

FEDERAL ENERGY REGULATORY COMMISSION
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OFFICE OF ENERGY PROJECTS

Project No. 2512-069 –West Virginia
Hawks Nest Hydroelectric Project

Project No. 14439-000 –West Virginia
Glen Ferris Hydroelectric Project

Hawks Nest Hydro, LLC

Mr. David Barnhart
Director of Operations
Hawks Nest Hydro, LLC
326 Third Avenue, Suite 201
Montgomery, WV 25136-2200

**Reference: Study Plan Determination for the Hawks Nest and Glen Ferris
Hydroelectric Projects**

Dear Mr. Barnhart:

Pursuant to 18 C.F.R. § 5.13(c) of the Commission's regulations, this letter contains the study plan determination for the Hawks Nest (FERC No. 2512), and the Glen Ferris (FERC No. 14439) hydroelectric projects. The determination is based on the study criteria set forth in section 5.9(b) of the Commission's regulations, applicable law, Commission policy and practice, and the record of information.

Background

On January 4, 2013, Hawks Nest Hydro, LLC (Hawks Nest Hydro) filed its proposed plan for studies on: water quality; fish entrainment; aquatic species composition and abundance; aquatic habitats; rare, threatened, and endangered species; wetlands and riparian habitats; recreation; and cultural resources in support of its intent to relicense the Hawks Nest and Glen Ferris projects.

On January 29, 2013, Hawks Nest Hydro held a study plan meeting to discuss its proposed study plan. Comments on the proposed study plan were filed by American Whitewater on March 4, 2013, and by the Commission staff and Globe Specialty Metals, Inc. (Globe Specialty Metals) on April 4, 2013. The West Virginia Division of Natural Resources (West Virginia DNR), the National Committee for the New River (NCNR), the West Virginia Professional River Outfitters (WVPRO), the National Parks Conservation Association, and The Nature Conservancy filed comments on April 5, 2013.

Following the conclusion of the study plan meeting, and receipt of comments on its proposed study plan, Hawks Nest Hydro filed a revised study plan on 10 proposed studies on May 6, 2013.¹ Comments on the revised study plan were filed by NCNR and Globe Specialty Metals on May 20, 2013. WVPRO filed comments on the revised study plan on May 21, 2013.

General Comments

A number of the comments received do not address study plan issues. These include comments on potential project effects, the Integrated Licensing Process (ILP), and reference to previously filed comments. This determination does not address these comments, but rather addresses only the merits of the revised study plan (RSP) submitted pursuant to section 5.13 of the Commission's regulations and comments received thereon.

Study Plan Determination

Hawks Nest Hydro's revised study plan, filed May 6, 2013, is approved as filed. Appendix A lists the 10 studies that are approved, and a study (socioeconomic study) that is not required to be conducted. The bases for not adopting some requested study modifications and for not requiring the one study are explained in Appendix B. Studies for which no issues were raised in response to the RSP are not discussed in Appendix B. Commission staff considered all study plan criteria in section 5.9 of the Commission's regulations; however, only specific study criteria that are relevant to the determination are referenced in Appendix B.

Nothing in this study plan determination is intended, in any way, to limit any agency's proper exercise of its independent statutory authority to require additional studies.

¹ Because the due date established under the Commission's ILP regulations, May 5, 2013, fell on a Sunday, under current Commission filing regulations (18 C.F.R. §385.2007 (2012)) the filing was due on the next regular business day (May 6, 2013).

If you have any questions, please contact Monir Chowdhury at (202) 502-6736.

Sincerely,

Jeff C. Wright
Director
Office of Energy Projects

Enclosures: Appendix A-- Approved studies and studies not required
Appendix B-- Staff's recommendations on proposed and requested studies

cc: Mailing List
Public Files

Hawks Nest Project No. 2512-069
 Glen Ferris Project No. 14439-000

APPENDIX A
Approved Studies and Studies Not Required

Study	Recommending Entity	Approved	Not Required
1. Water Quality Study	Hawks Nest Hydro	x	
2. Fish Entrainment Study	Hawks Nest Hydro	x	
3. Aquatic Species Composition and Abundance Survey Study	Hawks Nest Hydro	x	
4. Rare, Threatened, and Endangered Aquatic Species Study	Hawks Nest Hydro	x	
5. Bypass Reach Aquatic Habitat Use/Instream Flow Study	Hawks Nest Hydro	x	
6. Wetland and Riparian Habitat Survey Study	Hawks Nest Hydro	x	
7. Rare, Threatened, and Endangered Terrestrial Species Study	Hawks Nest Hydro	x	
8. Recreation Flow Assessment Study	Hawks Nest Hydro	x	
9. Recreation Use and Needs Assessment Study	Hawks Nest Hydro	x	
10. Cultural Resources Study	Hawks Nest Hydro	x	
11. Socioeconomic Study	American Whitewater, NCNR, WVPRO, Globe Specialty Metals		x

