹

¹ 161 FERC ¶ 62,228, Hawks Nest Hydro, LLC, Project No. 2512-075, Order Issuing New License (December 22, 2017).



1.1 Description of Existing Conditions

1.1.1 Regional Overview

The Project is located in the Kanawha section of the Appalachian Plateaus Physiographic Province (Covington 2005; U.S. Department of Agriculture [USDA] 2006; Fenneman 1917). The Appalachian Plateaus Province is part of the Appalachian Highlands, a major physiographic division that includes the Appalachian Mountains and is bordered on the east by the Ridge and Valley Province. The Kanawha section is a mountainous highland region occurring as a series of long side slopes between narrow ridgetops (USDA 2006; Messinger and Hughes 2000).

The Project is located within the New-Kanawha River basin. The Kanawha River and its major tributary, the New River, drain 12,223 square miles (mi²) in North Carolina, Virginia, and West Virginia (Paybins et al. 2000). The New River originates in North Carolina at the confluence of the North Fork New River and the South Fork; the New River then flows northward for 320 miles through Virginia before entering West Virginia. The 6,964.6-mi² New River watershed in West Virginia lies mostly within Fayette, Mercer, Monroe, Raleigh, and Summers counties (NPS 2024).

Five large dams are present upstream of the Project on the New River, the nearest being Bluestone Dam, located in the City of Hinton, West Virginia. Most of the New River between Bluestone Dam and Hawks Nest Dam is encompassed within the National Park Service (NPS)-protected New River Gorge National Park and Preserve, however the protected portion of the river reach ends at the upstream extent of the Hawks Nest reservoir/project boundary. Upstream of the Project, the New River Gorge is a prominent physiographic feature characterized by exposed cliffs, rock cities, massive boulders, rock overhangs, exposed coal-bearing sediments, and unique formations caused by spheroidal weathering of the surrounding rock (NPS 2009).

Downstream of Hawks Nest Dam, the New River follows a narrow valley to its confluence with the Gauley River where the rivers combine to form the Kanawha River. The Kanawha River empties into the Ohio River which eventually drains into the Gulf of Mexico via the Mississippi River.

1.1.2 Existing Project Facilities

The Project consists of a concrete gravity dam with 14 gated spillway bays, a power tunnel intake structure with intake gate, trashracks and a trash rake, water conveyance tunnel, surge basin, surge tank, four water-conveying penstocks and one bulkheaded penstock, manifold, the reservoir, and a powerhouse containing four turbine-generator units (Figure 1-1). As described in the Project's license, licensed transmission facilities consist of an outdoor substation located next to the powerhouse containing transformers (Hawk Nest Switchyard), circuit breakers, and disconnecting switches. Electricity generated at the Project is transmitted by two parallel, approximately 5.5-mile-long, 69-kilovolt (kV) transmission lines that connect the Hawks Nest Switchyard at the powerhouse to the Alloy Substation located at WVAM's alloy plant in Alloy, West Virginia.

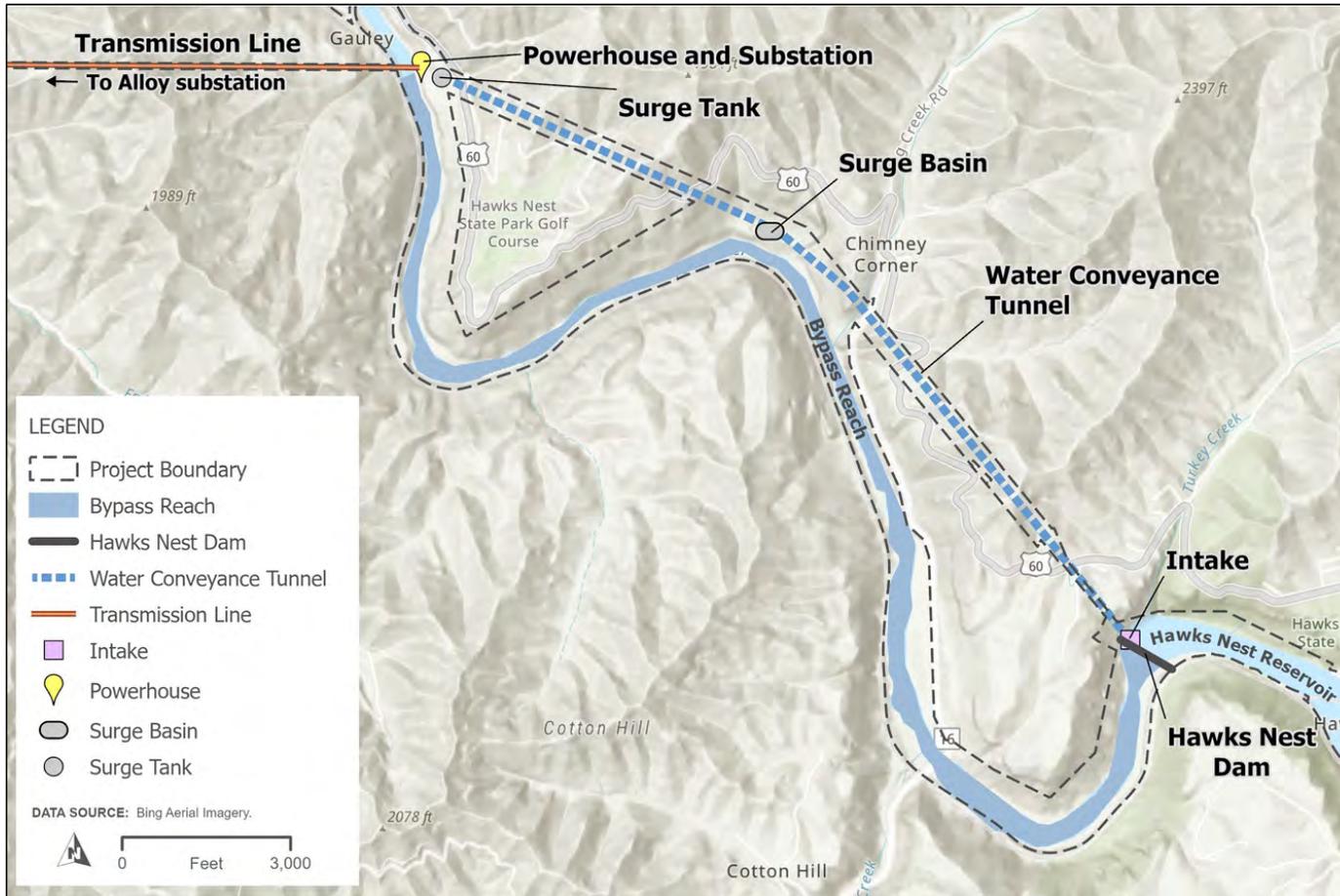


Figure 1-1. Hawks Nest Project Layout



1.2 Description of Proposed Modifications

1.2.1 Proposed Facility Modifications

The modernization project includes multiple phases to complete civil, electrical, and mechanical engineering scopes of work to modernize the Project and convert two of the four units and one transmission line from 25Hz to 60Hz, along with associated electrical system modifications. Proposed modifications include:

- Replacement of Units 1 and 2 turbines and generators with two new turbine-generators.
- Construction of the Hawks Nest Frequency Converter Switchyard (HN FC Switchyard) near the powerhouse, an access road to the HN FC Switchyard, and a 13.8kV line (generator lead) from the powerhouse to the new HN FC Switchyard.
- Installation of a new 53-megavolt ampere (MVA) 60Hz frequency converter (FC) in the HN FC Switchyard for Units 3 and 4).
- Conversion of the existing 69-kV, 25-Hz primary transmission lines to 138-kV, 60-Hz.
- Relocation of the break room, locker room, shop, and office area from the powerhouse to a new prefabricated metal building, 60 ft by 80 ft, (“O&M Building”), near the powerhouse. This relocation of personnel facilities is necessary to accommodate new 480-volt switchgear inside the powerhouse.
- Modifications to the electrical system at the Hawks Nest Dam including relocation of the standby generator from the dam mezzanine to an exterior location and replacing the existing 25-Hz switchgear with 60-Hz switchgear.
- Transfer of four existing FCs in the Alloy Substation from the Licensee to WV Alloy Manufacturing, LLC (WVAM).
- Reconfiguring of the Alloy Substation so a Hawks Nest primary transmission line lands on the 138kv bus.

These modifications are further described below.

1.2.1.1 Units 1 and 2 Turbine-Generators Replacements

Units 1 and 2 turbine and generators are at the end of their service life. The existing vertical Francis turbines (I.P. Morris, installed 1931-1933) would be replaced with new vertical Francis turbines. The existing 25Hz generators (Westinghouse, installed 1931-1933) would be replaced by new 60Hz generators, which would allow for 57.5 MW of 60Hz generation from Units 1 and 2. The scope of work for the unit upgrades includes replacement of all components of Unit 1 and 2 generators starting from the concrete embedded parts including new turbine, shaft, rotor, generator, governor, exciter, controls, and main power circuit. New 13.8kV 60Hz generator switchgear internal to the powerhouse will also be installed. The replacement units would have a slightly higher hydraulic and generating capacities as described in Exhibit A of this application. Additional details are provided in Exhibit A of this non-capacity amendment application. No significant changes are planned for the exterior of the powerhouse that would change the look of the historic structure.

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The Units 1 and 2 upgrades will require retrofit of new 138 kV equipment, including a new 83MVA oil-filled step-up transformer and gas insulated breaker, into the existing Hawks Nest 69 kV Switchyard.

1.2.1.2 New HN FC Switchyard and Access Road

The HN FC Switchyard would be constructed southeast of the Project powerhouse. It would include a new 53MVA 13.8kV 25Hz/13.8kV 60Hz static FC enclosed within a 230-ft by 50-ft prefabricated metal building; two new approximately 500-foot [ft]-long 13.8 kV lines (generator leads) from the powerhouse to the HN FC Switchyard; a 0.7-acre temporary laydown area for use during construction; a turnaround area for delivery trucks, cranes, and other maintenance vehicles; an area for a mobile 150-ton crane near the locations of the transformers; crane pad in the vicinity of the existing surge basin approximately 60 ft by 40 ft in size; smaller pad areas and temporary access paths for the construction of new transmission line structures; and a new access road (Figure 1-2).

A new paved road would be needed for access to the HN FC Switchyard. The new access road would extend from Highway 60 to the HN FC Switchyard, including one crossing of the Project's underground water-conveyance tunnel (Figure 1-3). The road would be 20 feet (ft) wide with 2.5-ft shoulders on each side and a maximum 10 percent slope along the roadway. It would be constructed in a manner that minimizes stress on the Project underground water conveyance tunnel. Similarly, the Licensee would restrict the weight of vehicles using the road to limit potential effects to the tunnel. Hawks Nest Hydro will consult with the FERC Division of Dam Safety and Inspections-New York Regional Office (D2SI-NYRO) regarding construction activities associated with the access road.

Construction of the new access road will require the following activities:

- Clearing of approximately 10 acres of vegetation to facilitate construction of roadway and pad.
- Civil site works including cuts up to approximately 35 ft and fills up to 40 ft to establish final project grades for the new roadways and HN FC Switchyard pad.
- Construction of multiple earth retention systems to support the proposed cuts and fills.
- Site flatwork improvements to include paved parking/turn around area, drainage aprons, and/or sidewalks, and deep foundations for HN FC Switchyard and ancillary structures.
- Establishment of new transmission right of way for the generator leads and installation of associated pole and transmission lines.
- New area drainage connecting to existing outlet.
- Modification to the existing Hawks Nest Switchyard to facilitate new interconnection.
- As necessary, other site improvements such as retaining walls, drainageway crossings, and drainage features may be supported on shallow foundations, deep foundations, or a combination of foundation types.



1.2.1.3 Units 3 and 4 Frequency Converter

A new FC would be installed in the HN FC Switchyard which would allow for 48 MW of 25Hz generation from Units 3 and 4 to be converted from 25Hz to 60Hz for generation sales into the PJM market. (There would be no change to the generators for Units 3 and 4, which would provide the maximum output of the converter.) Following completion of this work, 25Hz power would no longer be transmitted to WVAM; the 69kV, 25Hz power would be fed from the existing Hawks Nest Switchyard to the new FC in HN FC Switchyard via a short new transmission line (approx. 500 ft away).

1.2.1.4 Primary Transmission Line

The existing transmission lines (3) would be converted to 138kV, 60Hz operation and used to connect the new 138kV Hawks Nest bus to a new 138kV breaker in the Alloy Substation.

1.2.1.5 Alloy Substation Reconfiguration

A new 138kV substation will be constructed to facilitate interconnection of Project generation to the PJM market via the existing 138kV line. A new breaker in the Alloy Substation would be connected to the existing 138kV Alloy bus which connects to the existing 138kV 60Hz AEP (American Electric Power) Kanawha River-Alloy transmission line. There will be no change to the licensed point of interconnection.

1.2.1.6 Hawks Nest Dam 60Hz Conversion

The existing 25Hz auxiliary switchgear at the dam will be replaced with new 60Hz equipment and a new duct bank will be routed from the West Abutment electrical room to the intake gate. Both gantry crane power rail supply systems will be converted to 60Hz switchgear and the existing intake gate motor will be replaced. A new standby diesel generator will be installed between the intake gate and trash racks. The new standby generator will have a concrete foundation with secondary containment.

1.2.1.7 Hawks Nest 60Hz Auxiliary Conversion

Additional system and Project upgrades to ancillary equipment will be necessitated by conversion of the energy generated at the Project to 60Hz. This includes replacement of the existing facility 25Hz, 460V power distribution system with a new 60Hz, 480V system at the powerhouse, surge basin, and dam. This upgrade of antiquated 25Hz distribution equipment with modern, safer, and standard 60Hz equipment will increase system reliability through diversification of power sources, installation of new standby generators, use of standard equipment, and additional emergency power supply means. The Licensee will consult with and provide construction plans, specifications, and procedures to FERC D2SI-NYRO regarding excavation required at the Hawks Nest Dam west abutment to install the generator foundation and electrical duct bank and temporary impacts to gate operations. Additionally, the Licensee will notify the FERC Division of Hydropower Administration and Compliance and Project stakeholders regarding temporary closure(s) of the Bike-Hike Trail in accordance with the Recreation Management Plan.

1.2.2 Proposed Project Operations

The Licensee is not proposing modifications to its current operations. The Project would continue its run-of-river operations, maintain reservoir elevations consistent with existing reservoir



elevations, provide existing continuous minimum bypass flows and recreational release flows, and continue its flow ramping rates during and following construction.

1.2.3 Milestone Schedule

A schedule for major milestones to perform the activities above follows:

- January 2025: Grading and clearing for the new short 13.8-kV, 69kV, and 138kV line sections from the existing Hawks Nest Switchyard to the new 138-kV HN FC Switchyard where the new FC would be installed
- January 2025: Break ground for the new break room, locker room, shop and office area
- December 2025: Power Purchase Agreement with WVAM expires
- March 2026 to January 2027: Unit 1 replacement
- April 2026: Electrical/ HN FC Switchyard installation begins
- April to June 2026: New FC comes online
- February 2027 to November 2027: Unit 2 replacement



2.0 Effects of Proposed Modifications

The Licensee is proposing only facility modifications; no modifications to Project operations are proposed. Therefore, potential effects are limited to resources that would be directly affected by construction activities or short-term, temporary operational effects (i.e., powerhouse outage increasing spillway releases), approximately five to six months, during construction.

The Project is operated consistent with the requirements of the new FERC and the West Virginia Department of Environmental Protection (WVDEP) Water Quality Certification (WQC). FERC license requirements, WQC Special Conditions, and the potential effects of the proposed facility modifications are summarized in Table 2-1 and Table 2-2.

Table 2-1. Summary of FERC License Requirements 401 through 410 and Potential Modernization Project Effects

Article No.	Description	Potential Effects
401	Submit the Recreation Management Plan and Report of Short Duration Spiking Flows in the Bypassed Reach	No effect.
402	Operation Compliance Monitoring	No effect; the Licensee would continue to monitor and report compliance activities during and after construction.
403	Fishways reservation	No effect.
404	Bald Eagle Protection Plan	No effect; the Licensee would implement the protection measures in the Bald Eagle Protection Plan prior to, during, and after construction.
405	Running Buffalo Clover Management Plan ²	No effect; running buffalo clover is not present within areas of proposed modifications.
406	Timing of Tree Clearing	No effect; tree clearing is proposed to be done in accordance with the timing requirements as discussed in Section 2.4.
407	Recreation flow releases	Construction phase: Temporary effects; see Section 2.7.2. Post-construction phase: No effect
408	Recreation management	Construction phase: Temporary effects to the Bike-Hike Trail; see Section 2.7. Post-construction phase: No effect
409	Historic Properties	No effect presently anticipated, but consultation on-going; see Section 2.5.
410	Use and Occupancy	No effect; the Licensee owns or has easements for all areas where proposed modifications would occur.

² During relicensing, running buffalo clover was listed as federally endangered. By final rule issued by the U.S. Fish and Wildlife Service on September 7, 2021, it has since been de-listed.



Table 2-2. Summary of WQC Special Conditions and Potential Modernization Project Effects

Special Condition No.	Summary of Special Condition	Potential Effects
1	Operate in “run-of-the-river” mode.	No effect; the Project would continue to operate in run-of-the-river mode during and after construction.
2	Maintain a minimum flow of 300 cubic feet per second (cfs) flows into the Hawks Nest bypassed reach beginning March 1 through June 30, and a minimum of 250 cfs for all other months.	No effect; minimum bypass flows would be maintained during and after construction.
3	Maintain a stage gage in the vicinity of the Cotton Hill bridge and have the information available via the internet real-time.	No effect.
4	Develop and maintain a central public website for information relevant to flows in the bypassed reach.	No effect; Hawks Nest Hydro would update its public website with flow information during and after construction. See Section 2.7.2.
5	Open a biking and hiking trail beginning approximately 1,000 feet downstream of the mouth of Mill Creek and continuing downstream to the Hawks Nest Dam.	Construction phase: The Bike-Hike trail would be intermittently closed during construction activities at the Hawks Nest Dam. Post-construction phase: No effect.
6	Provide one-time funding of \$50,000 for improvements or enhancements to the Cotton Hill Bridge Day-Use Area.	Not applicable.
7	Improve the Cotton Hill Bridge Day-Use Area parking area.	Not applicable.
8	Maintain angler access to the existing Hawks Nest Tailrace Fishing Access Area and continue to allow angler access to the bypassed reach.	No effect.
9	Work with WV Division of Natural Resources on a take-out location on the New River in the Gauley Bridge area.	Not applicable.
10	Provide annual funding in the amount of \$25,000, to WVDNR- WRS for recreation facilities on Project-associated lands.	Not applicable.
11	Develop an updated Recreation Management Plan.	Not applicable.
12	Meet with stakeholders to schedule the recreational release dates and start times pursuant to Special Condition 13.	No effect; Hawks Nest Hydro would continue to meet with stakeholders regarding the schedule of recreational release dates during and after construction.
13	Provide a total of seven planned 6-hour recreational releases of 2,200 cfs to 2,500 cfs annually, generally during the last weekend of June and the weekends in July and August and two scheduled whitewater	Construction phase: When station outage required for 60Hz conversion activities, all inflow would be diverted to the bypass reach. Outage duration not expected to last more than 90 days. See Section 2.7.2



Special Condition No.	Summary of Special Condition	Potential Effects
	releases during the last two weekends in March, contingent upon 1,600 cfs being first available for critical power generation.	Post-construction phase: No effect
14	Submit to WVDEP a report describing its examination of short duration spiking flow increases in the bypass reach.	Not applicable.
15	Between March 1 and October 31, operate the Project such that water levels in the Hawks Nest bypassed reach are up-ramped and down-ramped no more than 1-ft-per-hour as measured in the New River below Hawks Nest Dam, West Virginia at the U.S. Geological Survey (USGS) Gage No. 380649081083301 when reservoir inflow is less than 12,600 cfs and flow in the bypassed reach is less than or equal to 2,600 cfs.	No effect. The Licensee would continue to comply with the requirements of the FERC license and WQC.
16	Mitigation for the incidental take of fish due to the Project's operation shall be provided in an amount made payable to the WVDNR annually. Monetary reimbursement will be consistent with fish entrainment calculations from the 2015 desktop entrainment analysis, based on a 2003 American Fisheries Society Special Publication 30 Appendix A: Replacement Cost of Fish, adjusted for inflation.	Construction phase: Entrainment of fish through the turbines would be eliminated during outage periods when all inflow is spilled to the bypass reach. Post-construction phase: No effect; no changes to the number of fish entrained or fish mortality are anticipated due to the similarities in replacement turbine design and mechanical limits on replacement unit hydraulic capacity.
17	Amendment to the FERC license may be subject to recertification consistent with FERC Consultation Requirements in 18 CFR §4.38(a). Further, if the 25-Hz power generated by the Project is no longer needed to fulfill the current industrial end-use presently served, WVDEP reserves the right to re-examine and modify the conditions established in this certification as they pertain to the current end-use.	No effect anticipated. Hawks Nest Hydro is consulting with WVDEP regarding the WQC.
18	Comply with water quality standards as contained in Title 47CSR2 of the WV Code of State Regulations, Requirements Governing Water Quality Standards.	No effect; the Project is currently meeting water quality standards and will comply with standards during and after construction.
19	Measure and report Large Quantity Water Use pursuant to §22-26-let seq of the WV Code of State Regulations.	No effect; the Licensee would continue submitting license-required reports during and after construction.
20	Violation of any of the conditions listed above shall negate this water quality certification.	No effect; the Project is presently operated in compliance with the WQC and expects to maintain compliance with the WQC during and following the modernization activities proposed in this non-capacity amendment application.



Potentially affected environmental, recreational, cultural, aesthetic, and socioeconomic resources are summarized in Table 2-3 and further described below.



Table 2-3. Summary of Potential Effects by Resource Area

Resource Area	Description of Activity that Could Affect Resource	Potential Construction Effects	Potential Post-Construction Effects
Geological and Soil Resources	Clearing, grading, and ground-disturbing activities ¹	See Section 2.1	No effect
Water Quality and Water Quantity	Replacement of Unit 1 and Unit 2 with similar units	No effect	No effect
Fisheries – Minimum bypass flows, entrainment, ramping rates	Replacement of Unit 1 and Unit 2 with similar units	All Project inflows would be temporarily released to the bypass reach during powerhouse outage periods	No effect
Special status species – critical habitat	Clearing, grading, and ground-disturbing activities ¹	No effect. No terrestrial critical habitat is present at the Project.	No effect
Special status species – bats	Clearing, grading, and ground-disturbing activities ¹	No effect (tree removal is proposed to take place outside of the roosting season between October 15 and March 31)	Loss of approximately 10 acres of potential summer roosting habitat; no direct effects to bat species
Special status species – bald eagle	Clearing, grading, and ground-disturbing activities ¹	No effect (no nesting eagles are known within the Project boundary or areas to be disturbed)	No effect
Archaeological resources	Clearing, grading, and ground-disturbing activities ¹	No effect. Ground-disturbing activities will not affect known archaeological sites or occur in archaeologically-sensitive areas.	No effect
Architectural resources	Replacement of historic Units 1 and Unit 2; addition of new structures and facilities adjoining historic powerhouse, addition of new electrical equipment at the dam	Consultation with the West Virginia State Historic Preservation Office (WV SHPO) under the Historic Properties Management Plan (HPMP) is ongoing. See Section 2.5.	No effects that would impact the Project's eligibility for listing in the National Register of Historic Places (NRHP)
Socio-economic resources	Continued reliable, economic operation of the Project through the new license term	No effect	Project provides clean, renewable generation to the PJM market
Recreation – recreational facilities	Construction activities that affect recreation facilities	Temporary closures of Bike-Hike Trail	No effect
Recreation – recreation flow releases	Replacement of Unit 1 and Unit 2 with similar units	Temporary effect due to periods when all inflow is released to the	No effect



Resource Area	Description of Activity that Could Affect Resource	Potential Construction Effects	Potential Post-Construction Effects
		bypass reach during temporary powerhouse outages	
Aesthetics and land use	Clearing, grading, and ground-disturbing activities ¹	Temporary visual effects associated with construction of the HN FC Switchyard and access road	No effect

¹ Activities associated with the construction of the HN FC Switchyard, the new access road, and laydown areas.

2.1 Geological and Soil Resources

Little to no effect to geological and soil resources is expected as explained below.

Vegetation clearing, grading, and other earth-moving and site preparation activities associated with proposed facility modifications have the potential to disturb soil stability and subsurface geology. Grading would be performed to minimize cut and fill volumes, and the length of access road retaining walls would be limited to the extent feasible.

The proposed HN FC Switchyard pad design would require significant grading given the sloping terrain, and some amount of bedrock excavation may be required. The finished pad elevation would minimize bedrock removal to the extent feasible, although fill volumes to raise grades on the west sides of the pad would increase.

The smaller pad areas would be designed using best practices. Access paths may include a thin gravel section to facilitate off-road equipment access during construction activities.

Excavation of rock along the access road may be necessary. Blasting with controlled explosives in close proximity to the water conveyance tunnel would be avoided. Rock breaking using heavy equipment would cause vibrations that may transmit through the rock to the tunnel, but vibrations would be minor. The road grades would be designed to minimize the need for rock removal in close proximity to existing features such as the surge tank and above the water conveyance tunnel.

The Licensee would obtain applicable Erosion and Sediment Control permits from WV DEP consistent with regulatory requirements and develop a Stormwater Pollution Prevention Plan. Best Management Practices such as silt fencing would be used to prevent disturbed sediments from leaving the construction site. Obtaining and following appropriate permit conditions would minimize effects to geological and soil resources.

2.2 Water Quality and Water Quantity

2.2.1 Water Quality

No direct impacts to water quality are anticipated from the proposed modifications. The existing drainage patterns of the site would be maintained where possible, and stormwater treatment would meet the requirements of the Stormwater Construction General Permit the Licensee would acquire. The rate of outflow would be controlled to reduce potential erosion at discharge locations. Ditch lines would be sized to pass 10-year (24-hour) storm events and culverts sized to pass 2-year (24-hour) storm events. Treatment of stormwater would consist of a stilling basin or underground chamber, and temporary sediment basins would be installed during construction. Stormwater Pollution Prevention Plans would be developed for each phase of construction.