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APPENDIX B

Staff Recommendations on Proposed and Requested Studies

The following discusses Hawks Nest Hydro's revised study plan, filed May 6, 2013, and comments thereon, including staff's basis for not recommending certain modifications to the study plan.

Aquatic Species Composition and Abundance Survey Study

Applicant's Proposed Study

Hawks Nest Hydro proposes to conduct a study to document the species composition, density, and abundance of fish, freshwater mussels, and benthic macroinvertebrates occurring in the project area. This study would complement the Entrainment Study; the Rare, Threatened, and Endangered Aquatic Species Study; and the Bypass Reach Aquatic Habitat Use/Instream Flow Study by providing information on the biological community. Hawks Nest Hydro's proposed study has the following objectives:

- to obtain current information on the freshwater fish, mussels, and benthic macroinvertebrate communities at the projects, including baseline data on species composition and abundance;
- to conduct seasonal surveys to document fish community composition and abundance in the project reservoirs, tailraces, and the Hawks Nest bypassed reach;
- to conduct summer surveys to document mussel community composition and abundance from the Glen Ferris reservoir upstream to and including the Hawks Nest reservoir; and
- to conduct summer-to-fall macroinvertebrate surveys in the Hawks Nest bypassed reach to document community composition, abundance, and West Virginia Stream Condition Index (WVSCI).

The proposed study areas for the fish, mussel, and macroinvertebrate surveys differ. Fish surveys will be conducted in: (1) the Glen Ferris tailrace and in areas immediately downstream of Kanawha Falls; (2) the Glen Ferris reservoir upstream to and including the Hawks Nest powerhouse tailrace; (3) the 5.5-mile Hawks Nest bypassed reach upstream from the Hawks Nest powerhouse to Hawks Nest dam; and (4) the Hawks Nest reservoir upstream to its confluence with Marr Branch, or otherwise within the zone of project operational influence. The proposed mussel surveys would be conducted in all areas except area 1 (described above) due to the extensive mussel surveys that have

already been conducted there by West Virginia DNR. The proposed macroinvertebrate survey would be conducted only in the Hawks Nest bypassed reach.

Comments on the Study

In its comments on the Revised Study Plan, NCNR stated that at the April 11, 2013 Study Group meeting, the study area was shown to extend upstream to the New River Bridge (Rt. 19); whereas the Revised Study Plan describes the upstream limit of the study area to be above the Hawks Nest Reservoir at Marr Branch. NCNR requests that sampling extend upstream to the New River Bridge.

Discussion and Staff Recommendation

We note that the Revised Study Plan states that the upstream terminus would be the confluence of the New River with Marr Branch, or otherwise within the zone of project influence. Aerial imagery of the area indicates that the confluence of the New River with Marr Branch is about 0.6 mile downstream of the New River Bridge and that the physical habitat in the intervening reach is similar to that in the Marr Branch area, with the exception of an extended fast-water area immediately downstream of the bridge. Staff considers that the habitat in the vicinity of the confluence of Marr Branch with the New River is more representative of the upstream extent of the project area than is the habitat in the vicinity of the New River Bridge. Therefore, staff recommends that the upstream terminus of sampling be the confluence of Marr Branch with the New River. The proposed fish, mussel, and macroinvertebrate surveys to be conducted within the project area, combined with the existing literature, should be adequate to inform the Entrainment Study; the Rare, Threatened, and Endangered Aquatic Species Study; and the Bypass Reach Aquatic Habitat Use/ Instream Flow Study (section 5.9(b)(5)). Therefore, no modifications to the study plan are recommended.