Contaminated soils may be present in the area that would be subject to grading and excavation activities in the vicinity of the existing 138kV Alloy Substation. If contaminated soils are

encountered, they would be removed in accordance with state and federal requirements for the protection of water quality.

2.2.2 Water Quantity

No effects to water quantity are expected during or following the proposed Project modifications as further described below.

Due to the lack of significant usable storage capacity in the Hawks Nest reservoir, the Project is operated as a run-of-river facility under all conditions of stream flow, except as needed to implement the FERC-required ramping rate (see Section 2.3.3) or if temporarily modified if required by emergencies beyond the Licensee's control. The control room operators monitor the reservoir to minimize reservoir elevation changes and maintain the normal pool level of approximately 819 ft above mean sea level (amsl). The reservoir level is maintained through power generation and release of the required minimum flow from the trash gate at the right end of the spillway, and additional spill through the spillway gates when inflow exceeds powerhouse capacity.

The reservoir is typically operated within 0.5 feet of the normal pool level. Operation of the Project in this range provides flexibility to maintain the required minimum flow release and make minor adjustments in anticipation of significant inflow based on releases from the upstream Bluestone Dam or local precipitation events.

Upstream river stage below Bluestone Dam is monitored (via USGS gage 03184500 New River at Hinton, West Virginia and periodic communications with U.S. Army Corps of Engineers) such that the Project operator can anticipate spillway gate and power generation operations. Control room operators are responsible for controlling the 14 spillway gates and the trash gate at the Project dam to balance the river flow released into the New River bypass reach and the river flow diverted into the power tunnel for generation purposes. The upstream USGS gage below Bluestone Dam is utilized to determine the need for additional spillway gates and discharge.

With the bypass reach minimum flow requirement of 250 or 300 cfs provided at the dam, the balance of the flow is dispatched through the power tunnel for powerhouse operations. The individual turbine-generator units each currently have a discharge rating of approximately 2,540 cfs, for a four-unit discharge capacity of approximately 10,160 cfs. The new Unit 1 and Unit 2 turbines would have higher hydraulic capacities resulting in a Project maximum hydraulic capacity of 10,380 cfs, an increase of approximately 6 percent.

Based on the annual flow duration curve, the normal river flow is less than or equal to 10,250 cfs approximately 77 percent of the time (Figure 2-1).

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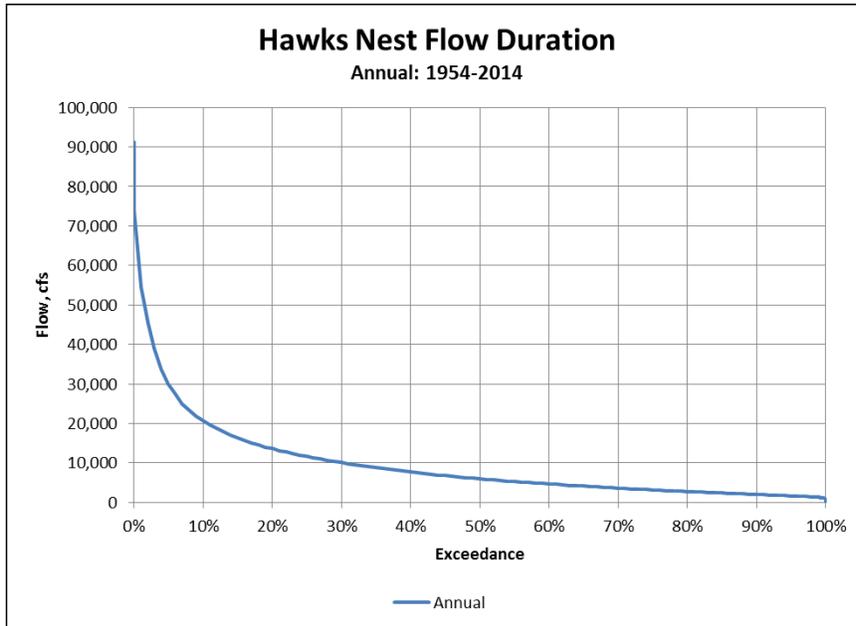


Figure 2-1. Hawks Nest Project Annual Flow Duration Curve³

The Project would continue to operate as run-of-river during and following construction. A planned powerhouse outage would occur during construction during which all inflows would spill to the bypass reach. Modifications to powerhouse operations may also be implemented ahead of construction to reduce capacity to full outage, in which case excess inflow would be spilled into the bypass reach. Temporary changes to operations and flows would be updated on the Safe Waters website⁴ maintained by Brookfield, consistent with the WVDEP WQC Special Condition No. 3.

2.3 Fisheries Resources

2.3.1 Minimum Bypass Flows

No changes or effects to minimum bypass flows are proposed or expected during or following the proposed Project modifications, as further described below.

Consistent with FERC License requirements, the WVDEP WQC Special Condition No. 2, and the Operation Compliance Monitoring Plan (approved by FERC by order dated August 9, 2018), a minimum flow of 300 cfs is released into the Hawks Nest bypass reach from March 1 through June 30, and a minimum flow of 250 cfs for all other months (Table 2-2). Typically, the bypass

³ Based on data from the Gauley River above Belva, WV and Kanawha River at Kanawha Falls, WV USGS gages, adjusted for the Hawks Nest drainage area.

⁴ <https://www.safewaters.com/facility/hawks-nest>

minimum flow release is provided from the trash gate at the right end of the spillway which can discharge up to 333 cfs.

The instream flow study (HDR 2015a) found the bypass reach provides a variety of habitats to support aquatic resources and sustains a diverse warm water fishery and macroinvertebrate community. Changes in flows have varying effects on different species, life stages, and guilds depending on preferences for water velocities and depths. For example, an increase in bypass flows provide an increase of spawning habitat, with concurrent decrease of available fry habitat. The study also showed that the quantity of suitable habitat does not change significantly with increasing flows. FERC relied on these study findings to establish the current FERC license requirements.

All flow through the Project would be diverted to the bypass reach during powerhouse outage during construction (anticipated to be five to six months), temporarily altering bypass flow conditions. No permanent changes to bypass flow operations would occur. Minimum bypass flow requirements would be met during this time. Therefore, the Bypass Reach Aquatic Habitat Use/Instream Flow Study and analysis and recommendations from FERC's previous EA (FERC 2017) remain applicable for the proposed modifications.

2.3.2 Entrainment

No changes are proposed or expected to occur that would affect entrainment rates or survival rates of entrained fish.

Field entrainment studies were conducted at the Project in 1985 (EA Engineering 1986) and 1989-1990 (Kleinschmidt Associates, Inc. 1990). A desktop entrainment evaluation was also completed during the recent relicensing (HDR 2015b) which included a predictive blade strike model to estimate turbine survival for fish passing through the Project turbines (entrained) using the Advanced Hydro Turbine model (Franke et al. 1997).

In general, entrainment rates for all species increased in the summer and fall months, likely due to increased activity related to foraging, spring reproduction, and subsequent dispersal (GeoSyntec 2005; EPRI 1997; Jenkins and Burkhead 1993). Gizzard shad and channel catfish represent the majority of entrainment, particularly in the fall, winter, and summer months, respectively. Episodic entrainment of gizzard shad is a known occurrence at the Project, driven by this species' sensitivity to cold stress (and unrelated to Project operations).

The entrainment studies and blade strike model showed that 94 percent of fish entrained are four inches in length or less with survival rate of 95 percent. This and prior studies suggest little to no adverse effects are occurring to resident New River fish communities due to entrainment through the Project.

No entrainment would occur during powerhouse outage periods (anticipated to be five to six months) when all inflow would be spilled to the bypass reach. Following construction, the proposed modifications are not expected to affect numbers or survival of fish entrained at the Project. While the new Unit 1 and Unit 2 turbines would have slightly higher hydraulic capacities, the intake structure would not be modified. Therefore, the approach velocity at the trashracks

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would remain comparable to existing velocities, and the existing trashracks would remain in place with no changes to the openings. Since no changes are expected that would affect rates or survival of entrainment, the Fish Entrainment Report (HDR 2015b) and analysis and recommendations from FERC's previous EA (FERC 2017) remain applicable for proposed modifications.

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2.3.3 Ramping Rates

The proposed modifications are not expected to affect ramping rates during or after construction. The FERC license and WQC Special Condition 15 require the Licensee to upramp or downramp flows from the Project from March through October when river flows are less than 12,600 cfs, and when there are flows of 2,600 cfs or less in the bypass reach. During such conditions, the Licensee operates the Project to maintain a ramping rate not greater than 1 ft per hour, as measured at the USGS gage in the vicinity of the Cotton Hill Bridge (USGS 380649081083301 New River below Hawks Nest Dam, West Virginia).

As described in the Operation Compliance Monitoring Plan, the ramping rate consists of 0.5-ft gate opening increments with a 45-minute time delay between gate movements. The incremental gate openings and time steps remain in place until the minimum opening of 2 ft is reached, corresponding to a spillway discharge of approximately 2,600 cfs. The intent is to maintain an upward or downward ramping rate not greater than 1 ft per hour and to maintain the reservoir elevation below the 820 feet amsl. In accordance with the approved Operation Compliance Monitoring Plan, the approved ramping rate may be modified, if necessary, to prevent overtopping of the Project dam or spillway gates.

There are no proposed changes to ramping rates with the facility modifications; between March 1 and October 31, water levels in the bypass reach would continue to be down-ramped no more than 1 ft per hour as measured in the New River below Hawks Nest Dam at USGS Survey Gage No. 380649081083301 when reservoir inflow is less than 12,600 cfs and flow in the bypass reach is less than or equal to 2,600 cfs. Down-ramping at this rate would provide fish protection from possible stranding in the bypass reach.

2.4 Wildlife and Botanical Resources

2.4.1 Federally Protected Species

Hawks Nest Hydro conducted a review of species listed as threatened, endangered, and candidate species under the Endangered Species Act (ESA) using U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) online system on September 9, 2024. The IPaC report (USFWS 2024a) identified a total of 13 threatened or endangered species, and 3 proposed or candidate species that have the potential to occur within the Project boundary (Table 2-5).

Table 2-4. Federally Listed Species Potentially Occurring within the Project Boundary

Common Name	Scientific Name	Status
Mammals		
Gray Bat*	<i>Myotis grisescens</i>	Endangered
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered
Tricolored Bat*	<i>Perimyotis subflavus</i>	Proposed Endangered
Virginia Big-eared Bat	<i>Corynorhinus townsendi virginianus</i>	Endangered
Clams		
Fanshell	<i>Cyprogenia stegaria</i>	Endangered
Green Floater*	<i>Lasmigona subviridis</i>	Proposed Threatened
Longsolid	<i>Fusconaia subrotunda</i>	Threatened
Northern Riffleshell	<i>Epioblasma rangiana</i>	Endangered
Pink Mucket	<i>Lampsilis abrupta</i>	Endangered
Round Hickorynut*	<i>Obovaria subrotunda</i>	Threatened
Sheepnose Mussel	<i>Plethobasus cyphus</i>	Endangered
Snuffbox Mussel	<i>Epioblasma triquetra</i>	Endangered
Spectaclecase*	<i>Cumberlandia monodonta</i>	Endangered
Insects		
Monarch Butterfly*	<i>Danaus plexippus</i>	Candidate
Plants		
Virginia Spiraea	<i>Spiraea virginiana</i>	Threatened

Source: IPaC consultation; accessed on September 9, 2024.

*Species added to the IPaC list since Project relicensing. Running buffalo clover was classified as Endangered during relicensing but is no longer listed.

2.4.1.1 Designated Critical Habitat

Designated critical habitat is the specific areas within the geographic area occupied by the species at the time it was listed that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection (USFWS 2017). Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation.

Final designated critical habitat has been established under the ESA for the Indiana bat (*Myotis sodalis*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), longsolid (*Fusconaia subrotunda*), and round hickorynut (*Obovaria subrotunda*) (Table 2-6). Critical habitat is also

proposed to be designated for the green floater (*Lasmigona subviridis*). Only the longsolid and round hickorynut were found to have designated critical habitat that overlaps with the Project boundary according to the 2024 USFWS IPaC report.

Table 2-5. Federally Listed Species with Designated Critical Habitat

Common Name	Scientific Name	Year Critical Habitat Established	Critical Habitat within Project Boundary
Indiana Bat	<i>Myotis sodalis</i>	Final - 1977	No
Virginia Big-eared Bat	<i>Corynorhinus townsendii virginianus</i>	Final - 1979	No
Green Floater	<i>Lasmigona subviridis</i>	Proposed - 2023	No
Longsolid	<i>Fusconaia subrotunda</i>	Final - 2023	Yes
Round Hickorynut	<i>Obovaria subrotunda</i>	Final - 2023	Yes

2.4.1.2 Migratory Birds and Eagles

The IPaC reports migratory birds with the potential to occur within the Project boundary (Table 2-7). The Migratory Bird Treaty Act of 1918 implements four international conservation treaties that the U.S. entered into with Canada, Mexico, Japan, and Russia, with intent to ensure the sustainability of populations of all protected migratory bird species (USFWS 2024b). In addition to the Migratory Bird Treaty Act, the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are also protected under Bald and Golden Eagle Protection Act.

Table 2-6. Migratory Birds Potentially Occurring within the Project Boundary

Common Name	Scientific Name	Breeding Season
Bald Eagle	<i>Haliaeetus leucocephalus</i>	February 1 to June 30 ^a
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	May 15 to October 10
Black-capped Chickadee	<i>Poecile atricapillus praticus</i>	April 10 to July 31
Bobolink	<i>Dolichonyx oryzivorus</i>	May 20 to July 31
Canada Warbler	<i>Cardellina canadensis</i>	May 20 to August 10
Cerulean Warbler	<i>Setophaga cerulea</i>	April 27 to July 20
Chimney Swift	<i>Chaetura pelagica</i>	March 15 to August 25
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	May 1 to August 20
Golden Eagle	<i>Aquila chrysaetos</i>	Breeds elsewhere
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	May 1 to July 20
Kentucky Warbler	<i>Geothlypis formosa</i>	April 20 to August 20
Prairie Warbler	<i>Setophaga discolor</i>	May 1 to July 31

Common Name	Scientific Name	Breeding Season
Prothonotary Warbler	<i>Protonotaria citrea</i>	April 1 to July 31
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	May 10 to September 20
Rusty Blackbird	<i>Euphagus carolinus</i>	Breeds elsewhere
Wood Thrush	<i>Hylocichla mustelina</i>	May 10 to August 31

^a As described in the FERC-approved Hawks Nest Bald Eagle Protection Plan (HDR 2018).
Source: USFWS 2024a

2.4.1.3 Potential Effects to Federally Protected Species

Bats

Five bat species were identified on the IPaC report as potentially occurring in the Project boundary: gray bat, Indiana bat, northern long-eared bat, tricolored bat, and Virginia big-eared bat. Gray bats and Virginia big-eared bats occupy caves year-round, whereas Indiana bats, Northern long-eared bats, and tricolored bats roost in forested areas during summer. No caves have been identified within the Project boundary.

Summer roosting habitat used by the Indiana bat consists of trees greater than five inches in diameter with cracks, crevices, and/or exfoliating bark, often within canopy gaps in a forest, fenceline, along a wooded edge, or riparian zone (USFWS 2024c). The trees typically comprise snags in early to mid-decay stages. If live trees are used, it is most often species with naturally sloughing bark such as shagbark hickory. Summer roosting habitat for the northern long-eared bat includes the same or similar habitat as the Indiana bat (USFWS 2024d). During the spring, summer, and fall, tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees (USFWS 2024e). They have also been found using artificial structures such as barns, porch roofs, bridges, or concrete bunkers.

A bat habitat and acoustic survey was performed in 2013 in support of relicensing (HDR 2015c). Since the study was performed prior to the listing of the northern long-eared bat (2015) or proposed listing of the tricolored bat (2022) (and since the Virginia big-eared bat resides year-round in caves), only summer roosting habitat for the Indiana bat was surveyed. Because of the similarity in habitat between the Indiana bat and northern long-eared bat, it can be reasonably assumed that the results of the 2013 survey apply to the northern long-eared bat as well. However, given the habitat requirements of the tricolored bat which are substantially different from the Indiana or northern long-eared bats, the study results cannot be extrapolated to this species.

According to the Rare, Threatened, and Endangered Terrestrial Species Study (HDR 2015c), only foraging habitat is present in the immediate area around the powerhouse and surge tank. Areas with high potential for roosting habitat were primarily associated with proximity to water resources and consisted of the left-descending bank of the New River within the bypass reach and the forested area surrounding the surge basin. Forty-five potentially suitable Indiana bat roost trees were identified within the Project boundary; these trees are generally available within the surrounding landscape. Five stands were identified as having moderate foraging potential

for Indiana bats, 11 stands had low foraging potential, and the remaining three had no foraging potential.

The acoustic survey detected eight species of bats within the Project boundary including the Indiana bat. The Indiana bat and northern long-eared bat are known from Fayette County, West Virginia, and confirmed to occur within the Hawks Nest Project boundary. While not detected during the Licensee's studies, Virginia big-eared bat may also be transient in the area.

The proposed HN FC Switchyard, access road, and construction laydown area would require clearing of approximately 10 acres of land. Tree removal is proposed to occur outside of the summer roosting season for Indiana and northern long-eared bats, from October 15 to March 31 (WVDEP 2013, 2015). With the limited quantity of tree clearing proposed and appropriate conservation measures taken, the actions associated with the proposed modifications may affect but is not likely to adversely affect the Indiana bat, northern long-eared bat, or tricolored bat. The proposed modifications would have no effect on the cave-roosting gray bat or Virginia big-eared bat.

Mussels

The Licensee conducted mussel surveys in the Project reservoir bypass reach in early September 2013 based on established state protocols (WVDNR and USFWS). No mussels were found at locations surveyed within the Hawks Nest reservoir, even though apparent suitable substrate, water quality, and host species were present (HDR 2015d, 2015e).

Only two live mussels were found in the Hawks Nest bypass reach during the study, which were the same species previously identified at this location by the WVDNR: the purple wartyback (*Cyclonaias tuberculata*) and mucket (*Actinonaias ligamentina*), neither of which are federally protected species. The bypass reach contained limited pockets of suitable mussel habitat. Nearly 70 percent of the habitat in this reach consists of deep pools, cascades, and shoals that are dominated by boulder and bedrock substrates; mussels generally prefer stable substrate composed of a mix of cobble, gravel, and sand, which allows the mussel to anchor or bury itself in the substrate without risk of being swept downstream under high flow conditions.

The bypass reach would experience increased flows during when the powerhouse is offline to facilitate construction and 60Hz conversion. However, flow is currently spilled to the bypass during high-flow events when the powerhouse is at maximum capacity and for recreational releases. The bypass reach does not contain an abundance of suitable habitat for mussels and has been shown to support low mussel presence, therefore the actions associated with the proposed modifications, which result in spillway operations within the normal and licensed range for the Project, would have no effect on mussel populations in this reach of the New River.

Insects and Plants

Virginia spiraea (*Spiraea virginiana*) is a flowering shrub listed under the ESA in 1990. In West Virginia, it is found among large boulders and bedrock, and in flood debris along scoured stream-sides with soils consisting of silt and sand (NatureServe 2021). A historical record of Virginia spiraea is believed to have occurred within the Project boundary. However, since it has not been identified since 1961 and has since been listed as extirpated, it is therefore assumed

not to be present. The proposed Project operations would not impact reservoir operations or potential habitat for this species.

The monarch butterfly (*Danaus plexippus*) was listed as a candidate species in 2020. This species feeds on the nectar of many flowers during breeding and migration, but can only lay eggs on milkweed plants (USFWS 2024f). The majority of land cover within the Project boundary is riparian forest, wetlands, or upland deciduous forest. However, the maintained transmission right-of-way may contain suitable habitat for this species depending on botanical diversity and presence of wildflowers, density of invasive species, and presence of milkweed. The transmission line upgrades would not result in significant new ground disturbance and therefore the actions associated with the proposed modifications may affect, but are unlikely to adversely affect the monarch butterfly.

Birds

Some migratory bird species may use the riparian and upland forested areas for habitat within the Project boundary. The limited amount of tree clearing that is proposed for removal would occur outside of the breeding season for migratory bird species except for the chimney swift (*Chaetura pelagica*), which has a breeding season commencing just before the end of the restriction on tree clearing on March 15 (USFWS 2024a).

Surveys to document bald eagle use within the Project boundary were conducted in 2012 and suitable habitat for bald eagle breeding and foraging was observed, however no stick nests were identified (WVDNR 2012). Bald eagles, if in the vicinity of the Project (outside of the Project boundary), may experience temporary noise disturbance during the period of construction, which would occur over the period that bald eagles are nesting (beginning in January or February in West Virginia [WVDNR 2022]). As required by the License Article 404, the Licensee developed and is implementing a Bald Eagle Protection Plan and would continue to do so during and after construction. Consistent with the procedures established by Section 3 of the Bald Eagle Protection Plan, the Licensee has inspected areas that would be cleared for the proposed modifications to identify potential bald eagle nests. No potential nests have been identified.

Due to the small amount of tree removal to be completed outside of the breeding window for almost all species, and transmission line upgrades to be performed within an existing right-of-way, it is not anticipated that migratory birds or bald eagles would be adversely affected by the proposed modifications.

Designated Critical Habitat

Final critical habitat has been designated for the Indiana bat and Virginia big-eared bat, and proposed for the green floater, but none of these locations overlap with the Project boundary. Designated critical habitat for two federally protected mussel species (longsolid and round hickorynut) is present within the Project boundary, however the overlap occurs downstream of Hawks Nest powerhouse where the existing overhead transmission line crosses the New River at the Glen Ferris development, and no in-water work or Project operations that could impact aquatic habitat is proposed. Therefore, no impacts to designated critical habitat are anticipated.

2.5 Historic and Archaeological Resources

2.5.1 Relicensing Background

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such actions. Historic properties include significant sites, buildings, structures, districts, and individual objects listed in or eligible for inclusion in the NRHP.

The Commission's issuances of new licenses for the continued operation of the Projects are considered undertakings subject to the requirements of Section 106 and its implementing regulations at 36 CFR Part 800. FERC initiated consultation under Section 106 with federally recognized Indian tribes by letter dated October 26, 2011. By notice dated September 20, 2012, FERC designated Hawks Nest Hydro as its non-federal representative for purposes of conducting informal consultation pursuant to Section 106.

The area of potential effects (APE) for an undertaking is defined in 36 CFR 800.16(d) as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. By letter dated July 8, 2013, the Licensee consulted with the WV SHPO, Indian tribes, and the NPS (collectively, the "Consulting Parties") regarding the APEs for relicensing the Project in accordance with 36 C.F.R §§ 800.4(a) and 16(d). The WV SHPO concurred with the proposed APE by letter dated August 9, 2013. Hawks Nest Hydro did not receive a response from other Consulting Parties.

The Licensee developed a Historic Properties Management Plan (HPMP) in consultation with agencies and interested parties, which was approved in the new license order. The HPMP provides measures for management of historic properties within the APE, including goals of supporting continued normal operation of the Project while maintaining and preserving the integrity of historic properties within the APE, and, to the fullest extent possible, avoiding, minimizing, or mitigating adverse effects on historic properties within the APE.

In accordance with the framework established by the Final HPMP, the Licensee is required to consult with the WV SHPO regarding activities that could affect historic buildings and structures in the Project's Area of Potential Effect (APE) which includes the Hawks Nest Development Historic Site. The HPMP also requires the Licensee to consult with the WVSHPO and Indian Tribes before undertaking ground-disturbing activities within the archaeological site locations or areas with a moderate to high archaeological potential for containing sites.

2.5.2 Archaeological Resources

Archaeological and architectural investigations were conducted by Cultural Resource Analysts, Inc. within the APE (Hunter 2015). Eight archaeological sites, three historic period archaeological sites, and one historic property were identified within the APE. None of the archaeological sites or historic period archaeological sites fall within the area of proposed disturbance, therefore there would be no effects to known archaeological resources. If previously unknown sites were

identified during construction, the Licensee would implement the procedures for inadvertent discoveries as stated in Section 7.6 of the HPMP.

2.5.3 Historic Structures

As stated in the HPMP, the Hawks Nest Development Historic Site is eligible for the NRHP under Criteria A and C. Contributing resources include the Hawks Nest Dam, surge basin, surge tank, intake, Hawks Nest tunnel, and powerhouse, all of which are managed by the Licensee in accordance with the Secretary's Standards for Preservation.

The Licensee does not anticipate visual effects to the character-defining features of the powerhouse or other structures that comprise the Hawks Nest Development Historic Site in association with the modernization project. No changes are proposed to the exterior of the historic powerhouse. The new facilities in the vicinity of the powerhouse (access road, retaining wall, HN FC Switchyard, O&M building) will be visible from the existing powerhouse and will result in minor aesthetic changes to this area. The Licensee notes that because this is an active (i.e., operating) hydroelectric power plant, this area already includes equipment and facilities not associated with the original Project construction. While turbines are proposed to be replaced in-kind to the extent practicable, the Unit 1 and Unit 2 replacement turbine-generator units will likely differ in appearance from the existing units. However, the only portion of the replacement units that will be visible from the powerhouse generator floor is the generator housing. The generator housing will be designed to look similar to the existing generator housing and be painted the same color as the generator housing for Unit 3 and Unit 4. The modernization project is not expected to change Project operations in a manner that would impact the site's NRHP eligibility or result in other modifications of licensed Project structures that would impact the site's NRHP eligibility.

By letter electronically transmitted on September 24, 2024, the Licensee provided this information to WV SHPO and requested WV SHPO provide, within 30 days, comments on the proposed action or concurrence that the proposed modernization project activities will have no adverse effects on the NRHP eligibility of the Hawks Nest Development Historic Site. By letter to Hawks Nest Hydro dated October 15, 2024, the WV SHPO concurred with Hawks Nest Hydro's findings of no adverse effects to architectural or archaeological resources. Refer to the Consultation exhibit of this non-capacity amendment application for documentation of this consultation.

2.6 Socio-Economic Resources

The Licensee is an important contributor to the regional economy by supporting local business for power needs as well as tourism. The New River Gorge National Park and Preserve attracts more than 1 million visitors annually. More than 101,100 individuals participated in guided whitewater paddling trips on the New or Gauley Rivers in 2014 (WVDNR 2014). The total annual economic impact of whitewater boating on the New and Gauley rivers is estimated at more than \$40 million (WVPRO 2011). Annual employee payroll for New and Gauley rivers outfitters exceeds \$8.4 million, with over \$7.5 million spent with local and out-of-state vendors (WVPRO 2011). The New and Gauley rivers are also a major draw for private boaters. The Licensee will continue to support these economies by providing recreational releases as

required by the License and the WQC. The Licensee has also made numerous improvements to recreational facilities in the Project vicinity, as outlined by WQC Special Condition Nos. 5-13. No changes to these requirements are being proposed.

The Licensee directly employs approximately 25 full-time employees at the Project and the Licensee's regional office. Numerous contractors routinely provide services at the Project. The annual payroll for the Project is approximately \$2.5 million per year, with annual spending of local suppliers of approximately \$1 million. The proposed modifications would benefit the local economy through the creation of local construction jobs and subcontracted services. As an added benefit, the proposed modifications would ensure continued generation of clean, reliable, renewable energy that supports regional energy needs over the remainder of the new license term.

2.7 Recreational Resources

2.7.1 Recreation Facilities

License-required recreation facilities include the Cotton Hill Bridge Day-Use Area, the Hawks Nest Power Station Fishing Access Site, and the Bike-Hike Trail. In addition to the formal recreation facilities, various informal recreation areas comprising parking areas, trail heads, and boat launching areas are also present in the Project vicinity. Temporary closure of the Bike-Hike Trail (estimated at up to 60 days) would be necessary during construction activities at the Hawks Nest Dam associated with 60Hz auxiliary conversion. However, such temporary closures are contemplated in the FERC-approved Recreation Management Plan. The Licensee would implement the public notification measures included in the Recreation Management Plan, including notification of the Bike-Hike Trail closure on the Project's public Safe Waters website.

2.7.2 Recreation Flow Releases

The proposed Project modifications could have a temporary effect on recreational flow releases during construction as discussed below. No effects on recreational flow release are anticipated following construction.

Consistent with FERC License Article 407 and the WVDEP WQC Special Condition No. 13, Hawks Nest Hydro provides a total of seven planned 6-hour recreational releases of 2,200 cfs to 2,500 cfs annually, generally during the last weekend of June and the weekends in July and August. These releases are contingent upon 1,600 cfs being first available for power generation. The goal is to achieve 7 days of weekend releases (including the possibility for July 4th) as early in the period as possible. However, if total flow approximating 3,800 cfs (2,200 cfs + 1,600 cfs) is not available to satisfy a planned recreational release as described above, there are no make-up days beyond the last weekend of August.

Hawks Nest Hydro also provides two scheduled whitewater releases during the last two weekends in March, again contingent upon 1,600 cfs being first available for power generation. If total flow approximating 3,800 cfs is not available, there are no make-up days (WQC Condition 13).

The Project's run-of-river operating mode restricts the potential for the Project to reliably provide scheduled whitewater releases far in advance, or on a regular schedule. Recreational flow releases were determined based on the Recreation Flow Assessment in 2013 and 2014 (HDR 2015f) that included the evaluation of flow releases into the approximately 5.5-mile-long bypass reach extending from Hawks Nest Dam to the Hawks Nest powerhouse. As part of this study, Hawks Nest Hydro assessed the range of optimal and acceptable flows for recreation and commercial paddling and rafting in the bypass reach. Other objectives of this study included identifying the limitations and feasibility of providing scheduled releases to the bypass reach, methods of providing flow information to the public, impacts of whitewater releases to other resources (including recreational users), and existing and potential launch and take-out sites and the potential challenges and solutions for utilizing those locations. Findings related to flow releases include:

- A variety of whitewater crafts, including hard shell and inflatable kayaks and self-bailing rafts, are suitable for use in the Hawks Nest bypass reach.
- 1,500 cfs was generally considered the minimum acceptable flow in terms of navigability and overall whitewater experience, as well as the minimum flow required for self-bailing rafts. A majority of study participants indicated they would at least probably return if this flow were provided. Additional comments provided by study participants suggested that a slightly higher flow (2,000 cfs) may be the minimum desirable flow, particularly for commercial rafting.
- Study participants indicated a flow higher than all of the study flows would be optimal, though survey results did support that the optimal flow range varies based on the intended experience and type of craft. The controlled whitewater releases between 2,000 and 3,000 cfs were considered acceptable by most study participants.
- Most study participants indicated that a minimum whitewater skill level of at least intermediate was required to boat the study reach at the range of study flows.
- A number of whitewater reaches in the region that provide a similar whitewater experience were identified by Comparative Survey respondents.

During the construction phase of the proposed modifications, all Project inflow would be spilled to the bypass reach during planned the powerhouse outage (anticipated to be less than 90 days). While planned recreational releases would not be possible during the powerhouse outage, bypass flows would support recreational boating, contingent on Project inflow conditions, and be facilitated by information provided to the public on the Project's Safe Waters website.

2.8 Aesthetic Resources and Land Use

Aesthetic resources would not be affected by the proposed facility modifications. Views of the slope upstream of the Hawks Nest Powerhouse are limited to vantage points across the river, where there is no public access due to the active rail line that runs along the river opposite the powerhouse. The new O&M building will be constructed in a previously disturbed area that is already occupied by operating equipment and storage. The HN FC Switchyard equipment would be protected and shielded from view from the public and would be located the greatest distance

from Highway 60 as practicable. Slope stability (e.g., retaining wall) measures will also help limit visibility of the HN FC Switchyard components from below the powerhouse (i.e., in the New River) and Highway 60.

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To whom it may concern,

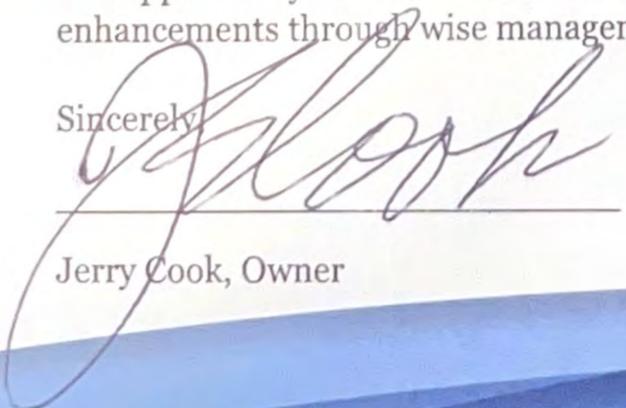
We appreciate the opportunity to comment on your proposed operational modification at the Hawks Nest Hydro station. The undersigned requests that your proposed license amendment include increases in both base and pulse flows into the bypassed river reach, revisiting the option of river access immediately below the dam, and a continued opportunity for input on these issues as your license amendment is considered, including modification of the 401 water quality certificate.

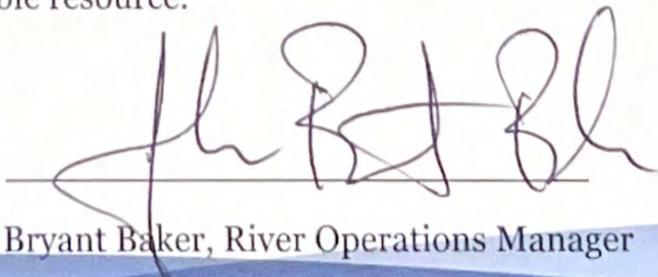
Flow restoration in the New River Dries, both in frequency and volume of the releases, will provide for unique and expanded employment opportunities and economic impacts to our local outdoor recreation and tourism driven economy. As we have seen since the redesignation of New River Gorge National Park & Preserve, visitation has increased year after year, with an increase of over 7% from 2022 to 2023 resulting in 1.7 million visitors, the highest year on record since the park was established in 1978. Having viable, scheduled flows in the New River Dries would directly provide more job opportunities in the whitewater rafting and guided fishing businesses. The scenic beauty of the New River Dries combined with its accessibility, moderate level of difficulty, and ease of participation by the general public provide potential for an extremely popular commercial rafting or fishing destination. In addition to these qualities, the characteristics of New River Dries rapids offer a unique opportunity for world class training and instruction. This added value would serve not only the local guiding community but also attract interest from the broader whitewater rafting community along the entire eastern United States. There is every reason to believe that the potential economic impacts and increased employment opportunities from flow restoration in the New River Dries would track with current growth in New River Gorge National Park and Preserve visitation and the greater West Virginia Tourism economy.

Increases to the frequency and volume of releases through the New River Dries would raise the economic profile of communities in the upper Kanawha Valley as suitable locations for outdoor industries. In addition to lodging and outfitters, outdoor gear manufacturers would be more likely to locate along U.S. Route 60, also known as the Midland Trail, which runs parallel to the New River Dries. The Midland Trail has a rich history as both a major interstate transportation and a commercial corridor and still serves as one of the primary routes for travelers arriving to the New River Gorge region from Charleston and further west. Communities such as Gauley Bridge, Smithers, and Ansted are geographically positioned to benefit from primary and secondary business opportunities associated with increased recreational releases through the Dries. Increased flows through the New River Dries would align with economic goals and priorities at the community level, at the county level, and at the regional level.

Thank you again for the opportunity to submit these comments. We are eager to participate in crafting this opportunity to benefit local communities and provide economic, environmental, and recreational enhancements through wise management of this valuable resource.

Sincerely,


Jerry Cook, Owner


Bryant Baker, River Operations Manager

A WORLD OF ADVENTURE IN ONE PLACE™



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Brevard, NC 28712
americanwhitewater.org
828.508.1359

December 19, 2024

Katie Lester
HAWKS NEST HYDRO, LLC
439 Elizabeth Way
Fayetteville, WV 25840

Re: Re Hawks Nest Hydropower License Amendment Application, FERC Project No. 2512

Dear Ms Lester,

The Hawks Nest Hydroelectric Project went through a federal relicensing process that culminated with a new 40-year license on December 22, 2017.¹ American Whitewater fully participated in that process. The flows dictated by the license were governed by instream flow prescriptions mandated by the State of West Virginia in the August 14, 2017 modified state 401 water quality certification (WQC).² Both the WQC and the license limited the instream flow restoration that would otherwise have been required because the hydropower project supplied a specialized frequency of power directly to an economically important alloy plant. Indeed, the connection between the Project and the alloy plant was a central factor in everything from study design, to stakeholder proposals like ours, to the environmental analysis and decision-making.

Now, through a significant FERC amendment process, Brookfield is proposing to disconnect from the alloy plant, modify their generators to produce power at the normal frequency, and sell the power on the grid. In this new context, we would like to work with you and the other stakeholders on a license amendment that includes additional flow releases into the New River below Hawks Nest Dam. The current draft application does not propose any changes to instream flows, which we do not feel is an acceptable proposal. We anticipate additional flow restoration will have significant economic and environmental benefits.

The WVDEP-DWWM acknowledged the unique role of the alloy plant connection in their balancing of interests, and wisely committed in Condition 17 of the WQC to revisiting that balance if the connection to the alloy plant were to end:

Any amendment to the FERC license may be subject to recertification consistent with FERC Consultation Requirements in 18 CFR § 4.38 (a). Further, notwithstanding the foregoing, if the 25-Hz power generated by the Hawks Nest Project is no longer needed to fulfill the current industrial end-use presently

¹ FERC Accession #: 20171222-3092

² FERC Accession #: 20170815-5072

served, WVDEP-DWWM reserves the right to re-examine and modify the conditions established in this certification as they pertain to the current end-use.

This is the precise situation that is now occurring, and recertification and modification of conditions is merited, along with reconsideration by the Federal Energy Regulatory Commission of license requirements. We request that Brookfield work with American Whitewater and other stakeholders on an application for a new/revised 401 water quality certificate.

FERC likewise acknowledged the role of the alloy plant in Brookfield's proposed operations and the ultimate license, including in the Need For Power and Project Economics sections of the license,³ and throughout the Final Environmental Assessment.⁴ In discussion of prioritizing 1600 cfs for generation over minimum flows, FERC noted that "... the continuous generation of two-turbine generator units is necessary to provide needed power to the WVAM alloy plant."⁵ Similarly FERC noted that proposed recreation flows come only "after 1600 cfs has been provided to the powerhouse..."⁶ and that "1600 cfs is the minimum flow desired by WVAM"⁷ Even the Department of Interior's flow recommendations were based on first meeting 1600 cfs "for generation to support the alloy plant," which factored heavily into FERC adoption of lower minimum flows without that prioritization.⁸

The alloy plant connection so affected the decision that FERC chose not to consider instream flow alternatives in which the Project no longer provided power directly to the alloy plant. FERC stated:

We also received minimum flow recommendations for scenarios if the 25-Hz power generated by the Hawks Nest Project were no longer needed by the alloy plant or for an industrial end-use purpose. Because our analysis compares the costs and benefits of recommendations to the baseline, which is the existing condition, we did not include those recommendations in our environmental assessment.⁹

The license amendment notably changes the baseline for analysis, and FERC can and should now consider additional alternatives.

The record for the relicensing process makes it very clear that WVAM operations were a dominant factor in instream flow recommendations by all stakeholders and ultimately FERC. With these operations no longer relevant, FERC should reconsider and re-weight appropriate mitigation for the project. We request that Brookfield work with us and others to modify the

³ FERC Accession No. 20171222-3092. Hawks Nest Project License. Pg 27-28, 29-30.

⁴ FERC Accession No. 20171020-3004. Hawks Nest FEA

⁵ FERC Accession No. 20171222-3092. Hawks Nest Project License, Footnote 17, Pg 6.

⁶ FERC Accession No. 20171222-3092. Hawks Nest Project License. Pg 7.

⁷ FERC Accession No. 20171222-3092. Hawks Nest Project License. Pg 10.

⁸ FERC Accession No. 20171222-3092. Hawks Nest Project License. Pg 15-16.

⁹ FERC Accession No. 20171020-3004. Hawks Nest FEA, P. 50.

license amendment application to include new flow restoration and related recreational measures.

Several specific changes could allocate significant recreational, economic, and ecological values to the river and nearby communities. Specifically, we suggest the following enhancements be implemented as part of this amendment process:

- **Increase The Number of Pulse Flows:** Condition 13 of the WQC and the FERC license require only nine days of pulse flow releases annually that make the river predictably high enough to support whitewater boating. Were it not for the hydropower diversion the river would be boatable every day of the year, including through the peak summer recreation season. The scant 9 release days in the current WQC was limited to provide operational certainty and power for the alloy plant, and was based on economic and developmental factors that would not be relevant following this license amendment. American Whitewater recommended 41 annual releases during the relicensing, and we feel strongly that more are merited given the license amendment. More pulse flow releases of natural project inflows with greater predictability will benefit the river, support commercial rafting operations, and increase tourism and healthy outdoor recreation for people in the area.
- **Eliminate Reservation of 1600 cfs for Power Generation:** Condition 13 of the WQC and the FERC license also require that 1600 cfs always be reserved for power generation when pulse flows are provided, in order to keep the alloy plant operational during those releases. The effect has been that pulse flow releases were often canceled due to insufficient water availability, and were at diminished flows less attractive and safe for visitors. This reservation is no longer needed to support the alloy plant, and the licensee can now release more of the project's inflows on release days to eliminate cancellations because there is always enough inflow to support a release. This will result in greater certainty of releases that outfitters can book trips for and the public can plan vacations around, resulting in improved economic benefits.
- **Increase Recreational Release Volume:** The recreational instream flow study was very limited in the range of flows, in large part because of the alloy plant's water needs. With this said, more water was consistently deemed better in the study. The 2000-2500 cfs flows in the current license are almost entirely an artifact of balancing the recreational values of the flow level (higher is better) with the chance of having sufficient water after the 1600 cfs reservation to avoid cancellation (lower is better). With the 1600 cfs no longer needed for WVAM, more or all of the inflows can now be allocated to recreational releases on scheduled days. Flows of 3000 or more can provide significantly better and safer flows that will attract far more paddlers and provide a superior tourism product. Increased flow volumes are also now possible, and will be highly beneficial.
- **Increase Minimum Instream Flows:** Condition 2 of the WQC and the FERC license prescribe seasonal minimum flows of 250 and 300 cfs. These flows are below the

scientific consensus of what should have been restored to the river. The Department of Interior 10(j) recommended and minimally acceptable flows were significantly higher than the ultimately prescribed flows, and even FERC staff's proposal was higher.¹⁰ Minimum instream flows were limited to provide additional water for power for the alloy plant. With that need gone now, minimum instream flows should be increased to the DOI recommended flows, and more in the summer months. Doing so will benefit the full suite of native and sport fish like smallmouth bass, mussels, and other native organisms. The DOI recommendations, it should be noted, are 10% of average flow which science tells us is the bare minimum for short term survival of most species - not a sufficient flow to provide good longer term survival conditions. More flow is merited for the ecology of the New River, and it will also benefit low-water paddling trips, which could be an economic boon for the region.

- **Revisit May and June Releases:** Recreational pulse flow releases are currently scheduled to avoid the April-June timeframe. We believe this was predominantly intended to create additional certainty for WVAM operations. April through June is a period of natural high flows, and scheduling pulse flows in that timeframe would restore some natural variability to the flow regime, and June releases in particular would have very high recreational value. We request that all stakeholders work together to assess the potential to have some pulse flows in June at a minimum, if not earlier in the spring as well.
- **Revisit River Access:** Under the current license the Licensee blocks vehicular access to the logical put in near the dam, and instead paddlers must either miss a large portion of the run with great rapids or hike their boats over a mile up a road. This unusual and unfortunate outcome of the relicensing process may have been related to the small number of recreation flows. We ask that the licensee and FERC both reconsider this matter given the shift in flow availability and project economics. Allowing the public to at least drop off boats and near the dam, if not park, would significantly increase the value of the run as a tourism product and recreational destination.

Together, these improvements would facilitate large amounts of recreational use on a section of river that has been hampered by releases that are too low, too few, too unpredictable, and too hard to access.

This license amendment offers an incredible second chance to restore the New River Dries to serve as an economic engine for the region, and become a thriving river again. This exceptional section of river offers visitors a 6-mile run with an easy shuttle, stunning scenery and consistent intermediate whitewater that weaves through giant boulders. It is a true gem, and much more accessible than other nearby whitewater rivers. We feel strongly that the Licensee should work with stakeholders to develop flow restoration provisions that strike a new and more balanced license amendment application that would merit broad public support and swift approval.

¹⁰ See FERC's Final EA, Pg. 48. FERC Accession #: 20171020-3004

Thank you for considering these comments,

Sincerely,

A handwritten signature in black ink, appearing to read "K. Colburn", written over a light gray rectangular background.

Kevin Colburn
National Stewardship Director
American Whitewater
P.O. Box 2410
Brevard, NC 28712
828.712.4825
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United States Department of the Interior

NATIONAL PARK SERVICE

NEW RIVER GORGE NATIONAL PARK AND PRESERVE
GAULEY RIVER NATIONAL RECREATION AREA
BLUESTONE NATIONAL SCENIC RIVER
104 Main Street
P.O. Box 246
Glen Jean, West Virginia 25846



IN REPLY REFER TO:
1.A.2 (NERI)

December 20, 2024

Katie Lester
Senior Compliance Manager
Brookfield Renewable
Hawks Nest Hydroelectric Project (FERC No. 2512)
439 Elizabeth Way
Fayetteville, WV 25840

Dear Katie Lester:

Thank you for the opportunity to provide comments to *DRAFT Environmental Review Application for Non-Capacity Related Amendment License* for Hawks Nest Hydroelectric Project (FERC No. 2512). The current license was issued December 22, 2017, and expires January 31, 2064. As we understand, the present amendment proposes modernization to convert energy generation from 25-Hz to 60 Hz which is compatible with the regional PJM system. Two new turbines will be installed, transmission lines will be upgraded, and several roads and general infrastructure will be upgraded to facilitate construction and additional facilities.

National Park Service staff reviewed the draft document to identify questions or potential concerns related to New River Gorge National Park and Preserve. Given the available information, location, and scope of the proposed project, we did not identify issues that are likely to cause significant or direct effects to the Park. However, we provide the following comment on ecological connectivity to the site via the New River and the Park's goal to support healthy aquatic habitats:

The *DRAFT* states that the minimum flows of 250-300 CFS in the bypass region are not expected to change. However, are the frequency or duration of minimum flow events expected to change following the upgrade of equipment, and if so, have the effects of climate change also been considered? The minimum flows specified, while adequate to provide aquatic habitats, according to the referenced instream flow study (HDR 2015a), are much lower than the minimum flows observed in upstream reaches of the New River. This was true even during the extreme droughts in the fall and summer of 2024, when the USGS gauge at Thurmond, WV, read 1,040cfs in September 2024. While lower flows support aquatic life, 250-300cfs is not likely optimal for a large river ecosystem like the New River.



If you have any questions or require additional information, please contact our Aquatic Ecologist, Jennifer Flippin, at jennifer_flippin@nps.gov or 304-719-6832.

Sincerely,

Charles D. Sellars
Superintendent





Kathleen Lester
Hawks Nest Hydro, LLC
Brookfield Renewable U.S.
439 Elizabeth Way
Fayetteville, WV 25840

Re: Hawks Nest Hydropower License Amendment Application, FERC Project No. 2512
Submitted via email: Kathleen.Lester@brookfieldrenewable.com

20 December 2024

Dear Ms. Lester,

On behalf of the WV Rivers Coalition, we appreciate the opportunity to comment on the Hawks Nest Hydropower License Amendment Application (FERC Project No. 2512). By decoupling from the Alloy metallurgical factory, Hawks Nest Hydro has important new opportunities to optimize flow management for power generation, conservation, and recreation. We believe that such optimized flows could greatly enhance environmental and economic benefits in this famous section of the New River.

Flows have a central role in river ecosystems¹, and the current minimum flow requirement of 100 cfs is too little for a river of this size. For instance, long-term monthly average flows upstream from Hawks Nest exceed 9000 cfs (USGS gage #03185400 at Thurmond²) and include higher average flows during spring months as would be expected. Fish population dynamics often are closely linked with flow timing and magnitude³, and thus flow management is often a primary concern for fisheries management and conservation in rivers.

One potential concern for fisheries management is that high-flow pulses during spring months can cause egg and larval mortality for species such as smallmouth bass. Such effects

¹ Hayes et al. 2018. Advancing towards functional environmental flows for temperate floodplain rivers. *Science of the Total Environment* 633:1089-1104. <https://doi.org/10.1016/j.scitotenv.2018.03.221>

² <https://waterdata.usgs.gov/monitoring-location/03185400>

³ Mims, M.C. and J.D. Olden. 2012. Life history theory predicts fish assemblage response to hydrologic regimes. *Ecology* 93:35-45. <https://doi.org/10.1890/11-0370.1>

have been implicated in smallmouth bass population declines elsewhere⁴, but we believe such negative effects are unlikely in this case because trophy smallmouth bass fisheries exist upstream in the New River⁵ where they thrive under more natural flow regimes that include high spring flows. Moreover, occasional high-flow events can improve fish cover and other habitat features required to sustain a productive fishery⁶, and therefore such long-term benefits should be considered in conjunction with possible short-term impacts.

The Department of Interior provided monthly flow recommendations as part of the 2017 Environmental Assessment based primarily on 10% of long-term mean monthly flows and needs for wildlife habitat. Importantly, the Interior-recommended flow levels include seasonal variation to resemble natural flows. We believe these recommended flows could provide significant benefits for the river ecosystem as well as improvements for whitewater boating in addition to the currently scheduled releases. However, we encourage you to consider the Interior-recommended flows as a floor for planning rather than a maximum target level. By increasing minimum flows and increasing seasonal variation in flows, Hawks Nest Hydro could greatly benefit angling and whitewater boating opportunities that support economic development in the region.

Thank you for considering our comments. Please feel free to contact me for clarification or additional information.

Sincerely,

Jennie Smith, Executive Director
WV Rivers Coalition

cc. Nathaniel P. Hitt, PhD
nhitt@wvrivers.org

⁴ Hitt, N. P., K. M. Rogers, Z. A. Kelly, J. Henesy, and J. E. Mullican. 2020. Fish life history trends indicate increasing flow stochasticity in an unregulated river. *Ecosphere* 11(2):e03026. [10.1002/ecs2.3026](https://doi.org/10.1002/ecs2.3026)

⁵ Copeland, J., D. Orth, and G. Palmer. 2006. Smallmouth bass management in the New River, Virginia: a case study of population trends with lessons learned. *Proceedings of the Annual Conference of Southeast Associations of Fish and Wildlife Agencies* 60:180-187.

⁶ Freeman, M.C., Bestgen, K.R., Carlisle, D., Frimpong, E.A., Franssen, N.R., Gido, K.B., Irwin, E., Kanno, Y., Luce, C., Kyle McKay, S., Mims, M.C., Olden, J.D., LeRoy Poff, N., Propst, D.L., Rack, L., Roy, A.H., Stowe, E.S., Walters, A. and S.J. Wenger. 2022. Toward improved understanding of streamflow effects on freshwater fishes. *Fisheries* 47:290-298. <https://doi.org/10.1002/fsh.10731>

From: Bearden, Matthew G <matthew_bearden@fws.gov>
Sent: Monday, December 23, 2024 2:14 PM
To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Cc: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Mamuschia, Jodie <Jodie_Mamuschia@fws.gov>
Subject: RE: [EXTERNAL] Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

Hello Katie,

The U.S. Fish and Wildlife Service (Service) appreciates the opportunity to review and provide comments on the Hawks Nest Hydroelectric Project's (Project) draft non-capacity license amendment (draft amendment), submitted by Hawks Nest Hydro, LLC (Licensee). In reviewing the proposed draft amendment (attached), the Service submits the following questions and comments.

Change in Minimum Hydraulic Capacity

The draft amendment notes that the minimum hydraulic capacity of the proposed turbines will be 250 cubic feet per second (cfs), compared to the current 800 cfs. This change will affect the water available to the bypass reach during lower flow events. The draft amendment application includes a list of federally listed species potentially occurring within the Project boundary. The proposed reduction in minimum hydraulic capacity will alter the magnitude, frequency, and duration of the current flow regime in the bypass reach, potentially affecting these species. In addition, the proposed amendments' effects in the bypass reach could alter fluvial geomorphic processes, aquatic and riparian habitats, and recreational activities. Therefore, the Service requests that the final amendment application assess the effects of the proposed amendment on the environmental resources within the bypass reach. This analysis should consider the historic inflow regime to the Project, since being licensed in 2017, and articulate how the proposed amendment would alter the magnitude, frequency, and duration of flows in excess of the minimum instream flow requirement for this same period of record. The analysis should then evaluate how those changes would affect the environmental resource and fluvial geomorphic processes within the bypass reach.

Wicket Gate

The draft amendment indicates that the new turbines will have a higher hydraulic capacity of 2,650 cfs compared to the current 2,540 cfs, but the Licensee plans to limit the new turbines' maximum capacity to the current 2,540 cfs by "blocking" the wicket gates. It is unclear what is meant by "blocking" the wicket gates. The Service requests that the Licensee detail the process in which the wicket gates will be blocked, and that the final amendment application include a Compliance Monitoring and Reporting Plan to track and report compliance with this proposal. The plan should detail how the Licensee will monitor the compliance of limiting the maximum hydraulic capacity through a wicket gate setting, including the mechanism and instrumentation to be used, procedures, a schedule for maintaining and calibrating all compliance monitoring equipment. The Licensee should also maintain a log of operations, including flow records to confirm that the capacity does not exceed the 2,540 cfs threshold. The plan should include provisions of annual reporting for monitoring activities and the reporting of any deviations within 24 hours of a non-compliance event and detailing what caused this event to take place and what measures the Licensee plans to take to prevent future occurrences of non-compliance.

Fish Entrainment

The draft amendment claims that the proposed new vertical Francis style turbines will have no new effects to fish entrainment and no change is anticipated due to the similarity of the new turbines and the vertical Francis style turbines that are proposed to be replaced. However, the Service notes that while the proposed maximum hydraulic capacity of the new turbines would remain the same through the proposed blocking of the wicket gates, the change in minimum hydraulic capacity from 800 cfs to 250 cfs would allow for the project to operate under a greater range of river flows; and could therefore, increase the potential for fish entrainment.

Indiana Bat, Northern Long-eared Bat, and Tricolored Bat

The draft amendment states the federally listed species, under the Endangered Species Act (ESA), that may occur in the Project's vicinity include the Indiana bat (*Myotis sodalist*), and northern long-eared bat (*Myotis septentrionalis*) and the proposed endangered tricolored bat (*Perimyotis subflavus*). The draft amendment proposes to clear approximately 10 acres of bat roosting habitat between October 15 and March 31. The draft amendment asserts that these tree removal activities "may affect, but is not likely to adversely affect the Indiana bat, Northern long-eared bat, and tricolored bat." The Indiana bat, northern long-eared bat, and tricolored bat may use the project area for foraging and roosting between April 1 and November 14.^[1] To protect the Indiana bat, northern long-eared bat, and tricolored bat, the Service recommends avoiding non-emergency/hazard tree trimming and removal activities during the bat active season between April 1 and November 14. We note, for all planned tree removal activities, the Licensee should submit a Project Review Request through the West Virginia Field Office to address potential impacts to the federally protected bats related to the proposed Project construction and maintenance.^[2]

Monarch Butterfly

Since the submittal of the draft amendment, on October 28, 2024, the proposed threatened monarch butterfly's (*Danaus plexippus*) listing status has changed from a candidate species to proposed threatened^[3] – the Service requests that this be reflected moving forward.

Thank you for the opportunity to review and provide comments on the draft non-capacity license amendment. Please reach out should you have any additional questions or comments.

Matthew

Matthew Bearden

Fish and Wildlife Biologist
U.S. Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, PA 16801
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<https://www.fws.gov/office/pennsylvania-ecological-services>

From: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Sent: Monday, October 28, 2024 9:47 AM
Cc: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: [EXTERNAL] Request for Comments – Hawks Nest Hydro Modernization Project (FERC Project No. 2512)

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Dear stakeholders,

Hawks Nest Hydro, LLC, owner, operator, and licensee of the Hawks Nest Hydroelectric Project on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These powerhouse and electrical system modifications require approval from the Federal Energy Regulatory Commission (FERC) in the form of a Non-Capacity Amendment of License. FERC’s regulations require the licensee to provide a draft version of the amendment application to agencies, Tribes, and stakeholders for a 60-day review period, unless this requirement is waived by agencies and stakeholders.

Please review the attached and provide comments you have about the proposed modifications or draft amendment application no later than December 27, 2024 by email. So that we may file the application with FERC as soon as possible, comments and questions earlier in this review period (or confirmation that your organization has no comments or questions) would be greatly appreciated. The stakeholder list is included in the cover letter.

Thank you for your time,

Katie Lester
Senior Compliance Manager

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View Important disclosures and information about our e-mail policies [here](#).

[1] [Range-wide Indiana Bat & Northern Long-eared Bat Survey Guidelines](#)
[2] [West Virginia Field Office Project Review Request](#)
[3] <https://www.regulations.gov/document/FWS-R3-ES-2024-0137-0001>



New River Conservancy

*Protecting the waters, woodlands and wildlife
of the New River Watershed*

Kathleen Lester
Hawks Nest Hydro, LLC
Brookfield Renewable, U.S.
439 Elizabeth Way
Fayetteville, WV 25840

Re: Hawks Nest Hydropower License Amendment Application, FERC Project No. 2512
Submitted via email: Kathleen.Lester@brookfieldrenewable.com

December 24, 2024

On behalf of New River Conservancy, thank you for the opportunity to comment on your proposed operational modification at the Hawks Nest Hydro station. We request that your proposed license amendment include increases in both base and pulse flows into the bypassed river reach, and we would ask to revisit the option of access to the river immediately below the dam. We request continued opportunity for input on these issues as your license amendment is considered, including modification of the 401 water quality certificate.

Background:

A once in a generation opportunity now exists to restore significant water to an exceptional section of the New River. Flow restoration would create a thriving river and a highly appealing new boating and fishing tourism product just downstream of our nation's newest national park. The Hawks Nest Hydroelectric Project has largely dewatered the New River Dries for nearly a century to supply specialized power to an alloy plant that it is hard-wired to. State and federal regulators issued new 40-year hydropower permits in 2017 that restored only small amounts of water to the river so that power generation could continue to provide for the alloy plant's unique energy needs. State regulators acknowledged that if the hydro plant were ever to be disconnected from the alloy plant, they could reconsider the balance in new permits. This fall, the dam owner, Brookfield Power, proposed to do just that: disconnect from the alloy plant, retool their generators for the grid, and begin selling power on the open market. Their proposal is laid out in a Draft License Amendment Application which they intend to submit to the Federal Energy Regulatory Commission, and on which they are accepting comments until December 27, 2024. A new state 401 water quality certificate and subsequent federal hydropower license should be issued requiring significant additional pulse flows and elevated based flows to support the full range of recreational uses, economic opportunities, and ecological values of the river.

The New River has been designated a Wild & Scenic River in North Carolina, a National River in West Virginia, and a National Heritage River throughout North Carolina, Virginia, and West Virginia.



POST OFFICE BOX 1480 WEST JEFFERSON, NORTH CAROLINA 28694
WWW.NEWRIVERCONSERVANCY.ORG INFO@NEWRIVERCONSERVANCY.ORG

(336) 846 - 6267



Economic impacts:

Increases to the frequency and volume of releases through the New River Dries would raise the economic profile of communities in the upper Kanawha Valley as suitable locations for outdoor industries. In addition to lodging and outfitters, outdoor gear manufacturers would be more likely to locate along U.S. Route 60, also known as the Midland Trail, which runs parallel to the New River Dries. Communities such as Gauley Bridge, Smithers, and Ansted are geographically positioned to benefit from primary and secondary business opportunities associated with increased recreational releases through the Dries. Increased flows through the New River Dries would align with economic goals and priorities at the community level, at the county level, and at the regional level.

Flow restoration in the New River Dries, both in frequency and volume of the releases, will provide for unique and expanded employment opportunities and economic impacts to our local outdoor recreation and tourism driven economy. Since the redesignation of New River Gorge National Park & Preserve, visitation has increased each year, with 1.7 million visitors in 2023, the highest year on record since the park was established in 1978. Having viable, scheduled flows in the New River Dries would directly provide more job opportunities in the whitewater rafting and guided fishing businesses. The scenic beauty of the New River Dries combined with its accessibility, moderate level of difficulty, and ease of participation by the general public provide potential for an extremely popular commercial rafting or fishing destination. In addition to these qualities, the characteristics of New River Dries rapids offer a unique opportunity for world class training and instruction. This added value would attract interest from the broader whitewater rafting community along the entire eastern United States. There is every reason to believe that economic impacts and increased employment opportunities from flow restoration in the New River Dries would track with current growth in New River Gorge National Park and Preserve visitation and the greater West Virginia Tourism economy.

Environmental benefits:

Current minimum flows in the Dries are less than half the historic low water flow for the rest of the New River, and less than 10% of average flows. This precludes this stretch from supporting a healthy ecosystem both due to lack of suitable habitat for a river bed of this size and due to high water temperatures in the summer months. Increasing minimum flows should be designed to improve aquatic habitat to benefit biota and support a healthy fishery.

Thank you again for the opportunity to submit these comments. We are eager to participate in crafting this opportunity to benefit local communities and provide economic, environmental, and recreational enhancements through wise management of this valuable resource.

Signed,

Dave Bassage
New River Gorge Program Coordinator
New River Conservancy
dave@newriverconservancy.org
304-767-1833



WVA Manufacturing, LLC
P.O. Box 248
Route 60 E
Alloy, WV 25002-0248
Phone: 304-779-3366
Fax: 304-779-3297

December 27, 2024

Ms. Katie Lester
Senior Compliance Officer
Brookfield Renewable U.S.
439 Elizabeth Way
Fayetteville, WV 25840

Via E-mail

**RE: Request for Comments – Hawks Nest Hydro Modernization Project;
FERC Project No. 2512**

Dear Ms. Lester:

On October 28, 2024, Hawks Nest Hydro, LLC ("Hawks Nest"), owner, operator, and licensee of the Hawks Nest Hydroelectric Project on the New River in Fayette County, WV, conveyed to WVA Manufacturing, LLC ("WVAM") and other stakeholders a Request for Comments regarding a series of plant upgrade and modernization activities to the Hawks Nest Hydroelectric Project ("Hydroelectric Project") that requires a Non-Capacity Amendment of License (Federal Energy Regulatory Commission ("FERC") No. 2512) ("Draft Amendment"). This letter reflects WVAM's initial Comments.

I. Introduction

As the purchaser of electric energy from the Hydroelectric Project, as well as the co-owner of certain facilities used by the Hydroelectric Project, WVAM has a strong interest in the Hydroelectric Project. WVAM provides these Comments to convey its significant concerns with the Draft Amendment as proposed. It is WVAM's understanding that the Draft Amendment will have substantial impacts on Hawks Nest's current License and the economics of WVAM and the greater Alloy, West Virginia, region. In particular, as discussed further below: (1) the Draft Amendment's stated intention to no longer provide power or ancillary services directly to WVAM's West Virginia manufacturing facility ("Alloy Facility") appears to be in contravention to the principal purpose of the License, as approved by FERC;¹ (2) the Draft Amendment fails to provide analysis of the economic impact of the proposed amended License, including the economic impact on WVAM's operations at the Alloy Facility, as required by FERC; and (3) the Draft Amendment appears to materially and detrimentally impact the Shared Facilities Agreement ("SFA") between Hawks Nest and WVAM.

II. The Draft Amendment as Proposed is in Contravention to the Purpose of the License.

¹ See Draft Amendment at IS-3.



WVA Manufacturing, LLC
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Alloy, WV 25002-0248
Phone: 304-779-3366
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WVAM is very concerned with the Draft Amendment's intention to no longer provide power or ancillary services to the Alloy Facility once the proposed upgrades and modernization activities on the Hydroelectric Project are complete.² When Hawks Nest filed an Application with FERC for approval of a new License in 2015, the Application stated that "[p]ower from the Hawks Nest Project remains dedicated to the current manufacturing plant ('alloy facility'), which is owned by [WVAM] and operated continuously for the production of silicon metal and silicon-based alloys."³ At that time, WVAM provided comments emphasizing the critical importance of the Hydroelectric Project's electric energy generation for the Alloy Plant's operations and expressing strong support for a new License, provided it included terms similar to those currently in effect.⁴

In its Order granting the License, FERC stated that "[t]o date, all power produced at the [Hydroelectric] Project remains dedicated to the alloy plant currently owned by WVAM."⁵ Additionally, while the current Hydroelectric Project's operations have less efficient output generation, FERC explained in its 2017 License Order that "continuous generation of two turbine-generator units is necessary to provide the needed reactive power and voltage support to the 25-Hz power system used at the WVAM alloy plant."⁶ The 2017 License Order further stated that, based on the North American Electric Reliability Corporation's ("NERC") studies of PJM Interconnection, LLC ("PJM"), power needs, the Hydroelectric Project "will help continue to meet the alloy plant's power needs, and displace the need for power in the PJM region."⁷

Hawks Nest's Final License Application, and more importantly, FERC's 2017 License Order, indicate that the License was issued in large part because the Hydroelectric Project provides essential power for the Alloy Plant. The Draft Amendment's intention to no longer meet that essential condition may make the License itself inoperative. WVAM thus recommends that Hawks Nest re-evaluate its intention to no longer provide power to the Alloy Facility after it completes its upgrades and modernization activities to the Hydroelectric Project.

III. Hawks Nest Should Provide a Fulsome Economic Analysis of the Impact of its Proposed Amendment.

² *Id.*

³ *Hawks Nest Hydro, LLC*, Project No. 2512-075, Final License Application (filed Dec. 29, 2015) ("Final License Application"), p. 2.

⁴ *Hawks Nest Hydro, LLC*, Project No. 2512-075, WVAM Comments and Motion to Intervene (filed June 6, 2016), pp. 2-3.

⁵ *Hawks Nest Hydro, LLC*, 161 FERC ¶ 62,228 (issued Dec. 22, 2017) ("2017 License Order" or "Order"), p. 4.

⁶ *Id.* at 5.

⁷ *Id.* at 28.



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Fax: 304-779-3297

Hawks Nest has not included a fulsome economic analysis of the impacts of its Draft Amendment. The Code of Federal Regulations requires that applications for non-capacity license amendments include exhibits in the existing license applicable to the proposed amendment.⁸ As currently drafted, the intention to no longer provide power to the Alloy Facility will likely cause economic harm to WVAM and the greater Alloy, West Virginia, region, and should thus be addressed in Exhibit E of the Draft Application, which is required to include, among other things, a discussion of socio-economic impacts. The Draft Amendment, however, neglects to provide any analysis of the impact that this will have on WVAM, the Alloy Facility, and the Alloy, West Virginia, region. The Draft Amendment instead only discusses, in two paragraphs, the economic impact on other small businesses that rely in part on the Hydroelectric Project, as well as the jobs that will be created through the proposed updates and modernization activities.⁹

This limited analysis fails to consider the intention to no longer provide power to the Alloy Facility and the impact that this will have on WVAM. If WVAM is unable to obtain alternative, cost-effective power for the Alloy Facility, it will undeniably impact WVAM's ability to continue to operate the Alloy Facility at its current capacity as well as the local community. The millions of dollars in potential increased annual electric costs for WVAM could cause a reduction in operations, with attendant losses to revenue, and risk numerous West Virginia employees that rely on the Alloy Facility for work.¹⁰ The Draft Amendment further provides no analysis of the economic impact to WVAM's customers, clients, suppliers, and other related entities that could result from the current proposal to no longer provide power to the Alloy Facility. In short, if the plant's operating costs become uneconomical as a result of the Draft Amendment as proposed, there may be far-reaching economic ramifications that Hawks Nest has not analyzed.

IV. The Draft Amendment Should Include an Analysis of its Impact on the SFA between Hawks Nest and WVAM.

WVAM's understanding has been, and continues to be, that the License for the Hydroelectric Project is contingent upon the Hydroelectric Project providing power to the Alloy Facility. As such, WVAM and Hawks Nest have entered into both a Power Purchase Agreement ("PPA") and SFA that have historically been renewed after updated negotiated terms are agreed to between the parties. The current PPA term ends on December 31, 2025, and based on the Draft Amendment it appears to WVAM that Hawks Nest intends to let the PPA expire (absent the possibility of a limited extension). As discussed above, WVAM is highly concerned with that proposal.

The SFA, however, is a perpetual contract that provides for undivided ownership interests that include facilities that comprise the Hydroelectric Project. As such, there is no term to the

⁸ See 18 C.F.R. § 4.201(c).

⁹ See Draft Amendment at 26-27.

¹⁰ WVAM estimates that the Draft Amendment, if approved, would place between 60 and 70 employment positions at immediate risk.



WVA Manufacturing, LLC
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contract, and WVAM would continue to have an undivided ownership interest in the Hydroelectric Project's facilities even if the Draft Amendment is approved as currently written. Having an undivided ownership interest in the Hydroelectric Project's facilities, however, is at odds with Hawks Nest's intention to terminate the supply of power to the Alloy Facility and thus eliminate any benefit to WVAM from the SFA. In WVAM's estimation, the Draft Amendment thus risks a material breach of the SFA. It is highly concerning to WVAM that Hawks Nest provides no analysis of the impact of its Draft Amendment on the SFA and thus recommends that Hawks Nest do so prior to making its final Amendment filing with FERC.

V. Conclusion

The Draft Amendment's currently proposed substantial modification to the existing condition of the Hydroelectric Project providing power to the Alloy Facility has the potential to cause major operational hardships for WVAM in a region that depends on the affordable, reliable power of the Hydroelectric Project.

WVAM requests that Hawks Nest consider and substantively respond to the significant concerns that WVAM has raised with respect to the Draft Amendment. The Amendment should consider the risk to the Hydroelectric Project's License in the event that the Hydroelectric Project no longer provides power to the Alloy Facility. The Amendment should also analyze the far-reaching economic risks that may result if electricity is no longer provided to the Alloy Facility. Finally, Hawks Nest should provide an analysis of the impact of the Draft Amendment on the SFA between WVAM and Hawks Nest, which provides for joint ownership interests in the Hydroelectric Project's facilities.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mike Thacker', written over a horizontal line.

Mike Thacker
Plant Director

On behalf of WVA Manufacturing, LLC

ORIGINAL

FILED
SECRETARY OF THE
COMMISSION

2025 JAN 15 P 1:18

FEDERAL ENERGY
REGULATORY COMMISSION

P



west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0495
Fax: (304) 926-0463

Harold Ward, Cabinet Secretary
dep.wv.gov

January 6, 2025

Debbie-Anne A. Reese, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Re: State 401 Water Quality Certification; Hawks Nest
Hydroelectric Project No. P-2512, New River, near
Ansted, Fayette County, West Virginia; WQC-16-0013

Ms. Reese,

The West Virginia Department of Environmental Protection - Division of Water and Waste Management (WVDEP-DWWM) has received notification from Brookfield Renewable US regarding a draft application for non-capacity related amendment of license (Hawks Nest Hydroelectric Project FERC No. 2512), dated October 28, 2024. Brookfield Renewable US requested comments no later than December 27, 2024. Following notification receipt, WVDEP-DWWM met with FERC staff (Allan Creamer) on December 18, 2024 to discuss the proposal and he indicated he was not assigned and instead advised us to submit comments and questions to the Secretary.

WVDEP-DWWM issued initial certification of this project on June 2, 2017, which was later modified on August 14, 2017, to address appeals filed by both Hawks Nest Hydro, LLC and American Whitewater on June 16, 2017. As per Special Condition 17 of the current West Virginia Water Quality Certification (WQC-16-0013), "Any amendment to the FERC license may be subject to recertification consistent with FERC Consultation Requirements in 18 CFR §4.38(a). Further, notwithstanding the foregoing, if the 25-Hz power generated by the Hawks Nest Project is no longer needed to fulfill the current industrial end-user [Alloy facility] presently served, WVDEP-DWWM reserves the right to re-examine and modify the conditions established in this certification as they pertain to the current end-use."

Pursuant to above referenced Special Condition 17, once FERC receives complete application regarding this proposed amendment, please engage WVDEP-DWWM to ensure coordination between the federal and state government and any interested stakeholders with respect to this project moving

Debbie-Anne A. Reese

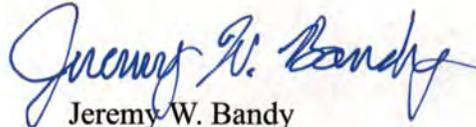
Page 2

January 6, 2025

forward. WVDEP-DWWM has been engaged by several stakeholders, both local and national, regarding their interest in the potential reopening the associated 401 water quality certificate (WQC).

WVDEP-DWWM requests communication and engagement with FERC related to this proposed amendment moving forward in accordance with WQC-16-0013 and 47CSR5A. Please coordinate directly with our state WQC program manager, Dawn Newell via email at Dawn.A.Newell@wv.gov or by telephone 304-926-0499 x 41114.

Sincerely,



Jeremy W. Bandy
Director

JWB/dan

cc: Katie Lester
Brookfield Renewable U.S.

U.S. Fish and Wildlife Service - Matthew Bearden
New River Gorge National Park & Preserve - Jennifer Flippin
WVDNR-WRS - Danny Bennett
WVDEP-Environmental Enforcement - Brad Wright
American Whitewater - Kevin Colburn
Ace Adventure Resort - Jerry Cook
Adventures on the Gorge - Roger Wilson
River Expeditions - Rick Johnson

MEMORANDUM

TO: Katie Lester
Senior Compliance Manager
Brookfield Renewable LLC

FROM: Paul Johansen, Chief 
Wildlife Resources Section

DATE: January 21, 2025

SUBJECT: Draft Non-Capacity Amendment: Modernization Project
Hawks Nest Hydro

The West Virginia Division of Natural Resources, Wildlife Resources Section (WVDNR) has reviewed the referenced notification and provides the following comments.

We have reviewed the Non-Capacity Amendment documenting the proposed modernization project for Hawks Nest Hydro in Fayette County, WV. As a result of the modernization project, Hawks Nest Hydro is no longer going to be providing electricity directly to the Alloy smelting plant and instead is going to be selling it directly to the grid.

Current minimum flows into the bypass reach (the dries) are 250 cubic feet per second (cfs) from July 1 through February 28/29 and 300 cfs from March 1 through June 30. The WVDNR notes that these minimums were established because Hawks Nest was providing electricity directly to the smelting plant. Besides the end use function changing, the modernization would include installing two new turbine generators which are able to operate at a lower flow than the old turbine generators. This will result in a greater volume of water and potentially more fish being exposed to injury/death by passing through the turbines

Adjustments to minimal flows will need to be re-evaluated. The Department of the Interior's, 10(j), recommended and minimally acceptable flows were significantly higher than the current prescribed flows, with Federal Energy Regulatory Commission staff proposing even higher minimal flows. Higher minimum flows will benefit the fishery as a greater percentage of the streambed continuously remains in the wetted width. Recreational flow releases will also need to be re-evaluated given that a reliable constant flow of power is no longer needed to support the Alloy plant.

If you have any questions regarding these comments, please contact Drake Propson at the WVDNR's Elkins Operations Center by phone (304) 630-0337, or by email to drake.a.propson@wv.gov

Electronic Submittal

February 5, 2025

WV Division of Natural Resources
Attn: Mr. Jared Varner
738 Ward Road, PO Box 67
Elkins, WV 26241

**Subject: Hawks Nest Hydroelectric Project, P-2512-WV (NATDAM No. WV01901)
Modernization Project Environmental/Lands Inquiry Review**

Dear Mr. Varner,

Hawks Nest Hydro, LLC, owner, operator, and licensee of the Hawks Nest Hydroelectric Project (Hawks Nest Hydro) on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These powerhouse and electrical system modifications require the construction of a second switchyard near the current Hawks Nest Powerhouse, and will involve the clearing of approximately 13 acres of forested area. We are requesting from the West Virginia Division of Natural Resources (WVDNR) an Environmental or Lands Inquiry Review for this project to determine potential impacts to threatened and endangered species. Please find enclosed the required information and maps as detailed on the WVDNR Guidelines for Data Requests website.

The project lies in the Gauley Bridge Quadrangle near Gauley Bridge, West Virginia. Coordinates for the centroid of the 13.8-acre project area are 81° 10' 27.1 W, 38° 8' 47.7 N. The receiving stream is the New River of the Kanawha River which lies adjacent to Hawks Nest Hydro, however there are no National Hydrologic Dataset (NHD) streams contained within the proposed limits of disturbance for this project.

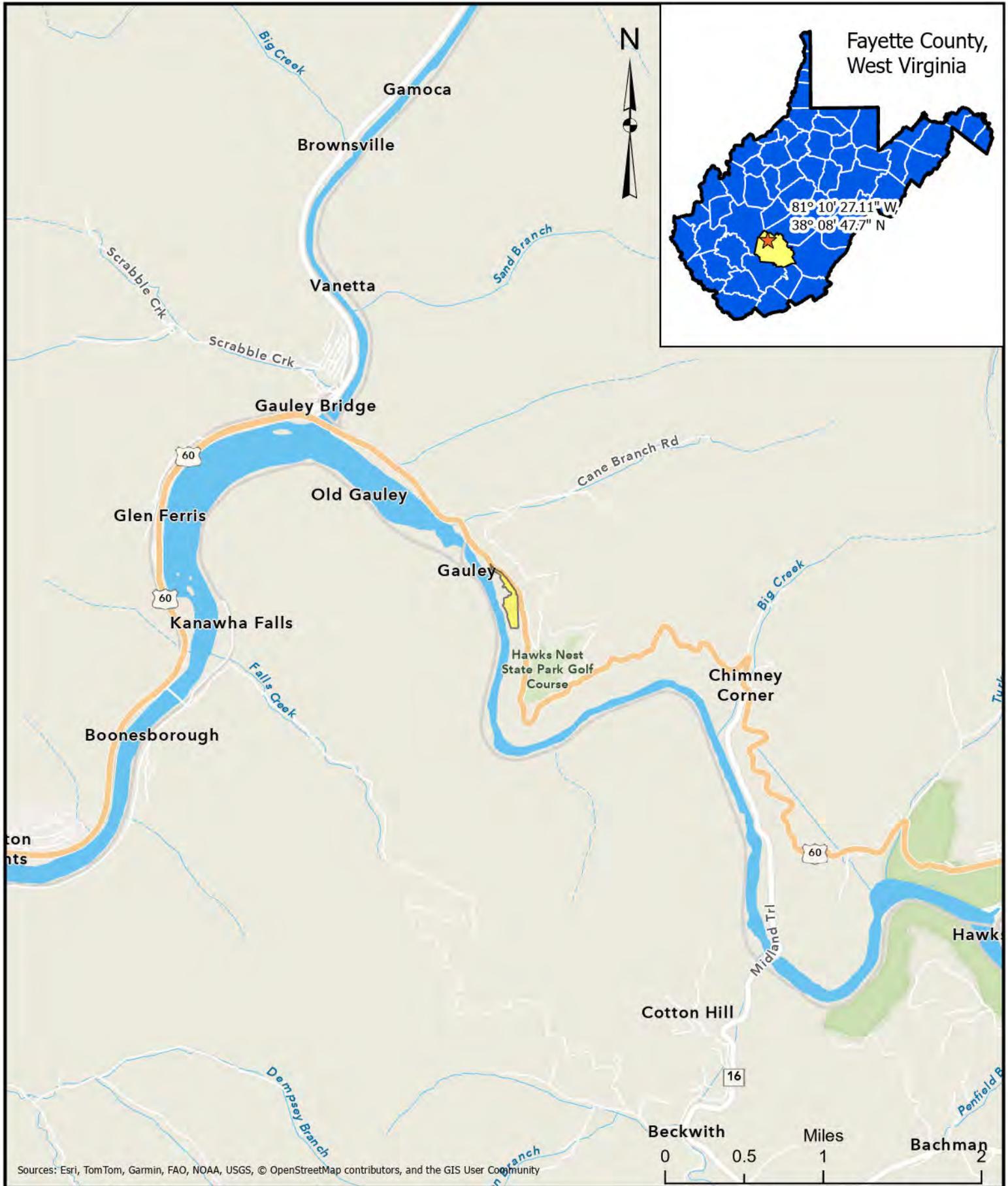
Should any additional information be required, please contact me by phone at 304-222-5827, or by e-mail at clint.henry@brookfieldrenewable.com.



Clint Henry
Compliance Specialist

Enclosures

CC: Katie Lester, Brookfield



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Legend

 Limits of Disturbance (LOD)

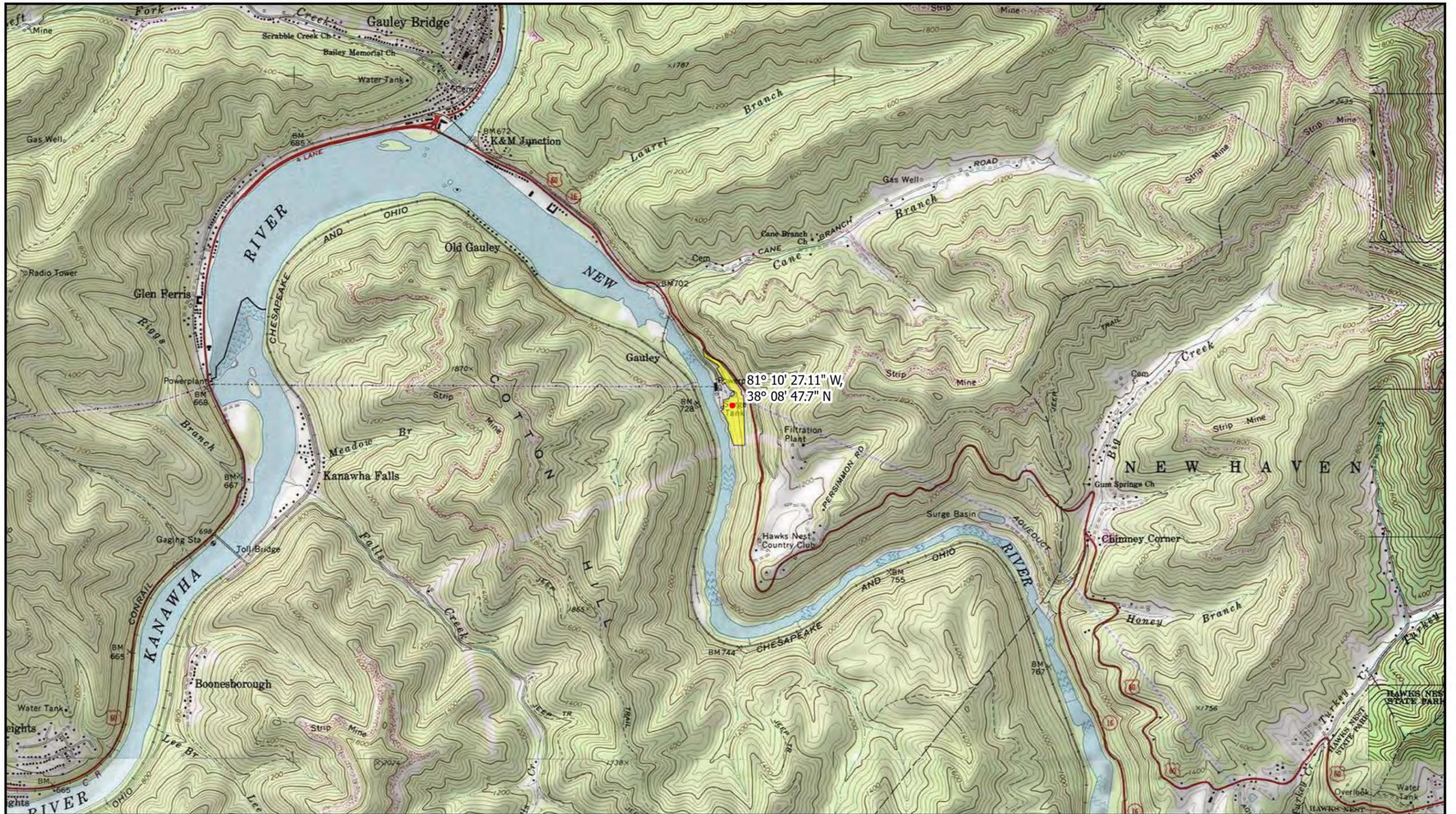
**FIGURE 3
GENERAL PROJECT LOCATION MAP
MODERNIZATION PROJECT**
Fayette County, Gauley Bridge, West Virginia
Gauley Bridge Quadrangle, Valley District

Name: HN_WVDNR_LocationMap 02/2025

**Brookfield
Renewable U.S.**

HAWKS NEST HYDROELECTRIC PROJECT
HAWKS NEST HYDRO, LLC

Designed: CFH Drawn: CFH Approved: KL



81° 10' 27.11" W,
38° 08' 47.7" N

FIGURE 2
USGS LOCATION MAP
MODERNIZATION PROJECT
Fayette County, Gauley Bridge, West Virginia
Gauley Bridge Quadrangle, Valley District

Legend
 Limits of Disturbance (LOD)
 13.8 Acres

2,000 1,000 0 2,000 4,000 Feet
 Map Units: Foot_US Scale: 1:24,000
 Spatial Reference
 Name: NAD 1983 StatePlane West Virginia South FIPS 4702 Feet
 GCS: GCS North American 1983



Name: HN_WVDNR_LocationMap 02/2025

Brookfield
Renewable U.S.
 HAWKS NEST HYDROELECTRIC PROJECT
 HAWKS NEST HYDRO, LLC

Designed: CFH Drawn: CFH Approved: KL



Governor Patrick Morrisey

Director Brett W. McMillion

February 10, 2025

Clint Henry
Compliance Specialist
Brookfield Renewable U.S.
Hawks Nest Hydro, LLC
439 Elizabeth Way, Fayetteville, WV 25840
clint.henry@brookfieldrenewable.com

Dear Mr. Henry,

We have reviewed Natural Heritage Program files for information on rare, threatened, and endangered (RTE) species and sensitive habitats for the area of the proposed Hawks Nest Hydroelectric Facility near Gauley Bridge, Fayette County, WV.

According to our database, the project is located in a few bat buffers and within an eagle abundance area for the RTE and sensitive habitat review, data is listed on the table below.

Table with 4 columns: HABITAT, FEATURE, SPECIES, ETC., DISTANCE FROM SITE, DATE OF INFORMATION, STATUS OR DESCRIPTION. Rows include Northern long-eared bat, Virginia big-eared bat, New River, and Potential Eagle Abundance Near Major Waterway**.

This response is based on information currently available and should not be considered a comprehensive survey of the area under review. This response is valid for two years.

The information provided is the result of a search of the following bat buffers: summer occurrences, captures, and hibernacula for each of the Indiana bat, northern long-eared bat, Virginia big-eared bat, and tricolored bat. Data provided include and differentiate between the inner - and outer-tiers of capture, roost and hibernacula records, respectively, and identify anthropogenic sites such as bridges and culverts. All buffer types are distances and consistent with U.S. Fish and Wildlife Service values as of December 13th, 2024. Please note that due to changes in the U.S. Fish and Wildlife Service guidance, and concurrent updates to the WVDNR records database, new records request responses may differ from past requests. In particular, the current U.S. Fish and Wildlife Service guidance reduces northern long-eared bat and

WEST VIRGINIA DIVISION OF NATURAL RESOURCES | ELKINS OPERATION CENTER

P.O. Box 67 | 738 Ward Road | Elkins, WV 26241 | ph (304) 637-0245 | fax (304) 637-0250 | WVdnr.gov

tricolored bat buffers at culverts, bridges and at all tricolored bat hibernacula. The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the U.S. Fish and Wildlife Service.

**There are no known bald or golden eagle nests within a 660-foot buffer of your proposed project. However, your project is located within a predicted high eagle abundance area (within one mile of the New River) and there is a potential of an undocumented nest within your project's AOI. In order to minimize unintentional violation of the Bald and Golden Eagle Protection Act, we recommend that, prior to commencement of project activities, a ground survey be conducted during leaf-off period (12/1 to 3/15) to confirm the absence of active bald eagle nest(s) within 660 feet (200 meters) of the project site. If an eagle nest or evidence of nest building activity is discovered, you should immediately contact WVDNR Ornithologist Mr. Richard Bailey at 304-630-0213 (Richard.S.Bailey@wv.gov).

Thank you for your inquiry, and should you have any questions please feel free to contact me at the number below, or jared.i.varner@wv.gov. Enclosed please find an invoice.

Sincerely,

Jared I Varner

Jared Varner
Wildlife Biologist 3
Environmental Coordination
Operations Unit

Enclosure: Drive\Invoices\Brookfield 1

Huff, Jen

From: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Sent: Wednesday, March 5, 2025 11:57 AM
To: fw5_wvfo@fws.gov
Cc: Lester, Katie
Subject: Hawks Nest: WVFO Formal Project Review Request (1 of 1)
Attachments: WVFO_HNMP_ProjectReviewSubmission.pdf;
60HzConversionLimitsOfDisturbance_Poly.zip

U.S. Fish and Wildlife Service
West Virginia Field Office

**Subject: Hawks Nest Hydroelectric Project, P-2512-WV (NATDAM No. WV01901)
Modernization Project Formal Project Review**

Good Morning. My name is Clint Henry and I am a Compliance Specialist for Brookfield Renewable and its subsidiary, Hawks Nest Hydro. Hawks Nest Hydro, LLC, owner, operator, and licensee of the Hawks Nest Hydroelectric Project (Hawks Nest Hydro) on the New River in Fayette County, WV, is planning a series of plant upgrade and modernization activities. These powerhouse and electrical system modifications require the construction of a second switchyard near the current Hawks Nest Powerhouse, and will involve the clearing of approximately 10 acres of forested area. We are requesting from the USFWS-WVFO a Formal Project Review for this project to determine potential impacts to threatened and endangered species. Please find enclosed the required information and maps as detailed on the West Virginia Ecological Services Field Office Website, and in the WVFO Submission Form document entitled *West Virginia Field Office Guidance for Project Review Request Submissions*. Please feel free to reach out to me if you have any questions regarding this project, or require any additional information.

Thank you,

Clint Henry

Clint Henry
Compliance Specialist

☎ 304.222.5827
clint.henry@brookfieldrenewable.com
www.brookfieldrenewableUS.com

Brookfield
Renewable U.S.

View Important disclosures and information about our e-mail policies [here](#).

MEMORANDUM

TO: Katie Lester, Senior Compliance Manager
 Clint Henry, Compliance Specialist
 Hawks Nest Hydropower
 Brookfield Renewables

FROM: Paul R. Johansen, Chief
 Wildlife Resources Section 

DATE: April 28, 2025

SUBJECT: Hawks Nest Hydroelectric Project Minimum Flow Recommendations

The West Virginia Division of Natural Resources, Wildlife Resources Section proposes increasing the minimum flows for the Hawks Nest Hydroelectric Project during this Non-Capacity Related Amendment of License from FERC. The following flow modifications are proposed:

Time of Year	Current Minimum Flow	Proposed Minimum Flow
March 1-April 30	300 cfs	1000 cfs
May 1-June 30	300 cfs	750 cfs
All other times	250 cfs	500 cfs

Additionally, we would request removal of the 1,600 cfs reserved for the power plant, making these proposed flows truly minimum and only allowing power plant operations above these minimum flows.

Based on the information provided by Hawks Nest Hydro, LLC in the current application, and the previously approved permit, we provide the following justification for these requests. Currently the maximum hydraulic capacity of the project is 10,000 cfs as indicated in the final environmental assessment for new hydropower licenses, Hawks Nest Hydroelectric Project, P-2512-075. Based on the current application for Non-Capacity Related Amendment of License Hawks Nest, the “design maximum hydraulic capacity of the Project is considered to be 10,380 cfs.” This new capacity will leave 380 cfs less than is currently available to flow through the bypass reach. This will reduce available water going over the spillway and reaching the bypass reach. Page 32 of the current license states that water is “expected to go over the spillway 29

Katie Lester, Senior Compliance Manager
Clint Henry, Compliance Specialist
Hawks Nest Hydropower
Brookfield Renewables
April 28, 2025
Page 2

percent of time each year." This expected spillway flow estimate will likely be less than the current value, based on the increased capacity of the new turbines.

On page 54 of the final environmental assessment for new hydropower licenses, Hawks Nest Hydroelectric Project, P-2512-075, Hawks Nest Hydro LLC states that at flows above 1,000 cfs, the main channel has connectivity to side channel habitats. This connectivity increases the spawning habitat for the central stoneroller, bigmouth chub, and northern hog sucker, which is limited at lower flows as indicated by the applicant. These higher flows will also increase the total wetted area of the bypass reach, increasing available habitat for all species. The applicant claims that flows over 1,000 cfs often naturally occur without the need of making a minimum flow based on total inflow to the lake exceeding operational capacity of the project. This statement is problematic in that fish require more than the habitat to be available for a period greater than the nest building, spawning and incubation time for successful reproduction as suggested by the applicant on page 59 of the environmental assessment associated with the current permit for the project. Having sufficient flows for spawning habitat does not always equate to successful spawning.

Fish rely on environmental factors to trigger spawning such as day length, lunar cycle, water temperature and flows. Increasing the minimum flow to 1,000 cfs during the spawning season will increase the total wetted area of the bypass reach, providing a more stable environment and increasing the likelihood of successful reproduction and recruitment of fishes.

Additionally, to better match natural flow patterns, the ramping rates should be modified. The ramping rates are not to exceed one foot per hour currently on the Cotton Hill United States Geological Survey gauge (No. 380649081083301) located downstream of the dam. The one foot per hour maximum rate of increasing flow is not problematic, but to mimic natural flows, we recommend the maximum rate of decreasing flow should be half of what the increasing rate was for any given event. For example, if the water level rose by half a foot per hour, the corresponding decreasing flow rate should be a quarter foot per hour. Similarly, if the water level is raised one foot per hour, the corresponding decrease would be half a foot per hour.

Thank you for the opportunity to comment and give our recommendations. If you have any questions concerning our comments, please contact Drake Propson at the Elkins Operation Center by telephone 304-630-0337 or email at Drake.A.Propson@wv.gov .



United States Department of the Interior



FISH AND WILDLIFE SERVICE

West Virginia Field Office
6263 Appalachian Highway
Davis, West Virginia 26260

May 21, 2025

Clint Henry
Brookefield Renewable Energy Group
439 Elizabeth Way
Fayetteville, West Virginia 25840

Re: Hawks Nest Modernization, Fayette County, West Virginia (Service File Number 2025-0060001)

Dear Clint Henry,

This letter responds to your request for information regarding the potential occurrence of federally listed species and their designated critical habitats within the proposed action area. The project submittal was provided on April 25, 2025 and March 5, 2025. The project is located in Fayette County, West Virginia in the vicinity of the town of Gauley Bridge. The project has been assigned Service File Number 2025-0060001, and all future correspondence should clearly reference this number.

It is the U.S. Fish and Wildlife Service (Service) West Virginia Field Office's (WVFO) understanding that Brookfield Renewable Energy Group as the designated non-federal representative of Federal Energy Regulatory Commission is proposing to remove 10.0 acres of trees, and the project will include ground disturbance. Additionally, there are no caves and/or mine portals that provide suitable bat habitat within the action area.

These comments are provided pursuant to the Endangered Species Act (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), and are based on information you provided. The Service's WVFO has determined the following federally listed species may occur within the proposed action area and may be affected by the project: Indiana bat (*Myotis Sodalis*). Any species which resulted in no effect or not likely to adversely affect determinations from your input into the Northeast Determination Key and/or the Northern Long-eared Bat and Tricolored Bat Range Wide Determination Key are not addressed below.

Indiana bat

The Indiana bat was listed as endangered on March 11, 1967 (32 FR 4001). The species may use the project area for foraging and roosting between April 1 and November 15. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, upland forest, and old fields or pastures with scattered trees. Roosting and maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. In West Virginia all forested habitat containing trees greater

than or equal to five inches in diameter at breast height is potentially suitable as summer roosting and foraging habitat for the Indiana bat.

Indiana bats feed on emerged aquatic and terrestrial flying insects. Moths, caddisflies, flies, mosquitoes, and midges are major prey items. Aquatic insects with concentrated emergences or that form large mating aggregations above or near water appear to be preferred prey items. As a result, streams, wetlands, and associated riparian forests are often preferred foraging habitats for pregnant and lactating Indiana bats. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (e.g., old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. Increased erosion and sedimentation within streams reduces diversity and biomass of benthic invertebrates (i.e., insects). Impacts to aquatic features such as streams or wetlands, could result in a decrease of insects available to the species for foraging.

Indiana bats use caves or mine portals for winter hibernation in West Virginia between November 15 and March 31. These species also use the hibernacula and the areas around them for fall-swarmering and spring-staging activity (August 15 to November 14 and April 1 to May 14 in West Virginia, respectively). Some males have been known to stay close to the hibernacula during the summer and may use the hibernacula as a summer roosting site.

When the WVFO evaluates potential consequences to listed species, we consider the biological requirements of the species, the location of the project and the extent of impacts. Based upon best available information, the local geographic area where the project is proposed is not located within close proximity to any known occurrence records and will not affect any suitable caves or mines. Additionally, coordination with state agency experts has indicated that the project area lacks important factors related to landscape suitability for this species and thus has a low likelihood of being occupied. Therefore, the WVFO anticipates any associated effects to the Indiana bat will be insignificant and/or discountable.

This letter serves as completed ESA Section 7 coordination for this project. If the project plans change or amendments are proposed that we have not considered in your proposed action, or if additional information on listed and proposed species becomes available, or if new species become listed or critical habitat is designated, this concurrence should be reconsidered.

If you have any questions regarding this letter, please contact Curtis Roth on our team at curtis_roth@fws.gov or the WVFO's office-wide email (fw5_wvfo@fws.gov).

Sincerely,

Jennifer L. Norris
Field Supervisor

From: Roth, Curtis J <curtis_roth@fws.gov>
Sent: Thursday, May 22, 2025 7:03 AM
To: Henry, Clint; Lester, Katie
Cc: West Virginia FO, FW5; Hincks, Jenna M
Subject: RE: [EXTERNAL] RE: Hawks Nest (Service File Number 2025-0060001)

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Clint,

The letter is all you need from us in regards to Section 7 compliance.

Curtis Roth

Fish and Wildlife Biologist
U.S. Fish and Wildlife Service | West Virginia Field Office
6263 Appalachian Highway | Davis, West Virginia 26260
304-866-3858 (Office)
<https://www.fws.gov/office/west-virginia-ecological-services>

From: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Sent: Wednesday, May 21, 2025 3:30 PM
To: Roth, Curtis J <curtis_roth@fws.gov>; Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Cc: West Virginia FO, FW5 <FW5_WVFO@fws.gov>; Hincks, Jenna M <jenna_hincks@fws.gov>
Subject: [EXTERNAL] RE: Hawks Nest (Service File Number 2025-0060001)

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Curtis,

We received the completed ESA Section 7 coordination letter you sent. Thank you!

In regards to our project work, are there additional steps we will need to take prior to the start of work (tree clearing), or is this letter all we need to move forward with seeking FERC approval?

Thanks,

Clint Henry

Clint Henry
Compliance Specialist
C 304.222.5827

From: Roth, Curtis J <curtis_roth@fws.gov>
Sent: Wednesday, May 21, 2025 2:47 PM
To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Cc: West Virginia FO, FW5 <FW5_WVFO@fws.gov>; Hincks, Jenna M <jenna_hincks@fws.gov>
Subject: Hawks Nest (Service File Number 2025-0060001)

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Curtis Roth

Fish and Wildlife Biologist
U.S. Fish and Wildlife Service | West Virginia Field Office
6263 Appalachian Highway | Davis, West Virginia 26260
304-866-3858 (Office)
<https://www.fws.gov/office/west-virginia-ecological-services>



west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0495
Fax: (304) 926-0463

Harold Ward, Cabinet Secretary
dep.wv.gov

September ##, 2025

Katie Lester
Brookfield Renewable (Agent)
126 Lamberton Lane
Hawley, PA 18428
% Hawks Nest Hydro, LLC

Re: State 401 Water Quality Certification; Hawks Nest Hydroelectric Project No. P-2512, New River, near Ansted, Fayette County, West Virginia; **WQC-16-0013**

Dear Ms. Lester,

The West Virginia Department of Environmental Protection - Division of Water and Waste Management (WVDEP-DWWM) has received notification from Brookfield Renewable US regarding a draft application for non-capacity related amendment of license (Hawks Nest Hydroelectric Project FERC No. 2512), dated October 28, 2024. Brookfield Renewable US requested comments no later than December 27, 2024. Following notification receipt, WVDEP-DWWM met with Federal Energy Regulatory Commission (FERC) staff (Allan Creamer) on December 18, 2024 to discuss the proposal and he indicated he was not assigned and instead advised us to submit comments and questions to the Secretary.

Since the fall of 2024, WVDEP-DWWM has been engaged by several stakeholders, both local and national, regarding their interest in the potential reopening of the associated Individual State 401 Water Quality Certification (401 WQC). WVDEP-DWWM will continue to ensure coordination between the federal and state government and any interested stakeholders with respect to this project moving forward in accordance with WQC-16-0013 and 47CSR5A (2024). Please coordinate directly with our state WQC program manager, Dawn Newell via email at Dawn.A.Newell@wv.gov or by telephone 304-926-0499 x 41114.

WVDEP-DWWM issued a certification for the above referenced project on August 14, 2017 (a modification of the June 2, 2017 issuance based on appeals filed by both Hawks Nest Hydro, LLC and American Whitewater on June 16, 2017). As per Special Condition 17 of the current 401 WQC, "Any amendment to the FERC license may be subject to recertification consistent with FERC Consultation

Requirements in 18 CFR §4.38(a). Further, notwithstanding the foregoing, if the 25-Hz power generated by the Hawks Nest Project is no longer needed to fulfill the current industrial end-user [Alloy facility] presently served, WVDEP-DWWM reserves the right to re-examine and modify the conditions established in this certification as they pertain to the current end-use.”

The current minimum flow through the bypass reach for this project is 250 cubic feet per second (cfs) from May 1-June 30 and 300 cfs from March 1-April 30. These minimum flows were a compromise and contingent upon the smelting plant’s reliable power needs at the time. With the modernization of operational equipment to allow for the generation of power at 60 Hz instead of the original 25 Hz, prior considerations are no longer applicable. The West Virginia Division of Natural Resources - Wildlife Resources Section (WVDNR-WRS) proposed increasing minimum flows for the Project during this Non-Capacity Related Amendment of License from FERC on April 28, 2025 as reflected below.

Time of Year	Current Minimum Flow	Proposed Minimum Flow
March 1-April 30	300 cfs	1000 cfs
May 1-June 30	300 cfs	750 cfs
All other times	250 cfs	500 cfs

WVDNR-WRS also requested removal of the 1,600 cfs reserved for the power plant, making the proposed flows truly minimum and only allowing power plant operations above these minimums. WVDNR-WRS recommended modification to the ramping rates to better match natural flow patterns by matching the increase or decrease by half for any given event based on the United States Geological Survey (USGS) 380649081083301 New River Below Hawks Nest Dam, WV gage. Brookfield Senior Compliance Manager (Katie Lester) submitted a minimum flow memo on May 28, 2025 requesting further low flow discussions to support recreational boaters, and a meeting was held June 18, 2025 to discuss the best path forward.

Based on the meeting with Hawks Nest Hydroelectric on June 18, 2025, review of WVDNR-WRS files, and a July 15, 2025 memorandum, WVDNR-WRS proposed updates in regard to the minimum flows for the Project. The WVDNR-WRS recommends higher minimum flows than what is on the current 401 water quality certification based on information provided by Hawks Nest Hydro, LLC on the 2016 401 recertification application as follows.

New Requested Minimum Flows based on 2016 401 Application	
Time of Year	Proposed Minimum
January	700 cfs
February	800 cfs
March	1100 cfs
April	1000 cfs
May	800 cfs
June	500 cfs
July - October	300 cfs
November	400 cfs
December	500 cfs

FERC received a complete application regarding this proposed amendment on **Month ##, 2025**. The applicant made the request for a state water quality certification pursuant to Section 401 of the Clean Water Act (33 U.S.C. §1341) on **Month ##, 2025** and the application was deemed complete on **Month ##, 2025**. WVDEP-DWWM, in conjunction with the WVDNR-WRS, has completed review of the subject application for the Final License and West Virginia Water Quality Certification for the existing project.

The existing facility is located on the New River, approximately 1.6 miles upstream from the point where the Gauley River joins the New River to form the Kanawha River and 0.6 miles downstream from the point where Mill Creek flows into the New River. The facility boundary encompasses a reach of the New River from approximately the Marr Branch confluence and extends approximately 12.5 miles downstream to a point approximately 2,700 feet (ft) downstream of the Hawks Nest powerhouse.

The facility consists of the following components: (a) a 948-ft-long concrete spillway dam with a maximum structural height of 90 ft with 14 spillway bays, each with a 25-ft by 50-ft steel crest gate; (b) a reservoir with a surface area of 243 acres at normal surface elevation 819 ft; (c) a concrete intake structure with trash racks, located at the west abutment; (d) a 16,240-ft-long tunnel; (e) a 600-ft-long by 170-ft-wide surge basin and a 116-ft-diameter surge tank; (f) a 107-ft-long, 30-ft-diameter steel penstock; (g) a manifold connection leading to five 14-ft-diameter steel penstocks varying in length from 42 ft to 132 ft; (h) a concrete powerhouse with four identical 25.5-MW, 25-Hz turbine/generator units (one of the five penstocks is not being used); (i) 6.9-kilovolt (kV) generator leads; (j) four 6.9/69-kV step-up transformers; (k) two 5.5-mile-long, 69-Kv transmission lines; and (l) a tailrace channel and appurtenant facilities. It also includes two public recreation facilities and several informal

recreation access areas. The power is generated at 25-Hz and directly for industrial use. Water not used for power generation flows over the concrete spillway into a bypass reach of the New River.

Section 401 of the Clean Water Act requires a state water quality certification prior to the issuance of a federal permit or license. The certification for an existing hydropower facility addresses the impact of the operation on water quality, water quantity and flow alteration, loss or damage to populations of aquatic life, and associated recreation.

While hydropower provides a form of renewable energy, there are potential impacts to water quality and wildlife resources associated with the operation of hydropower facilities. Dissolved oxygen can be reduced downstream of the project, temperature modifications can occur, physical habitat and flow characteristics can be altered, and fish entrainment and mortality is known to occur.

Issuance of the West Virginia Water Quality Certification for the relicensing of the Hawks Nest Hydroelectric Project (P-2512) is subject to the inclusion and licensee's adherence to the following conditions.

Special Conditions

1. The development shall operate in a "run-of-the-river" mode.
2. Regardless of powerhouse generation needs, the licensee must maintain a minimum downstream flow in the main stem of the New River (also referred to as the Dries) as follows:

January	700 cfs
February	800 cfs
March	1,100 cfs
April	1,000 cfs
May	800 cfs
June	500 cfs
July - October	300 cfs
November	400 cfs
December	500 cfs

3. The licensee shall continue to maintain a stage gauge in the vicinity of the Cotton Hill bridge (preferably operated by the US Geological Survey) and have the information available via the internet real-time. The stage/flow relationship (up to 3,000 cfs) must be spot-checked against actual USGS readings once annually, and updated if conditions warrant.

4. The licensee shall continue to maintain a central public website for information relevant to flows in the bypass reach, including links to available gauges, applicable conversions or calculations to derive real-time flow information, and relevant forward-looking operational information (including that which may be available from upstream dams).
5. The licensee shall operate and maintain a safe passage for biking/hiking, during daylight hours, past the intake gate/dam area to allow for connection of the road/trail from the Cotton Hill bridge upstream to the mouth of Mill Creek. Upstream of the dam's boat barrier, the trail must have an accommodation for carryable boat portage. The licensee shall maintain open to biking and hiking traffic the existing trail/right of way beginning approximately 1,000 feet downstream of the mouth of Mill Creek, near Hawk Nest State Park and continuing downstream to the Hawks Nest Dam. With good cause, and with 30-day advanced notification to WVDNR-WRS, Hawks Nest Hydro, LLC may close the trail to the public temporarily if needed for facility construction/maintenance. The trail may also be closed for short duration without advanced notification for operation and maintenance activities, large equipment access, emergency, or unforeseen safety conditions and will be reopened immediately after such condition has passed.
6. Maintain improvements to the Cotton Hill Bridge Day-Use Area parking area (on lands owned by Hawks Nest Hydro, LLC). This area is managed by WVDNR-WRS, therefore, the operation and maintenance would need to be identified in consultation with WVDNR-WRS and are generally expected to include improvements to parking and signage.
7. The licensee shall maintain angler access to the existing Hawks Nest Tailrace Fishing Access Area and continue to allow angler access to the bypass reach, with bypass reach maintained by WVDNR-WRS as set forth in Condition 10 below.
8. Maintain the take-out location on the New River in the Gauley Bridge area and continue to allow recreational access. Funding for the purchase/lease shall be provided by Hawks Nest Hydro, LLC. WVDNR-WRS will maintain the site with funding set forth in Condition 10 below.
9. In accordance with the prior WQC certification WQC-16-0013 amount of \$25,000 in 2017 dollars, continue to provide annual funding to WVDNR-WRS for maintenance of and enhancement to recreation facilities on project-associated lands that have been deeded to, or leased by, WVDNR-WRS by June 2nd of each year following new license issuance. This payment will be adjusted for inflation based on the Consumer Price Index (CPI-Urban, South Region, All Items) annually and is available on the Bureau of Labor's website at www.bls.gov.
10. Within one year of license issuance, the licensee shall update the Recreation Management Plan to be submitted to and approved by WVDEP in consultation with WVDNR-WRS. The plan shall describe access to recreation areas and detail facilities within the project boundary or directly adjacent to the project boundary. The plan shall further detail procedures and protocols related to the scheduled recreation flow releases. The recreation management plan shall also be reviewed at least every five years unless major modification to its content is requested at any time prior.
11. Beginning in the year of the first planned whitewater release, and by January 31st of that year, and each year thereafter, the licensee shall meet with staff of the WVDEP-DWWM, WVDNR-WRS, WV Manufacturing, whitewater community, and any other interested parties to

schedule the recreational release dates and start times pursuant to Condition 13 below. Should consensus on release dates and start times not be achieved, WVDEP-DWWM retains final decision making authority.

12. The licensee shall continue to provide a total of seven summer planned, six hour recreational releases annually of 2,200 cfs to 2,500 cfs annually, generally during the last weekend of June and the weekends in July and August. The goal is to achieve seven days of weekend releases (including the possibility for July 4th) as early in the period as possible. However, if 2,200 cfs to 2,500 cfs flow is not available, to satisfy a planned recreational releases as described above, there will be no make-up days beyond the last weekend of August. Further, the licensee shall provide two, early season scheduled whitewater releases during the last two weekends in March. If total flow of 2,200 cfs to 2,500 cfs flow is not available, there will be no make-up days.
13. The licensee must continue to submit to WVDEP-DWWM for review a report describing its examination of short duration spiking flow increases in the bypass reach (which may be due to sudden changes in power demand, unit trips, or other conditions beyond the licensee's direct control). The report shall contain: (a) documentation of the licensee's examination efforts, (b) alternatives considered, (c) potential remedies which may offer reduction in spiking flows, to the extent such might exist and which may be mitigated by the licensee, (d) description of the practicality or feasibility of the remedies and, (e) timeframes to effect remedies, if found by licensee's report as practical, feasible and appropriate. As interim milestones, the applicant shall: (a) meet with WVDEP-DWWM and WVDNR-WRS officials within 3 months of license issuance to review the issue, provide status on progress and discuss possible remedies, and (b) submit to WVDEP-DWWM a draft framework of the report within 12 months of issuance. WVDEP-DWWM reserves the right to require modification of the report after consultation with the licensee.
14. The licensee shall, between March 1 and October 31, operate the project such that water levels in the Hawks Nest bypassed reach are up-ramped and down-ramped no more than one-foot-per-hour as measured in the New River below the Hawks Nest dam, West Virginia at the US Geological Survey Gage No. 380649081083301. The ramping rate may be modified, as necessary, to prevent overtopping of the project dam or the dam gates. For example, when the Hawks Nest tunnel diversion is receiving 10,380 cfs flow, the facility is operating at maximum capacity which may result in greater ramp up rates for safety purposes.
15. Mitigation for the incidental take of fish due to the project's operation shall be provided in an amount made payable to the WVDNR-WRS. Beginning in the year of new license issuance, payments shall be submitted to WVDNR-WRS by March 1 of each year for the previous year's payment. WVDNR-WRS will provide the applicant with the appropriate payment submission information. Monetary reimbursement will be consistent with fish entrainment calculations from the 2017 desktop entrainment analysis. The amount provided shall be based on a 2017 American Fisheries Society (AFS) Special Publication 35 Investigation and Monetary Values of Fish and Freshwater Mollusk Kills, adjusted for inflation. This amount may be readjusted when AFS publishes new replacement values. Overall, the incidental take mitigation amount will be based on the most recent entrainment analysis and adjusted annually to reflect WVDNR-WRS's latest

TBD

Page 7

September ##, 2025

fish replacement costs, considering inflation (based on the Bureau of Labor's Consumer Price Index) and/or new published AFS values.

16. Any amendment to the FERC license may be subject to recertification consistent with FERC Consultation Requirements in 18 CFR §4.38(a).
17. The licensee is responsible for compliance with water quality standards as contained in Legislative Rule, *Requirements Governing Water Quality Standards (47CSR2) (2025) et seq.*
18. The licensee is responsible for measuring and reporting Large Quantity Water Use pursuant to §22-26-1 of the WV Code.
19. Violation of any of the conditions listed above shall negate this water quality certification.

State 401 Certification, as required by the Clean Water Act, is granted subject to the above special conditions. Certification shall be effective on the date that the FERC license is issued.

Sincerely,

Jeremy W. Bandy
Director

JWB/dan

cc: Brookfield Renewable U.S. - Katie Lester
U.S. Fish and Wildlife Service - Matthew Bearden
New River Gorge National Park & Preserve - Jennifer Flippin
WVDNR-WRS - Danny Bennett
WVDEP Environmental Enforcement - Brad Wright
American Whitewater - Kevin Colburn
Ace Adventure Resort - Jerry Cook
Adventures on the Gorge - Roger Wilson
River Expeditions - Rick Johnson

From: Henry, Clint
Sent: Thursday, December 11, 2025 1:42 PM
To: 'Rick' <Rick@raftinginfo.com>
Cc: jerry@aceraft.com; wagner-thomas2@aramark.com; Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: RE: Hawks Nest: Recreational Releases

Rick,

Thanks for your official response to our proposed option to alter the Recreational Release schedule. We will discuss your priorities with the WVDEP and get back to you as soon as possible.

Clint Henry

Clint Henry
Compliance Specialist
C 304.222.5827

From: Rick <Rick@raftinginfo.com>
Sent: Thursday, December 11, 2025 1:06 PM
To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Subject: RE: Hawks Nest: Recreational Releases

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Clint Jerry was suppose to send you this but here you go. Thanks,Rick

This is what the rafting industry would propose for the dries

A release of 2500 cfs 3 days a week on Sunday-Tuesday-Thursday from 9am to 3pm from the last week of June to the third week of August

365 days a year a constant minimum flow of 1000 cfs from 9am to 3pm and 500 cfs the other 14 hours a day

From: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Sent: Thursday, December 11, 2025 12:14 PM
To: Rick <Rick@raftinginfo.com>; jerry@aceraft.com; Wagner, Thomas 1 <wagner-thomas2@aramark.com>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: RE: Hawks Nest: Recreational Releases

Hello,

I wanted to reach out again to see if you had a chance to meet and compose a response to our October meeting about Recreational Releases? I spoke with Jerry yesterday and he was under the impression that it had been sent to us, but we have not received it. Let me know if I missed it and need to look through my Junk mail folder one more time.

Thanks,

Clint Henry

Clint Henry
Compliance Specialist
C 304.222.5827

From: Henry, Clint
Sent: Monday, November 17, 2025 10:46 AM
To: 'Rick' <rick@raftinginfo.com>; 'jerry@aceraft.com' <jerry@aceraft.com>; Wagner, Thomas 1 <wagner-thomas2@aramark.com>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: RE: Hawks Nest: Recreational Releases

Good morning to you all,

Just checking in. I spoke with Rick last week and he informed me that your follow-up response to our rec release meeting a couple of weeks ago was being prepared and that we would see it soon. I am available, so feel free to reach out if you have questions or would like to discuss.

Regards,

Clint Henry

Clint Henry
Compliance Specialist
C 304.222.5827

From: Henry, Clint
Sent: Wednesday, October 22, 2025 1:54 PM
To: Rick <rick@raftinginfo.com>; jerry@aceraft.com; ernie@aceraft.com; wilson-roger1@aramark.com; Hanger,

Leonard <hanger-leonard@aramark.com>

Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Murphy, Steven P <Steven.Murphy@brookfieldrenewable.com>

Subject: Hawks Nest: Recreational Releases

Whitewater Outfitters,

Hello! I hope your whitewater season went well. I am reaching out to see if we can renew our discussion about the Hawks Nest Non-Capacity Amendment and your requests regarding changes to recreational releases in the Dries. We have spent the summer in discussions with the WVDEP and WVDNR, as well as other stakeholders to understand and address everyone's interests. We would like to update you on this process, and describe an offer we believe will address your priorities while balancing the priorities of these other groups.

I have provided a scheduling poll (link below) to organize a meeting for next week with this group. We hope that you or someone else from your organization can join. If there is anyone else from your company who I should invite to this meeting please let me know.

Scheduling poll

Hawks Nest: Recreational Releases

 1 hour duration

 8 time options

[Vote](#)

[View all your polls](#)

We look forward to talking with you next week.

Thank you,

Clint Henry

Clint Henry
Compliance Specialist

C 304.222.5827
clint.henry@brookfieldrenewable.com

Brookfield
Renewable N.A.

From: Kevin Colburn <kevin@americanwhitewater.org>
Sent: Thursday, February 5, 2026 5:14 PM
To: Henry, Clint
Cc: Lester, Katie
Subject: Re: Hawks Nest Update

***** CAUTION! EXTERNAL SENDER *** STOP. ASSESS. VERIFY!: DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS UNLESS YOU KNOW THE CONTENT IS SAFE. If suspicious, report email using the Phish Alert button.**
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Hi Clint,

I appreciate your patience. What you laid out would work for us in terms of changes to the pulse flow program. I think the releases as proposed would be well utilized by the public.

I'd like to learn more about proposed base flows as they can be make or break for paddling on non-release days, and are also very important to the ecology of the river. This is especially important in June, September, and October, which are prime months for recreation that lack pulse flow releases or frequent spills. Access to the dam continues to be a challenge for us, so I'll keep thinking about that.

Kevin Colburn
National Stewardship Director
American Whitewater
828-712-4825
kevin@americanwhitewater.org
www.americanwhitewater.org



On Fri, Jan 16, 2026 at 11:17 AM Henry, Clint <Clint.Henry@brookfieldrenewable.com> wrote:

Hello Kevin,

I just wanted to confirm that you had received my email from earlier this week (see below), and see if you had any input or comments you wanted to share. We would like to take this back to the outfitters, but wanted to confirm that our plan outline was agreeable before we do. Let me know what you think or if you have any questions.

Thanks,

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Henry, Clint
Sent: Tuesday, January 13, 2026 9:04 AM
To: 'Kevin Colburn' <kevin@americanwhitewater.org>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: RE: Hawks Nest Update

Good morning Kevin,

Thank you for meeting with us recently to discuss the non-capacity amendment application for the proposed modernization of the Hawks Nest project and our proposed changes to flows/releases. We appreciate your input and ideas and have evaluated them along with the requests from WVDNR, outfitters, and rock climbers, while keeping aquatic habitat, recreational boating, climbing and power production in mind. As we discussed, we believe we have something that works well for everyone. The purpose of this email is to document our conversation, provide you with clarification of our proposal, and ensure we are on the same page.

Our intent is to reduce the minimum flow a bit from the DNR's requests for June and November, reallocate the March recreation release hours, and reduce the duration of individual releases so that we can provide more releases, and accommodate recreation flow releases on some Saturdays for the general public and on weekdays for the outfitters. We understand the demand for Saturday releases even though the outfitters don't want that day.

1. Power reservation: The 1,600cfs reservation for power generation will be removed. This is expected to reduce the potential for releases to be cancelled due to insufficient inflow.
2. Release flow: Target of 2,500cfs within a range of 2,200 to 3,000cfs.
3. Release duration: Four (4) hours – we were able to accommodate the Saturday releases for the general public and weekday releases for the outfitters by reducing the duration a bit from six (6) hours to four (4) hours.
4. Spring: We have reallocated the March hours into summer as both AW and outfitters indicated the March releases weren't needed.
5. Number of releases: Increase from the current nine (9) days to the proposed thirty-two (32) days.
6. Schedule:

- a. June: Last week in June would be four (4) release days (Tues/Thurs/Sat/Sun).
- b. July: First two (2) weeks would have four (4) release days (Tues/Thurs/Sat/Sun), the next two (2) weeks would have three (3) release days (Tues/Thurs/Sun). This makes two (2) Saturday's available for rock climbing.
- c. August: First two (2) weeks would have four (4) release days (Tues/Thurs/Sat/Sun), the next two (2) weeks would have three (3) release days (Tues/Thurs/Sun). This makes two (2) Saturday's available for rock climbing.

We believe this is a reasonable balance of stakeholders' interests and that it is a positive outcome for all boaters. We have not run this by WVDEP and WVDNR yet but would like to. Please provide me with your feedback as soon as you can so we can gain consensus to move forward.

Thank you,

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Henry, Clint
Sent: Monday, January 5, 2026 1:01 PM
To: 'Kevin Colburn' <kevin@americanwhitewater.org>
Subject: RE: Hawks Nest Update?

Thanks Kevin. I just sent out a meeting invite for Friday at 8:30 am. Let me know if that works for you.

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Kevin Colburn <kevin@americanwhitewater.org>
Sent: Monday, January 5, 2026 12:31 PM
To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: Re: Hawks Nest Update?

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Hi Clint, Sounds good. I am free 9-11am Tuesday and Wednesday, Before 1:30 on Thursday, and all morning on Friday of this week. Looking forward to catching up.

Kevin Colburn
National Stewardship Director
American Whitewater

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On Mon, Jan 5, 2026 at 10:18 AM Henry, Clint <Clint.Henry@brookfieldrenewable.com> wrote:

Hello Kevin, and Happy New Year!

I hope you had a good holiday season. As promised, I am reaching out to see if you have any availability in the next week or two to discuss the Hawks Nest Project and our proposed Non-Capacity Amendment (NCA). We have spent quite a bit of time in discussions with the State (WVDEP and DNR) to understand their positions on flows and rec releases, and contacted some other stakeholder organizations (i.e., Climbing and Commercial Outfitter groups) to gain clarity on their needs. With this I believe we may have the information we all need to address AW's concerns and priorities regarding potential changes to flow regimes in the dries and possibly come up with an agreement that satisfies all of the stakeholder groups. If you could please respond to this email

with several dates and times that you are available to meet, then I will set up a meeting invite to include Katie Lester and Steve Murphy from Brookfield. I appreciate your patience in this process and look forward to working with you.

Thanks,

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Henry, Clint
Sent: Monday, December 1, 2025 11:03 AM
To: Kevin Colburn <kevin@americanwhitewater.org>
Subject: RE: Hawks Nest Update?

Hello Kevin,

No settlement offers or agreements yet. Just working through the Stakeholder requests to better understand their needs. We will be getting back with you soon to do the same.

Hope you had a great Thanksgiving Holiday!

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Kevin Colburn <kevin@americanwhitewater.org>
Sent: Tuesday, November 25, 2025 9:44 AM
To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Subject: Re: Hawks Nest Update?

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Hi Clint,

Thanks for the update. Are you working on a settlement offer/agreement? This feels like there might be a lot going on without AW being included as a stakeholder.

Kevin Colburn
National Stewardship Director
American Whitewater

828-712-4825

kevin@americanwhitewater.org

www.americanwhitewater.org



On Tue, Nov 25, 2025 at 9:33 AM Henry, Clint <Clint.Henry@brookfieldrenewable.com> wrote:

Good morning Kevin,

Thanks for checking in and we apologize for the delay in providing an update. We have been having regular meetings with WVDEP and WVDNR over the course of the last year. In addition, we have been making our way through stakeholders to better understand their requests and how parts can be accommodated while still staying within the state's wishes. We are hopeful to have something to present soon and will be in touch.

Have a great Thanksgiving!

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Kevin Colburn <kevin@americanwhitewater.org>
Sent: Monday, November 24, 2025 11:37 AM
To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Subject: Hawks Nest Update?

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Hi Clint,

Its been 9-10 months since I've heard anything about the proposed license amendment at Hawks Nest. Do you have any updates on this project? Any movement since last January? Just checking in.
Happy Holidays,

Kevin Colburn
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From: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Sent: Thursday, February 5, 2026 5:12 PM
To: Kevin Colburn <kevin@americanwhitewater.org>
Cc: Lester, Katie <kathleen.lester@brookfieldrenewable.com>; Murphy, Steven P <steven.murphy@brookfieldrenewable.com>
Subject: RE: Hawks Nest Update

Good afternoon Kevin,

We wanted to follow up again on our emails below and provide you with an update. We incorporated your suggestions into our proposal to ensure we had something that would work well for all stakeholders. Although we spoke about it a couple times, we forgot to paper the fact that we may need some of the power for minimal station auxiliary power. This means that we draw a small amount of our own power generated to use to raise spillway gates and supply lighting in our station. It would only impact recreational releases if the river were running very low and does not impact minimum flows. Please see red text below that we intend to include.

Because the proposal below accommodates all your recommended comments related to flow releases from our discussion on January 9th, we were hoping to get your written concurrence but due to timing, we are going to need to move forward in the process. We are planning to submit tomorrow a request to the WVDEP for amendment to the 401 water quality certificate to align with these changes..

If you have any questions, please let us know.

Thank you for your continued consultation and the time you've spend working with us.

Clint Henry

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C 304.222.5827

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 - c. August: First two (2) weeks would have four (4) release days (Tues/Thurs/Sat/Sun), the next two (2) weeks would have three (3) release days (Tues/Thurs/Sun). This makes two (2) Saturday's available for rock climbing.

We believe this is a reasonable balance of stakeholders' interests and that it is a positive outcome for all boaters. We have not run this by WVDEP and WVDNR yet but would like to. Please provide me with your feedback as soon as you can so we can gain consensus to move forward.

Thank you,

Clint Henry

From: Henry, Clint
Sent: Monday, January 5, 2026 1:01 PM
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Subject: RE: Hawks Nest Update?

Thanks Kevin. I just sent out a meeting invite for Friday at 8:30 am. Let me know if that works for you.

Clint Henry

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Subject: Re: Hawks Nest Update?

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Hi Clint, Sounds good. I am free 9-11am Tuesday and Wednesday, Before 1:30 on Thursday, and all morning on Friday of this week. Looking forward to catching up.

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Hello Kevin, and Happy New Year!

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agreement that satisfies all of the stakeholder groups. If you could please respond to this email with several dates and times that you are available to meet, then I will set up a meeting invite to include Katie Lester and Steve Murphy from Brookfield. I appreciate your patience in this process and look forward to working with you.

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Compliance Specialist

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From: Henry, Clint
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To: Kevin Colburn <kevin@americanwhitewater.org>
Subject: RE: Hawks Nest Update?

Hello Kevin,

No settlement offers or agreements yet. Just working through the Stakeholder requests to better understand their needs. We will be getting back with you soon to do the same.

Hope you had a great Thanksgiving Holiday!

Clint Henry

Clint Henry

Compliance Specialist

C 304.222.5827

From: Henry, Clint
Sent: Thursday, February 5, 2026 5:12 PM
To: Aaron Schneider
Cc: Lester, Katie; Murphy, Steven P
Subject: RE: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

Good afternoon Aaron,

We hope you're having a good winter so far. We wanted to reach out to provide an update on the non-capacity license amendment application for the proposed Hawks Nest modernization project. We appreciate your input and consultations as we have had some calls and an in-person meeting with you to better understand your group and the climbing communities' needs. Over the last year, we have been consulting with various stakeholders, while keeping aquatic habitat, recreational boating, climbing and power production in mind.

To address aquatic habitat, we have worked closely with WVDEP and WVDNR on modified minimum flows but since your season is focused heavily on the cooler months, we have kept minimum flows at 300 cfs from July to December. Whitewater outfitters are focused on recreation releases for boating trips on Tuesdays, Thursdays and Sundays during summer. American Whitewater is focused on recreation releases for the general public on Saturdays during summer, but we removed 2 Saturday releases in both July and August to allow for climbing access.

We believe our proposal below is a reasonable balance of stakeholders' interests and that it is a positive outcome for all.

Bypass Min Flows:

Time of Year	Current	Proposed
January - February	250	700
March - April	300	1000
May	300	600
June	300	400
July - December	250	300

Rec Releases:

1. Power reservation: The 1,600cfs reservation for 25 Hz power generation will be removed. This is expected to reduce the potential for releases to be cancelled due to insufficient inflow. During periods of low reservoir inflow, 500 cfs would be reserved to support minimal station auxiliary power needs.
2. Release flow: Target of 2,500cfs within a range of 2,200 to 3,000cfs.
3. Release duration: Four (4) hours – we were able to accommodate the Saturday releases for the general public and weekday releases for the outfitters by reducing the duration a bit from six (6) hours to four (4) hours.
4. Spring: We have reallocated the March hours into summer as both AW and outfitters indicated the March releases weren't needed.
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We are planning to submit tomorrow a request to the WVDEP for amendment to the 401 water quality certificate to align with these changes. If you have any questions, please let us know.

Thank you for your continued consultation and the time you've spend working with us.

Clint Henry

Clint Henry
Compliance Specialist
C 304.222.5827

From: Aaron Schneider <ajschn.md@gmail.com>
Sent: Friday, January 24, 2025 10:54 AM
To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Cc: Matt Carpenter <mcarpenter@newriverclimbing.net>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Subject: Re: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

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Let's do Thursday Feb 6th at 130p.

If there's a platform you prefer that your company uses feel free to send a link for the meeting, otherwise we can set it up!

Aaron
Cell 513-262-6621

On Wed, Jan 22, 2025, 3:39 PM Lester, Katie <Kathleen.Lester@brookfieldrenewable.com> wrote:

How's Monday Feb. 3 at 1 , Thur Feb. 6 at 130, or Friday Feb. 7 at 1 pm?

Katie Lester

Senior Compliance Manager

T 570.226.1371

C 570.881.9067
kathleen.lester@brookfieldrenewable.com

www.brookfieldrenewable.com

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From: Aaron Schneider <ajschn.md@gmail.com>
Sent: Wednesday, January 22, 2025 8:58 AM
To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Cc: Matt Carpenter <mcarpenter@newriverclimbing.net>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Subject: Re: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

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Virtual meeting works for us!

Currently I have availability February 3-7 and 11-13. Another NRAC representative I'd like to join prefers between 12 and 2 but can be flexible outside of those hours if needed. Do any of those days/times line up with your schedule?

Thanks Katie,

Aaron

On Fri, Jan 17, 2025, 1:58 PM Lester, Katie <Kathleen.Lester@brookfieldrenewable.com> wrote:

Hi Aaron,

Thanks for reaching out! Would you be ok if I set up a teams virtual meeting? I work in northeast PA so it's about an 8 hour drive for me to get to Hawks Nest. I may not be down until summer but would like to talk sooner so we can understand your operations and give you a chance to ask questions about ours.

If you're ok with that, please send me your availability in the next couple weeks and I'll set something up!

Thanks,

Katie Lester

Senior Compliance Manager

T 570.226.1371

C 570.881.9067

kathleen.lester@brookfieldrenewable.com

www.brookfieldrenewable.com



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From: Aaron Schneider <ajschn.md@gmail.com>

Sent: Thursday, January 16, 2025 5:19 PM

To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>

Cc: Matt Carpenter <mcarpenter@newriverclimbing.net>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>

Subject: Re: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

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Checking back in, would you have interest in meeting some time in February? I look to have a lot of weekdays free in February except maybe the last week of the month, only Monday.

Thank you!

Aaron

On Wed, Dec 18, 2024 at 8:17 AM Aaron Schneider <ajschn.md@gmail.com> wrote:

Thanks Katie. A meeting early in 2025 would be great. I will look through the Draft Environmental Review you sent in the other email as well, a lot to digest!

Aaron

Cell 513-262-6621

On Tue, Dec 17, 2024 at 3:59 PM Lester, Katie <Kathleen.Lester@brookfieldrenewable.com> wrote:

Good afternoon Aaron and Matt,

Thank you for reaching out and submitting comments on the Hawks Nest modernization project. We will include them in our submission to FERC. I would also be happy to reach out to you after the holidays to set up a time to talk so that we can better understand your operations and interests.

We look forward to working with you in the future. Have a great holiday season!

Katie Lester

Senior Compliance Manager

T 570.226.1371

C 570.881.9067
kathleen.lester@brookfieldrenewable.com

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Katie,

I am a local rock climber and representative for the New River Alliance of Climbers, the Fayetteville based climbing access non-profit. I had your letter regarding the Hawks Nest Hydro Modernization Project forwarded to me; while the letter explains water levels are unlikely to be affected, my contact suggested rafting companies and boaters were submitting comments pertaining to this. I have attached a letter from myself and NRAC, discussing climber's interest in maintaining the current minimum flow level; per your letter, this will likely fall in line with existing plans anyway.

NRAC and climbers have had loose contact with Brookfield/Hawks Nest Hydro in the past, many years ago through Nic Spruil and more recently Amanda Smith. Amanda has recently stepped down from her board position with NRAC. I was hoping to re-open lines of communication, with the goal of benefit to both climbers/NRAC and Brookfield. We would appreciate being informed of any future stakeholder meetings and comment periods that could influence recreational use. As well, I would love to meet in person with yourself or the appropriate person within Brookfield/Hawks Nest Hydro to discuss your concerns with climbing and climber's interests along this stretch of river.

I have cc'ed Matt Carpenter who is president of NRAC.

Feel free to reach out at any time by email or cell.

Thank you!

Aaron Schneider

Cell 513-262-6621

From: Henry, Clint
Sent: Thursday, February 5, 2026 5:13 PM
To: Rick; Jerry Cook; Wagner, Thomas 1
Cc: Lester, Katie; Murphy, Steven P
Subject: RE: Hawks Nest Recreation Releases - Outfitters

Good afternoon Rick, Jerry and Tom,

We wanted to reach out to provide an update on the non-capacity license amendment application for the proposed Hawks Nest modernization project. We appreciate your input and consultations as we have had several calls and emails with you to better understand your needs. Over the last year, we have been consulting with various stakeholders, while keeping aquatic habitat, recreational boating, climbing and power production in mind.

To address aquatic habitat, we have worked closely with WVDEP and WVDNR on modified minimum flows. Since outfitters are focused on recreation releases for boating trips on Tuesdays, Thursdays and Sundays during summer, we were able to accommodate that request as well as the target release flow of 2,500 cfs and an increase of number of releases from 9 to 32, exceeding your original request for 27 releases. American Whitewater is focused on recreation releases for the general public, with emphasis on Saturdays during summer, so we were able to accommodate that by reducing the duration of releases from six hours to four hours and reallocating the March releases. Climbers are focused on the cooler months for their season and don't want any increases to flows so we plan to request keeping the min flow low in the fall months and providing them a couple Saturdays in summer, that AW proposed giving up.

Although we spoke about it a couple times, we forgot to paper the fact that we may need some of the power for minimal station auxiliary power. This means that we draw a small amount of our own power generated to use to raise spillway gates and supply lighting in our station. It would only impact recreational releases if the river were running very low and does not impact minimum flows. Please see red text below that we intend to include.

We believe our proposal below is a reasonable balance of stakeholders' interests and that it is a positive outcome for all.

Bypass Min Flows:

Time of Year	Current	Proposed
January - February	250	700
March - April	300	1000
May	300	600
June	300	400
July - December	250	300

Rec Releases:

1. Power reservation: The 1,600cfs reservation for 25 Hz power generation will be removed. This is expected to reduce the potential for releases to be cancelled due to insufficient inflow. **During periods of low reservoir inflow, 500 cfs would be reserved to support minimal station auxiliary power needs.**
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We are planning to submit tomorrow a request to the WVDEP for amendment to the 401 water quality certificate to align with these changes. If you have any questions, please let us know.

Thank you for your continued consultation and the time you've spend working with us.

Clint Henry

Clint Henry
Compliance Specialist
C 304.222.5827

From: Rick <Rick@raftinginfo.com>

Sent: Friday, January 23, 2026 12:44 PM

To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Jerry Cook <jerry@aceraft.com>; Wagner, Thomas 1 <wagner-thomas2@aramark.com>

Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>

Subject: RE: Hawks Nest Recreation Releases

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Clint, after talking to folks in the industry what we would like to see is as follows:

1. Release flow: Target of 2,500cfs within a range of 2,200 to 3,000cfs.
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4. A minimum flow of 500 cfs June thru Labor Day of each year. Which is far less than the 1000 cfs we previously requested .

Thanks, Rick

Rick Johnson

River Expeditions

<http://www.raftinginfo.com>

<http://www.facebook.com/raftinginfo>



From: Henry, Clint <Clint.Henry@brookfieldrenewable.com>

Sent: Thursday, January 22, 2026 3:14 PM

To: Jerry Cook <jerry@acraft.com>; Wagner, Thomas 1 <wagner-thomas2@aramark.com>; Rick <Rick@raftinginfo.com>

Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>

Subject: Hawks Nest Recreation Releases

Jerry, Rick, & Tom

Good afternoon,

Yesterday, Jerry sent me a text requesting I send the “latest suggested release schedule” in an email, so I am including the entire Whitewater Outfitter group in my response. Firstly, thank you all for your input and continued willingness to discuss changes to flows/releases in the Dries relating to our proposed non-capacity amendment application for the modernization of Hawks Nest. We appreciate your input and ideas and have evaluated them along with the requests from WVDNR, WVDEP, AW, and rock climbers, while keeping aquatic habitat, recreational boating, climbing and power production in mind. Since our last discussion we have been in contact with AW and the State (WVDEP & WVDNR) and have come up with some modifications to our previous proposal that could work well for everyone.

As predicted, AW prioritizes Saturday releases as the most valuable for the private boater community. Our intent is to provide the weekday releases you are requesting (Tuesdays & Thursdays) and provide Saturday releases for AW and the Public. To accomplish this, we are proposing to reallocate the March recreation release hours and reduce the duration of individual releases so that we can provide more releases. This will accommodate your request for Sunday, Tuesday, and Thursday recreation flow releases, provide Saturdays releases for the general public, and result in more releases overall (32). Our latest proposed recreation release schedule is as follows:

1. Power reservation: The 1,600cfs reservation for power generation will be removed. This is expected to reduce the potential for releases to be cancelled due to insufficient inflow.
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We believe this is a reasonable balance of stakeholders' interests and that it is a positive outcome for all boaters as it more than triples the number of releases we currently have. We have deferred to the DEP/DNRs preference for minimum flows as the flow regime needs to be justified based on resource management objectives, aquatic habitat studies, and science. The DNR has concurred that they are no longer opposed to releases throughout the week, which has allowed us to adjust the release schedule to include your preferred weekday releases.

We are interested in your feedback, so please consider this proposal and feel free to reach out with your comments or suggestions. We would like to gain consensus from everyone so we can continue to move forward.

Thank you again,

Clint Henry

Clint Henry
Compliance Specialist

☎ 304.222.5827
clint.henry@brookfieldrenewable.com



From: Rick <Rick@raftinginfo.com>
Sent: Thursday, February 5, 2026 8:18 PM
To: Henry, Clint; Jerry Cook; Wagner, Thomas 1
Cc: Lester, Katie; Murphy, Steven P
Subject: RE: Hawks Nest Recreation Releases - Outfitters

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Clint , as stated in the last email I sent the 4hr release is unacceptable we need the original 6hrs. we negotiated with the WVDEP and the WVDNR. I have it included it below.

I will also be reaching out the Director of the WVDEP and the Director of the WVDNR in the morning to inform them of the problems we are having with the Brookfield negotiations . I think Brookfield will find that the amendment to the 401 water quality certificate will not be approved with these current changes.

1. Release flow: Target of 2,500cfs within a range of 2,200 to 3,000cfs.
2. Release duration: Six(6) hours –with a ramp up schedule that allows water to be at the put in by 10:00 am on release days
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Thanks, Rick

Rick Johnson

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<http://www.raftinginfo.com>

<http://www.facebook.com/raftinginfo>



From: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Sent: Thursday, February 5, 2026 5:13 PM
To: Rick <Rick@raftinginfo.com>; Jerry Cook <jerry@aceraft.com>; Wagner, Thomas 1 <wagner-thomas2@aramark.com>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Murphy, Steven P <Steven.Murphy@brookfieldrenewable.com>
Subject: RE: Hawks Nest Recreation Releases - Outfitters

Good afternoon Rick, Jerry and Tom,

We wanted to reach out to provide an update on the non-capacity license amendment application for the proposed Hawks Nest modernization project. We appreciate your input and consultations as we have had several calls and emails with you to better understand your needs. Over the last year, we have been consulting with various stakeholders, while keeping aquatic habitat, recreational boating, climbing and power production in mind.

To address aquatic habitat, we have worked closely with WVDEP and WVDNR on modified minimum flows. Since outfitters are focused on recreation releases for boating trips on Tuesdays, Thursdays and Sundays during summer, we were able to accommodate that request as well as the target release flow of 2,500 cfs and an increase of number of releases from 9 to 32, exceeding your original request for 27 releases. American Whitewater is focused on recreation releases for the general public, with emphasis on Saturdays during summer, so we were able to accommodate that by reducing the duration of releases from six hours to four hours and reallocating the March releases. Climbers are focused on the cooler months for their season and don't want any increases to flows so we plan to request keeping the min flow low in the fall months and providing them a couple Saturdays in summer, that AW proposed giving up.

Although we spoke about it a couple times, we forgot to paper the fact that we may need some of the power for minimal station auxiliary power. This means that we draw a small amount of our own power generated to use to raise spillway gates and supply lighting in our station. It would only impact recreational releases if the river were running very low and does not impact minimum flows. Please see red text below that we intend to include.

We believe our proposal below is a reasonable balance of stakeholders' interests and that it is a positive outcome for all.

Bypass Min Flows:

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January - February	250	700
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We are planning to submit tomorrow a request to the WVDEP for amendment to the 401 water quality certificate to align with these changes. If you have any questions, please let us know.

Thank you for your continued consultation and the time you've spend working with us.

Clint Henry

Clint Henry
Compliance Specialist
C 304.222.5827

From: Rick <Rick@raftinginfo.com>
Sent: Friday, January 23, 2026 12:44 PM
To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>; Jerry Cook <jerry@aceraft.com>; Wagner, Thomas 1 <wagner-thomas2@aramark.com>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Subject: RE: Hawks Nest Recreation Releases

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Thanks, Rick

Rick Johnson

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Sent: Thursday, January 22, 2026 3:14 PM

To: Jerry Cook <jerry@aceraft.com>; Wagner, Thomas 1 <wagner-thomas2@aramark.com>; Rick <Rick@raftinginfo.com>

Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>

Subject: Hawks Nest Recreation Releases

Jerry, Rick, & Tom

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We are interested in your feedback, so please consider this proposal and feel free to reach out with your comments or suggestions. We would like to gain consensus from everyone so we can continue to move forward.

Thank you again,

Clint Henry

Clint Henry
Compliance Specialist

C 304.222.5827
clint.henry@brookfieldrenewable.com

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From: Garvey, Chase A <chase.a.garvey@wv.gov>
Sent: Friday, February 6, 2026 10:58 AM
To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Cc: Bennett, Danny A <danny.a.bennett@wv.gov>; Murphy, Steven P <Steven.Murphy@brookfieldrenewable.com>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Subject: Re: Hawks Nest - DNR - Min Flows and Rec Releases

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Hi Katie,

Thanks for the update. Looks good to us. WVDNR does not oppose.

Have a great weekend!

Chase Garvey

On Fri, Feb 6, 2026 at 10:50 AM Lester, Katie <Kathleen.Lester@brookfieldrenewable.com> wrote:

Thanks for the follow up Chase. We appreciate the clarification! We discussed this morning to make it easier to understand. Here is the proposed revised language:

1. Power reservation: The 1,600cfs reservation for 25 Hz power generation will be removed. This is expected to reduce the potential for releases to be cancelled due to insufficient inflow. To support minimal station auxiliary power needs, up to 500 cfs is reserved. This may impact recreation releases during periods of low inflow (less than 2,700 cfs at the USGS Thurmond gage). Note: this reservation for station auxiliary power does not apply to bypass minimum flows.

Essentially this means that:

- If flows are over 2,700 cfs in the river, recreation releases will be offered with no problem.
- If flows are less than 2,700 cfs in the river, we would potentially not be able to provide the minimum of 2,200 cfs for a recreation release while also using up to 500 cfs for station

power.

It is very rare this would occur but is always a possibility on a very dry year.

Let me know if that helps!

Katie Lester

Senior Compliance Manager

T 570-226-1371

katie.lester@brookfieldrenewable.com

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From: Garvey, Chase A <chase.a.garvey@wv.gov>

Sent: Thursday, February 5, 2026 2:37 PM

To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>

Cc: Bennett, Danny A <danny.a.bennett@wv.gov>; Murphy, Steven P <Steven.Murphy@brookfieldrenewable.com>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>

Subject: Re: Hawks Nest - DNR - Min Flows and Rec Releases

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Hi Katie,

Thanks for sending this over. I talked it over with Danny. We want to define exactly what "low reservoir inflow" means. Is it 5000 cfs, 2000 cfs, or does the definition change based on time of year? We just don't know enough about your facility operations and your needs to define that number ourselves, so we'll leave it up to you for now. Additionally, we want to make sure that the language in the 401 explicitly states that this 500cfs flow reservation will not affect the bypass minimum flow schedule. If we can make those modifications, we do not oppose.

Best,

Chase Garvey

On Thu, Feb 5, 2026 at 1:36 PM Lester, Katie

<Kathleen.Lester@brookfieldrenewable.com> wrote:

Hi Chase and Danny,

I know we had talked about this a few times in our meetings, but we completely forgot to paper the fact that we may need some of the power for minimal station auxiliary power. This means that we draw a small amount of our own power generated to use to raise spillway gates and supply lighting in our station. It would only impact recreational releases if the river were running very low and does not impact minimum flows. Please see red text below that we will include in the 401 modification being sent tomorrow.

If you have any questions at all, let me know. We apologize for the oversight.

Thanks,

Katie Lester
Senior Compliance Manager

T 570-226-1371
katie.lester@brookfieldrenewable.com



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From: Lester, Katie
Sent: Tuesday, February 3, 2026 3:28 PM
To: Bennett, Danny A <danny.a.bennett@wv.gov>; Garvey, Chase A <chase.a.garvey@wv.gov>
Cc: Murphy, Steven P <Steven.Murphy@brookfieldrenewable.com>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Subject: Hawks Nest - DNR - Min Flows and Rec Releases

Good afternoon Chase and Danny,

Thanks very much for today's call to review the proposed changes to min flows and recreation releases. As discussed, below is what will be proposed in the 401 modification. Please confirm that WVDNR agrees with this or that you do not oppose this plan. We will then copy you on the 401 modification to DEP later this week.

Bypass Min Flows:

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Rec Releases:

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 - c. August: First two (2) weeks would have four (4) release days (Tues/Thurs/Sat/Sun), the next two (2) weeks would have three (3) release days (Tues/Thurs/Sun). This makes two (2) Saturday's available for rock climbing.

We appreciate your continued consultation and the time you've spent working with us.

Katie Lester

Senior Compliance Manager

T 570-226-1371

katie.lester@brookfieldrenewable.com

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From: [Huff, Jen](#)
To: [Huff, Jen](#)
Subject: FW: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC
Date: Thursday, February 12, 2026 1:14:00 PM
Attachments: [Hawks Nest State Park CMP EDIT.docx](#)

From: Aaron Schneider <ajschn.md@gmail.com>
Sent: Thursday, February 12, 2026 10:35 AM
To: Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Cc: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>; Murphy, Steven P <Steven.Murphy@brookfieldrenewable.com>
Subject: Re: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

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Clint,

I was on vacation last week and realized I did not reply to this.

From a climber perspective this looks great, in the context of understanding the needs of other user groups and environmental concerns. The minimum flow increase during the fall to 300 from 250 should impact very few climbs, and that is plenty of the year to enjoy the bouldering along the dries. The best climbing conditions are later in the fall when it's cooler, so the Saturday releases in July and August are not a huge deal -- we will just need to educate the climbing community on the release schedule.

Thank you for taking our climbing interests seriously!

We just had a Climbing Management Plan (CMP, attached) accepted by Joe Baughman for Hawks Nest State Park and are meeting with him soon to move the logistics of the plan forward. NRAC also just hired an Executive Director who should give us more bandwidth. All this said, we hope to engage with you further soon, about some sort of agreement such as a CMP, MOU or otherwise for climbing on Hawks Nest Hydro/Brookfield property.

Thanks Clint!

Aaron

On Thu, Feb 5, 2026 at 5:12 PM Henry, Clint <Clint.Henry@brookfieldrenewable.com> wrote:

Good afternoon Aaron,

We hope you're having a good winter so far. We wanted to reach out to provide an update on the non-capacity license amendment application for the proposed Hawks Nest modernization project. We appreciate your input and consultations as we have had some calls and an in-person meeting with you to better understand your group and the climbing communities' needs. Over the last year, we have been consulting with various stakeholders, while keeping aquatic habitat, recreational boating, climbing and power production in mind.

To address aquatic habitat, we have worked closely with WVDEP and WVDNR on modified minimum flows but since your season is focused heavily on the cooler months, we have kept minimum flows at 300 cfs from July to December. Whitewater outfitters are focused on recreation releases for boating trips on Tuesdays, Thursdays and Sundays during summer. American Whitewater is focused on recreation releases for the general public on Saturdays during summer, but we removed 2 Saturday releases in both July and August to allow for climbing access.

We believe our proposal below is a reasonable balance of stakeholders' interests and that it is a positive outcome for all.

Bypass Min Flows:

Time of Year	Current	Proposed
January - February	250	700
March - April	300	1000
May	300	600
June	300	400
July - December	250	300

Rec Releases:

1. Power reservation: The 1,600cfs reservation for 25 Hz power generation will be removed. This is expected to reduce the potential for releases to be cancelled due to insufficient inflow. During periods of low reservoir inflow, 500 cfs would be reserved to support minimal station auxiliary power needs.
2. Release flow: Target of 2,500cfs within a range of 2,200 to 3,000cfs.
3. Release duration: Four (4) hours – we were able to accommodate the Saturday releases for the general public and weekday releases for the outfitters by reducing the duration a bit from six (6) hours to four (4) hours.
4. Spring: We have reallocated the March hours into summer as both AW and outfitters indicated the March releases weren't needed.
5. Number of releases: Increase from the current nine (9) days to the proposed thirty-two (32) days.

6. Schedule:

- a. June: Last week in June would be four (4) release days (Tues/Thurs/Sat/Sun).
- b. July: First two (2) weeks would have four (4) release days (Tues/Thurs/Sat/Sun), the next two (2) weeks would have three (3) release days (Tues/Thurs/Sun). This makes two (2) Saturday's available for rock climbing.
- c. August: First two (2) weeks would have four (4) release days (Tues/Thurs/Sat/Sun), the next two (2) weeks would have three (3) release days (Tues/Thurs/Sun). This makes two (2) Saturday's available for rock climbing.

We are planning to submit tomorrow a request to the WVDEP for amendment to the 401 water quality certificate to align with these changes. If you have any questions, please let us know.

Thank you for your continued consultation and the time you've spend working with us.

Clint Henry

Clint Henry
Compliance Specialist
C 304.222.5827

From: Aaron Schneider <ajschn.md@gmail.com>
Sent: Friday, January 24, 2025 10:54 AM
To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>
Cc: Matt Carpenter <mcarpenter@newriverclimbing.net>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>
Subject: Re: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

***** CAUTION! EXTERNAL SENDER *** STOP. ASSESS. VERIFY!: DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS UNLESS YOU KNOW THE CONTENT IS SAFE. If suspicious, report email using the Phish Alert button.**
***** ATTENTION ! EXPÉDITEUR EXTERNE *** ARRÊTEZ, ÉVALUEZ ET VÉRIFIEZ !: NE CLIQUEZ PAS SUR LES LIENS OU N'OUVREZ PAS LES PIÈCES JOINTES À MOINS DE SAVOIR QUE LE CONTENU EST SÉCURISÉ. Si vous recevez un courriel suspect, veuillez utiliser le bouton Phish Alert.**

Let's do Thursday Feb 6th at 130p.

If there's a platform you prefer that your company uses feel free to send a link for the meeting, otherwise we can set it up!

Aaron
Cell 513-262-6621

On Wed, Jan 22, 2025, 3:39 PM Lester, Katie
<Kathleen.Lester@brookfieldrenewable.com> wrote:

|

How's Monday Feb. 3 at 1 , Thur Feb. 6 at 130, or Friday Feb. 7 at 1 pm?

Katie Lester

Senior Compliance Manager

T 570.226.1371

C 570.881.9067

kathleen.lester@brookfieldrenewable.com

www.brookfieldrenewable.com

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Renewable U.S.

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From: Aaron Schneider <ajschn.md@gmail.com>

Sent: Wednesday, January 22, 2025 8:58 AM

To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>

Cc: Matt Carpenter <mcarpenter@newriverclimbing.net>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>

Subject: Re: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

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Virtual meeting works for us!

Currently I have availability February 3-7 and 11-13. Another NRAC representative I'd like to join prefers between 12 and 2 but can be flexible outside of those hours if needed. Do any of those days/times line up with your schedule?

Thanks Katie,

Aaron

On Fri, Jan 17, 2025, 1:58 PM Lester, Katie

<Kathleen.Lester@brookfieldrenewable.com> wrote:

Hi Aaron,

Thanks for reaching out! Would you be ok if I set up a teams virtual meeting? I work in northeast PA so it's about an 8 hour drive for me to get to Hawks Nest. I may not be down until summer but would like to talk sooner so we can understand your operations and give you a chance to ask questions about ours.

If you're ok with that, please send me your availability in the next couple weeks and I'll set

something up!

Thanks,

Katie Lester

Senior Compliance Manager

T 570.226.1371

C 570.881.9067

kathleen.lester@brookfieldrenewable.com

www.brookfieldrenewable.com

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From: Aaron Schneider <ajschn.md@gmail.com>

Sent: Thursday, January 16, 2025 5:19 PM

To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>

Cc: Matt Carpenter <mcarpenter@newriverclimbing.net>; Henry, Clint <Clint.Henry@brookfieldrenewable.com>

Subject: Re: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

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Checking back in, would you have interest in meeting some time in February? I look to have a lot of weekdays free in February except maybe the last week of the month, only Monday.

Thank you!

Aaron

On Wed, Dec 18, 2024 at 8:17 AM Aaron Schneider <ajschn.md@gmail.com> wrote:

Thanks Katie. A meeting early in 2025 would be great. I will look through the Draft Environmental Review you sent in the other email as well, a lot to digest!

Aaron

Cell 513-262-6621

On Tue, Dec 17, 2024 at 3:59 PM Lester, Katie

<Kathleen.Lester@brookfieldrenewable.com> wrote:

Good afternoon Aaron and Matt,

Thank you for reaching out and submitting comments on the Hawks Nest modernization project. We will include them in our submission to FERC. I would also be happy to reach out to you after the holidays to set up a time to talk so that we can better understand your operations and interests.

We look forward to working with you in the future. Have a great holiday season!

Katie Lester
Senior Compliance Manager

T 570.226.1371

C 570.881.9067

kathleen.lester@brookfieldrenewable.com

www.brookfieldrenewable.com

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From: Aaron Schneider <ajschn.md@gmail.com>

Sent: Monday, December 16, 2024 10:19 AM

To: Lester, Katie <Kathleen.Lester@brookfieldrenewable.com>

Cc: Matt Carpenter <mcarpenter@newriverclimbing.net>

Subject: Comment Submission Hawks Nest Hydro Mod Proj -- NRAC

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Katie,

I am a local rock climber and representative for the New River Alliance of Climbers, the Fayetteville based climbing access non-profit. I had your letter regarding the Hawks Nest Hydro Modernization Project forwarded to me; while the letter explains water levels are unlikely to be affected, my contact suggested rafting companies and boaters were submitting comments pertaining to this. I have attached a letter from myself and NRAC, discussing climber's interest in maintaining the current minimum flow level; per your letter, this will likely fall in line with existing plans anyway.

NRAC and climbers have had loose contact with Brookfield/Hawks Nest Hydro in the past, many years ago through Nic Spruil and more recently Amanda Smith. Amanda has recently stepped down from her board position

with NRAC. I was hoping to re-open lines of communication, with the goal of benefit to both climbers/NRAC and Brookfield. We would appreciate being informed of any future stakeholder meetings and comment periods that could influence recreational use. As well, I would love to meet in person with yourself or the appropriate person within Brookfield/Hawks Nest Hydro to discuss your concerns with climbing and climber's interests along this stretch of river.

I have cc'ed Matt Carpenter who is president of NRAC.
Feel free to reach out at any time by email or cell.

Thank you!
Aaron Schneider
Cell 513-262-6621

**HAWKS NEST STATE PARK
CLIMBING MANAGEMENT PLAN**

January, 2024

Prepared by: Craig Reger

Launched by: Craig Reger, Gene Kistler, Nick Hanshew, Joe Baughman

Reviewed by:

Amanda Smith _____ Date: _____
Outreach Chair of New River Alliance of Climbers

Matt Carpenter _____ Date: _____
President of New River Alliance of Climbers

Craig Reger _____ Date: _____
Local Climber and Business Owner

Jeff Hearn _____ Date: _____
Lead Guide/ Manager of New River Mountain Guides

Daniel Dunn _____ Date: _____
Access Fund Southeast Regional Manager

Approved by: _____ Date: _____
Hawks Nest State Park Superintendent

Introduction

Climbing Management Plans (CMP) are an effective way for land managers to formally and proactively manage climbing on both public and private lands. A successful CMP:

- Builds cooperative relationships between climbers and resource managers.
- Articulates climbing as a recreational experience and describes the variety of climbing opportunities as values.
- Identifies management alternatives that address climbing impacts in a manner that is consistent with management approaches used with other recreation groups.
- Provides management direction that is the minimum necessary to protect resources and is implemented on a graduated scale from indirect measures (e.g. education) to direct measures (e.g. restrictions).
- Provides information about status and contextual importance of resource values, climbing activity and provides information about contextual use patterns, and effects of climbing activity on identified resource values.
- Satisfies statutory requirements and internal agency guidance (where applicable).
- Compliments land management agency policy and directives.

Disclosure

Climbing is a high-risk sport, and climbers are solely responsible for their own safety. Climbing involves exposure to hazardous terrain and conditions. Hawks Nest State Park (HNSP) is not obligated to assess or mitigate these hazards, nor is it responsible for assessing or maintaining the safety of climbing resources which include, but are not limited to: approach paths, trails, climbing routes, fixed anchors or fixed equipment.

Background and Area

Hawks Nest State Park is located in Fayette County near Ansted, WV. Long before Hawks Nest became a state park, the area was a nesting ground for numerous osprey and the site of a trail used by Native Americans. In the late 1800s, the portion of the Chesapeake and Ohio Railway running through the gorge was completed, and scattered most of the birds inhabiting Hawks Nest's cliffs. In 1934, the Hawks Nest Dam and Lake were completed. At the time, they were used for hydroelectricity for the growing manufacturing industry and for flood control.

In 1935, the state of West Virginia purchased much of the property that is now Hawks Nest. In 1963, the Department of Natural Resources took control of the property and built the park lodge and other facilities that now draw visitors from nearly every state, to enjoy the scenic views of the New River Gorge. (www.wvstateparks.com/park/hawks-nest-state-park)

Goals of Climbing Management Plan

For the purpose of this plan, the area of consideration includes all **Climbing areas, and accesses** of HNSP. This plan applies to HNSP lands

only. Updates to the CMP may occur by mutual agreement of the New River Alliance of Climbers (NRAC), Access Fund (AF) and HNSP; or at the discretion of the HNSP, if necessary for resource protection.

- Manage for climbing activities while protecting the natural and cultural resources of HNSP.
- Clearly define a set of management objectives for climbing within the HNSP area that will allow for continued climbing related activities.
- Establish management guidelines and best practices that land managers can use in the education of climbers visiting HNSP, and in decision making.
- Enable a productive and efficient working relationship between land managers and the climbing community to address emerging issues and adaptively manage the area in a cooperative manner.

Topics covered in Climbing Management Plan

1. Climbing
2. Approach Trails and Staging Areas
3. Vegetation Alteration
4. Rock Alteration
5. Fixed Gear
6. New Routes
7. Gear Caches
8. Bouldering
9. Human and Pet Waste
10. Social and Recreational Impacts
11. Cultural and Paleontological Resources
12. Wildlife and Rare Plant Resources
13. Search and Rescue Considerations
14. Partnerships
15. Commercial Guiding

1. Climbing

- 1.1. Climbing areas in HNSP consist of many individual sub-sections, or sectors, of cliff line. Climbing is allowed in approved sectors of the state park. See GIS map on HNSP's website or reference the HNSP Climbing Guide Book for permitted climbing areas. Contact HNSP directly or New River Alliance of Climbers (NRAC) with any questions pertaining to this climbing area.
- 1.2. All climbers seeking to climb at HNSP are required to fill out and sign the park climbing permit and waiver, which will be available at the Visitor Center, Lodging Registration Area, and online at the HNSP website. If done online, please screenshot the document to reference if asked by park staff. See Appendix A for Climbing Regulations.
- 1.3. Requests for approval of new climbing areas or climbing routes in HNSP are welcome and will be considered upon receipt of a new route application. HNSP will review these submissions and respond at their earliest convenience. Consideration and approval of new climbing sectors may occur by mutual agreement of HNSP, NRAC and/or Access Fund; or at the discretion of the HNSP, if necessary for resource protection. Requests should be submitted via email to HNSP (hawksnestsp@wv.gov) and NRAC.

2. Approach Trails and Staging Areas

- 2.1. Existing approach trails and staging areas should be used when possible.
 - 2.1.1. Established access trails will be marked with GREEN blazes (pre-existing color designation) and proper signage where needed.
 - 2.1.2. Climbers should limit impacts to vegetation and soils by using existing approach trails and avoiding creation of new approach corridors.
 - 2.1.3. As conditions warrant, climbers and land management agency staff may identify specific improvement projects to address safety and environmental concerns along approach corridors and at staging areas. Improvements may require environmental analysis including biological and cultural clearances. NRAC and its extensive volunteer base/ events may be used to complete projects upon approval of HNSP.
- 2.2. The intentional development of approach trails is prohibited except as follows:
 - 2.2.1. Construction (e.g. improvements, structures, tool work) of new trails is prohibited without prior HNSP approval.

2.3. Improvement of existing approach/descent trails and staging areas:

2.3.1. After prior agency approval, access trails and staging areas of well-known and more heavily used climbing routes may be identified, delineated, hardened and maintained in order to prevent further erosion problems, loss of vegetation, and to establish a durable, sustainable, and safe pattern of use. In certain instances, signs may be placed to direct climbers away from problem or sensitive areas in order to protect resources. Extraneous user created paths that have developed over long periods of time, or currently see infrequent use, may be rehabilitated to discourage or prevent future travel. Travel in higher use areas should be on established access trails and corridors.

2.4. Dispersed travel to and from the base of climbs, and during descent, is generally encouraged in lower use climbing areas where established access trails do not exist.

3. Vegetation Alteration

3.1. Excessive removal of vegetation from the base of climbs, belay ledges, or bouldering areas is discouraged.

3.2. The excessive removal of vegetation from cracks or rock faces to allow a route to become more climbable is discouraged.

3.3. Using trees for natural anchors is discouraged. If using trees as natural anchors, care should be taken to prevent damage to the tree.

4. Rock Alteration

4.1. The removal of rock from its natural position will be allowed only when the rock to be removed poses a significant risk to the climbing party or a future climbing party.

4.2. Chipping, gluing, or attaching artificial holds is prohibited. Drilling or altering rock to make a blank section "climbable" is prohibited.

5. Fixed Anchors

5.1. Fixed Hardware:

5.1.1. Modern, commercially available climbing specific hangers and bolts of a length adequate for the rock conditions, and of a highly corrosion resistant metal such as stainless steel are required.

- 5.1.2. The use of non-climbing specific hardware (e.g. concrete anchors, home manufactured equipment, cables, etc.) is discouraged.
- 5.1.3. The use of reflective hardware is discouraged, especially in areas where conflict with other user groups is most likely to occur such as near multi-use trails, developed sites or viewpoints. The main access trail is a multi-use trail.
- 5.1.4. Camouflaging fixed anchors to match natural rock color is encouraged.
- 5.1.5. When replacing unsafe fixed anchors, use of modern, commercially available hardware of a highly corrosion resistant metal such as stainless steel is required. A reasonable effort to remove the existing, unsafe hardware will be made and existing drill holes will be used in the installation of replacement fixed anchors whenever possible.
- 5.1.6. The installation and removal of pitons does permanent damage to the rock and is strongly discouraged. Pitons should only be used when any other reasonably safe means of protecting the climbing party is non-existent.
- 5.1.7. The use of permanent quick draws (e.g., permadraws, chains, etc) is discouraged, but may be allowed on a case-by-case basis with consideration by NRAC and HNRP. Camouflaging is encouraged.
- 5.2. Fixed Software:
 - 5.2.1. The placement of fixed rope for the purpose of retreating from a climb, working a new project or establishing a new climbing route may be allowed under the following conditions: (1) the climbing party intends to return to continue the climb, and (2) the placement does not exceed a period of 24 hrs.
 - 5.2.2. Fixed software (e.g. rope, webbing, slings, cord, etc. left for the purpose of retreating from a climb) should be of a natural color similar to the surrounding rock. If used on vegetation, the climbing party is responsible for retrieving software so as to not damage or kill top site vegetation.

6. New Routes

- 6.1. The establishment of new climbing routes is allowed according to all the policies described herein and summarized in Appendix B. Climbers establishing new routes must also follow the following procedure:
 - 6.1.1. To protect sensitive and rare cliff-top and cliff-edge plants and vegetation, topping out new routes is discouraged. All new routes should have a fixed descent anchor below the cliff-top and cliff-edge to ensure minimal impact to vegetation, and to facilitate climber descent.

- 6.1.2. After approval of the new route, developers/ equipers must demonstrate the ability to safely and correctly install hardware. NRAC Rebolting Committee will be available to ensure routes are established properly with correct hardware. This process maintains route integrity, promotes area's "best practices", and ensures HNSP's needs are being met. NRAC will be contacted for hardware maintenance and replacement for the duration of the CMP. Similar guidelines are in place with NPS and ACP for hardware replacement and documentation, HNSP will use the same approved equipper's list that NRAC supplies NPS.

7. Gear Caches

- 7.1. Generally, the caching of climbing equipment at or near the base of a climb is not allowed.
- 7.2. Caching of climbing equipment at bouldering areas, including crash pads, is not allowed.
- 7.3. The caching of climbing equipment at or near the base of a climb in the event of a retreat due to weather, injury, or illness is allowed for a period not to exceed 24 hours.

8. Bouldering

- 8.1. Alterations (e.g. movement of rock or woody debris) to pad placements is discouraged.
- 8.2. Alterations to rock and surrounding area (dig outs, toupee removal, chipping, drilling, over scrubbing, etc) are strongly discouraged. When developing, wire brushes are strongly discouraged due to discoloration left behind.
- 8.3. It is understood that some limited loss of vegetation is likely to occur at established climbing areas. Where necessary, alterations should consider durability, sustainability, visual impacts, safety and social impacts. Development on boulders with lush, thriving vegetation (lichen, ferns, shrubs, etc) is prohibited.
- 8.4. Dragging pads damages vegetation and soils, and is strongly discouraged.
- 8.5. Overchalking and tick marks are strongly discouraged. Brush off before moving on to the next boulder/ area.

9. Human and Pet Waste

- 9.1. Climbers should abide by standard Leave No Trace practices for rock climbing.
- 9.2. Climbers should clean up after themselves and pack out all trash and garbage.

- 9.3. Packing out human and pet waste is encouraged, especially in areas with moderate to high levels of use, and where appropriate means of disposal (e.g., catholes, privies) are not available or appropriate. WAG Bags may be provided by NRAC and HNSP for use when away from HNSP facilities.
- 9.4. Availability and placement of toilets should be considered in areas of higher use. Use facilities provided by HNSP when able. There are facilities located within HNPS buildings.

10. Social and Recreational Impacts

- 10.1. Climbers frequently utilize voice signals to communicate specific needs during a climb to facilitate safe ascent or descent. Such noise can disrupt wildlife or impact hikers adjacent to climbing areas. Other noises (e.g. rock hammers, drills) may also be considered intrusive in some settings. Climbers are encouraged to be sensitive to the value of natural quiet and respect other user group experiences. Rock hammers or drills should be used judiciously during sensitive times for wildlife (e.g. breeding, nesting, fledging) and in areas where other visitors may be disturbed. Music at the crag is heavily discouraged.
- 10.2. Climbers are encouraged to be sensitive to the value of the visual resource. The visual impacts of fixed anchors can be managed by camouflaging equipment. HNSP and NRAC reserve the right to pull fixed hardware or reduce visual impact on a case by case basis. The visual impacts of chalk use can be managed through educating climbers on reducing the use of chalk, cleaning after themselves (ie: brushing off tick marks, brushing heavily chalked holds, etc.), and encouraging chalk clean-up projects. A common idea is to rely on the weather to clean things, but clean-up projects can be implemented on routes in overhanging areas and at high mileage crags. Please also consider visual impact while using the area (ie: hammocks, gear dispersal, etc) and keep these acts to a minimum.
- 10.3. Levels of use should be monitored. Management action including capacity limitations (e.g. allowable route densities, new fixed anchor authorizations, commercial use, group use, etc.) may be utilized if user conflict or crowding occurs, or if there is unacceptable change to resource (e.g. physical, biological, social, managerial) conditions. NRAC will help facilitate rehabilitation, reengineering (routes or cliff base), or site specific development when applicable.
- 10.4. The climbing community and land managers will work together to mitigate user conflicts. If user conflicts become prevalent or cause access issues, actions (depending on severity) may be taken (ie: route/ zone closures, user access revoked, temporary closures enacted)

11. Cultural Resources

- 11.1. This area may contain Native American, state heritage, or sites of interest.

- 11.2. Climbing or new route development may be restricted to protect cultural resources.
- 11.3. Leave any cultural resource discoveries intact and in place.
- 11.4. Immediately notify HNRP by telephone of the discovery of any culturally significant objects including antiquities or other objects of historic or scientific interest, including but not limited to historic or prehistoric ruins, fossils, or artifacts.

12. Wildlife and Rare Plant Resources

- 12.1. Climbing or new route development may be restricted to protect state or federally listed threatened, endangered, and sensitive wildlife and rare plant species. Climbing on heavily vegetated cliffs is discouraged. Heavily vegetated cliffs may support natural communities known to contain rare and sensitive species. Impacts from climbing activities should be monitored and assessed regularly to ascertain needed management adaptation or necessary improvements. HNRP welcomes input from climbers about observations of any wildlife or rare plants at climbing areas to enhance local understanding of the ecology of cliff communities.
- 12.2. Temporary closures may be used to protect nesting raptors during critical phases of their courtship, nesting, and fledging periods. Closures will begin in early spring. Raptor activity should be monitored and those areas or routes with current raptor use may be closed. Other areas where activity is discovered may also be closed. Closures will be in effect long enough to ensure protection and non-disturbance of the birds. Raptor closure time period and spatial extent may vary depending on the species, nest site, topography and other conditions.
- 12.3. Closures may also be utilized for other wildlife and rare plant protection as necessary.
- 12.4. Restrictions and closures will be posted at the HNRP office, and as possible, online, and on the ground near logical access points. NRAC may be utilized to disperse information to the climbing community.

13. Search and Rescue Considerations

- 13.1. As climbing management activities continue to increase, the climbing community will work alongside HNRP and local rescue personnel (Ansted Police, Fire, etc) to identify key points of access and to identify, with common terminology, key rock features and climbing areas. This will allow for faster response and quicker extractions.
- 13.2. HNRP staff and climbers will work together to complete a map to provide SAR operators.
- 13.3. Prompt posting of new routes to an online database will assist with the process of locating injured climbers in the event of an accident.

- 13.4. Backboards and other forms of first aid/ first responder needs will be stationed at key points to facilitate rescues and provide resources for user groups to use should any injury happen. They will be marked on maps for quick reference.

14. Partnerships

- 14.1. HNSP and the climbing community identify the need for collaboration and partnerships.
 - 14.1.1. The Hawks Nest State Park office (304-658-5212, hawksnestsp@wv.gov) will be the main point of contact for HNSP.
 - 14.1.2. The New River Alliance of Climbers (bod@newriverclimbing.net) will be the main points of contact for the climbing community. The Access Fund (303.545.6772) more specifically Daniel Dunn, the Southeast Regional Manager (803-443-8822, daniel@accessfund.org) may also be used.
- 14.2. It may be beneficial for a written agreement (e.g. MOU) between these partners to be established in order to formalize a general cooperative relationship between the parties, to define common interests and goals, and to maintain communication lines.
- 14.3. Goals of partnerships:
 - 14.3.1. Improve education of climbing community through engagement in public outreach including use of educational events, social media, articles, etc. An education plan for user direction may be developed.
 - 14.3.2. Develop an inventory, description, and maps of existing climbing in HNSP area including: significant crags/sub-areas, parking situation, approach paths, existing conditions and areas of concern, area emphasis (e.g. trad, sport, mixed, bouldering, ice, alpine), and estimated levels of use (e.g. low, moderate, high) by sub-area.
 - 14.3.3. Additionally support local climbing organizations in order to promote and support stewardship efforts and events. These events may include activities such as litter clean-ups, visual impact mitigation, approach trail and staging area maintenance, construction, and restoration, erosion control and closure of social trails, and wildlife and rare plant monitoring.
 - 14.3.4. Consider using a fixed hardware review committee to address concerns about bolting in the area. Adoption of New River Gorge National Park (NPS) standards will be implemented ($\frac{1}{2}$ in or 12mm expansion or glue ins), maintained, and enforced with the help of NRAC's Anchor/ Rebolting Committee. NRAC and the Anchor Committee will be used for new route application approval or denial. Part of developing will require demonstration of equipping knowledge before applicant can execute route development.

- 14.3.5. Part of the education process can be fulfilled with NRAC and local guide companies. Each guiding company is required to fill out proper documentation and pay an annual fee to be able to guide on HNSP property. No one guide service will have sole concessions. The goal of climbing development at HNSP is to have it be accessible to everyone. All guide companies are welcome to purchase annual use passes.

15. Commercial Guiding

- 15.1. Commercial use authorization (CUA) allows you to conduct commercial activities and provide specific visitor services on privately owned land. A CUA is required if you provide any goods, activities, services, agreements, or other function for HNSP visitors that take place at least in part on lands managed by the HNSP; use park resources; and result in compensation, monetary gain, benefit, or profit to you, when a concession contract is not necessary. Any such entity operating on HNSP must fill out proper paperwork, share insurance policies to operate, and be approved by HNSP. A CUA will be issued at the start of each season upon approval. The Army Corps of Engineers (Summersville Lake - ACE) and the New River Gorge National Park Service (NPS) require CUAs. HNSP's CUA is modeled off of these to ensure continuity in the region. For CUA Regulations and Application, please contact HNSP via email: hawksnestsp@wv.gov or call (304) 658-5212

16. APPENDIX A: Responsible Climbing Practices

- 16.1. Climbing is by permit only, and all climbers must complete a waiver, both of which can be completed electronically by completing the fields below or by visiting the HNSP Visitor Center or the Lodging Registration Area. The permit and waiver must be completed every calendar year, regardless of previous permit/waiver completion date, and verification of completion must be available (digital or hard copy) while climbing at HNSP.
- 16.2. Climbing on moist, heavily vegetated cliff is prohibited, as these cliffs may support a natural community that is known to harbor sensitive and endangered species. Climbing is restricted to dry, sparsely vegetated cliff.
- 16.3. "topping out" of routes is discouraged unless routes do not have documented anchors (earlier established trad routes). If this is the case, please inform HNSP or NRAC so proper hardware can be installed.
- 16.4. Stay on designated trails.

- 16.5. Removal of vegetation from the base of climbs, belay ledges, or bouldering areas is prohibited unless approved by park staff or it poses an immediate risk. Contact HNSP if there are downed trees on cliff top or across access points/ trail systems.
- 16.6. Using trees for natural anchors is discouraged. If using trees as natural anchors, care should be taken to prevent damage to the tree.
- 16.7. The removal of rock from its natural position will be allowed only when the rock to be removed poses a significant risk to the climbing party, a future climbing party, or is above the trail and endangers other user groups.
- 16.8. Chipping, gluing, or attaching artificial holds is prohibited.
- 16.9. Caching of climbing equipment at or near the base of a climb is not allowed.
- 16.10. Be mindful of noise level so as not to disturb other park users and wildlife.
- 16.11. Be aware of potential seasonal cliff closures due to natural resource concerns, such as nesting peregrine falcons (see information below).
- 16.12. Climbers should abide by standard Leave No Trace practices for rock climbing: 1) Climbers should clean up after themselves and pack out all trash and garbage; 2) Packing out human and pet waste is encouraged, especially in areas with moderate to high levels of use, and where appropriate means of disposal (e.g., catholes, privies) are not available or appropriate.
- 16.13. The climbing routes found within the gorge are maintained by volunteers and volunteer local climbing organizations. Climbing is inherently dangerous, and it is ultimately the responsibility of each individual climber to inspect all fixed hardware for soundness before using it. Any Fixed anchors and bolts in need or maintenance or replacement should be reported to NRAC via website or email.
- 16.14. Climbing is open in the park from 30 minutes prior to sunrise to 30 minutes after sunset. Climbing is not allowed in low light conditions outside of these hours. It is acceptable to hike out close to dark, but night climbing is prohibited.
- 16.15. Free-soloing is prohibited.

17. APPENDIX B: Development Guidelines

17.1. ESTABLISHING NEW CLIMBING AREAS

- 17.1.1. Requests for approval of new climbing areas in HNSP are welcome and will be considered. HNSP will review these submissions and respond in a timely manner. Consideration and approval of new climbing sectors may occur by mutual agreement of HNSP, NRAC and/or Access Fund; or at

the discretion of the HNSP, if necessary for resource protection. Requests should be submitted via email.

17.1.2. Development on heavily vegetated cliffs is prohibited.

17.1.3. Construction (e.g. improvements, structures, tool work) of new approach trails is not allowed under land management regulations without prior approval by the proper land management agency. If there is a perceived need for an access trail or trail development

17.1.4. New approach trails may only be constructed after; identification, assessment, design, and environmental analysis are completed through the proper land management agency approval process.

17.1.5. Removal of vegetation from the base of climbs, belay ledges, or bouldering areas is discouraged.

17.2. ESTABLISHING/REPLACING ROUTES

17.2.1. Development on heavily vegetated cliffs is prohibited.

17.2.2. To protect sensitive and rare cliff-top and cliff-edge plants and vegetation, topping out new routes is discouraged. All new routes should have a fixed descent anchor below the cliff-top and cliff-edge to ensure minimal impact to vegetation, and to facilitate climber descent. Clip-in/drop-in anchors are acceptable in high use areas to promote safe climbing and allow for turnover of routes. These will be monitored heavily for wear and replaced as necessary. Camouflaging of higher visibility hardware may be necessary.

17.2.3. No hardware will be provided. To develop a route is the establishing party's responsibility. Guidelines for hardware must be followed. 1/2 in or 12mm stainless expansion or glue in bolts are required. Anchors must have quick links and rappel rings (or drop-in stainless steel carabiners) installed. Please review hardware guidelines or consult NRAC if further information is needed.

17.2.4. The use of non-climbing specific hardware (e.g. concrete anchors, home manufactured equipment, cables, etc.) is prohibited. If routes are developed with non-stainless or hardware not rated for climbing then the developer/ developers will not be permitted to finish establishing the current route or develop in the future.

17.2.5. Modern, commercially available climbing specific hangers and bolts of a length adequate for the rock conditions, and of a highly corrosion resistant metal such as stainless steel are required. Contact NRAC for recommendations on manufacturers or providers of approved hardware.

17.2.6. The use of reflective hardware is discouraged, especially in areas where conflict with other user groups is most likely to occur such as near multi-use trails, developed sites or viewpoints.

17.2.7. Camouflaging fixed anchors to match natural rock color is encouraged.

- 17.2.8. The removal of vegetation from cracks or rock faces to allow a route to become more climbable is discouraged.
- 17.2.9. Using trees for natural anchors is discouraged. If using trees as natural anchors, care should be taken to prevent damage to the tree. Anchors below cliff top are required. Remove any anchor material from natural anchors after hardware is installed.
- 17.2.10. The removal of rock or natural object/ material from its natural position will be allowed only when the rock to be removed poses a significant risk to the climbing party or a future climbing party.
- 17.2.11. Chipping, gluing, or attaching artificial holds is prohibited.
- 17.2.12. For NRAC Rebolting Committee: When replacing unsafe fixed anchors, use of modern, commercially available hardware of a highly corrosion resistant metal such as stainless steel is required. A reasonable effort to remove the existing, unsafe hardware will be made and existing drill holes will be used in the installation of replacement fixed anchors whenever possible.
- 17.2.13. The installation and removal of pitons does permanent damage to the rock and is strongly discouraged. Pitons should only be used when any other reasonably safe means of protecting the climbing party is non-existent. Previously existing pitons can be replaced with bolts. Positioning and replacement will be decided and performed by HNSP and NRAC.
- 17.2.14. The use of permanent quick draws (e.g., permadraws) is discouraged, but may be allowed on a case-by-case basis with consideration by HNSP and NRAC.
- 17.2.15. The placement of fixed rope for the purpose of retreating from a climb, working a new project or establishing a new climbing route may be allowed under the following conditions: (1) the climbing party intends to return to continue the climb, and (2) the placement does not exceed a period of 24 hours.
- 17.2.16. Fixed software (e.g. rope, webbing, slings, cord, etc. left for the purpose of retreating from a climb) should be of a natural color similar to the surrounding rock.
- 17.2.17. Rock hammers or drills should be used judiciously during sensitive times for wildlife (e.g. breeding, nesting, fledging) and in areas where other visitors may be disturbed.
- 17.2.18. All routes established, or in process of being established, prior to the date on this document are considered "previous routes". However, if HNSP or NRAC decide any routes established before this date do not fall in line with "best practices", HNSP or NRAC can choose to "update", alter, or strip the route if it falls outside parameters laid out in this document. First ascensionist parties will be notified as a courtesy and reengineering efforts are not up for debate. Landholders (HNSP) have ultimate say in these concerns.

17.3. GEAR CACHE

- 17.3.1. Generally, the caching of development equipment at or near the base of a climb is not allowed.**
- 17.3.2. The caching of climbing equipment at or near the base of a climb in the event of a retreat due to weather, injury, or illness is allowed for a period not to exceed 48hrs.**