Bypass Reach Aquatic Habitat Use/Instream Flow Study

Applicant's Proposed Study

Hawks Nest Hydro proposes to conduct an instream flow study that would characterize habitat quality for species of management interest over a range of flows (100 to 2,000 cubic feet per second (cfs)). The goal of the proposed study is to obtain information that will allow the evaluation and balancing of the needs and priorities of the various flow-related resources in the Hawks Nest bypassed reach. The proposed study would employ a two-dimensional physical habitat simulation (PHABSIM) methodology conducted under the overall framework of the instream flow incremental methodology

(IFIM) to determine the incremental relationship between river flow and indices of habitat suitability for resident fish species. The field data collection associated with the PHABSIM would be conducted at flows of 100, 200, 500, and 1,000 cfs, which would allow modeling of habitat at flows up to 2,000 cfs. Physical and hydraulic data collected for the PHABSIM portion of the study will also be used to determine wetted perimeter, or wetted area conditions at sites in the bypassed reach to evaluate flow-related effects on potential mussel habitat.

Comments on the Study

In its study requests and comments on the proposed study plan, the National Parks Conservation Association (NPCA) requested that an Indicators of Hydrologic Alteration (IHA) or an Ecological Limits of Hydrologic Alteration (ELOHA) approach be taken, in addition to the IFIM and PHABSIM methodologies proposed by Hawks Nest Hydro. NCNR and The Nature Conservancy also recommended that an IHA approach be adopted. As part of this approach, NPCA, The Nature Conservancy, and NCNR recommended expanding the geographic scope of the study to include stream reaches upstream and downstream from the project area. NCNR reiterated its requests in its comments on the revised study plan. Its stated rationale for this request is that decades of very low flows in the bypassed reach have altered the available habitats, and that to understand project effects on habitat in the bypassed reach, nearby stream reaches unimpacted by the project must be considered. As part of the IHA approach, The Nature Conservancy also recommends that a working group be established that would develop recommendations based on study results.

Discussion and Staff Recommendation

Hawks Nest Hydro did not adopt the requests and recommendations related to the inclusion of the IHA or ELOHA approaches, or an expanded geographic scope, in its Bypass Reach Aquatic Habitat Use/Instream Flow Study. Hawks Nest Hydro contends that the currently proposed study will provide a tool that can model how physical habitat in the bypassed reach would differ under a variety of flow regimes (ranging from 100 to 2,000 cfs). It also states that focusing the geographic scope of the study on the bypassed reach is consistent with generally accepted practice in the scientific community and within the FERC relicensing process.

The IFIM and PHABSIM are methodologies that are commonly used in hydro relicensing proceedings and are appropriate in this case. The study proposed by Hawks Nest Hydro should be adequate to provide a basis for establishing a minimum flow requirement for the project bypassed reach (section 5.9(b)(5)). IHA and ELOHA studies

would be unnecessary because the IFIM and PHABSIM approach would provide the information necessary to inform a determination of appropriate flows for the Hawks Nest bypassed reach. Expanding the geographic scope of the study to include stream reaches upstream and downstream of the project area would not provide information to directly inform the determination of appropriate flows for the bypassed reach. Therefore, no modifications to the study plan are recommended.

Recreation Flow Assessment Study

Applicant's Proposed Study

Hawks Nest Hydro proposes to conduct a study to analyze the project's ability to enhance whitewater boating opportunities over a range of boatable flows. During the study, flows would be released into the bypassed reach to allow whitewater boaters to experience and evaluate these flows. Study participants would then complete surveys assessing their on-water experience.

Hawks Nest Hydro proposes the following specific study objectives:

- Assess a range of flows for recreational and commercial whitewater paddling and rafting to determine the minimally-acceptable and optimal flows.
- Determine the number of days per month that minimally-acceptable and optimal flows for whitewater boating are available under the current operation and would be available under alternative modes of operation.
- Assess the limitations and feasibility of providing scheduled releases to the bypassed reach and estimate the number of annual whitewater boating user days the resource would attract over the range of flows studied.
- Explore methods of providing flow information to the general public.
- Assess impacts of releases to other resources including other recreational users (e.g., anglers), aquatic resources, water quality, and generation.
- Identify existing and potential future put-in and take-out sites.

The study area is the 5.5 mile bypassed reach known as the New River Dries. Participants would evaluate six flow releases from 500 cubic feet per second (cfs) to 3,000 cfs by completing a pre-run information form, a single flow evaluation form after each run, and a comparative flow evaluation form after all runs have been completed. The 500- and 1,000-cfs whitewater boating flow releases are proposed to be studied concurrently with the aquatic flow study releases scheduled for July-August 2013. The 1,500-cfs, 2,000-cfs, 2,500-cfs, and 3,000-cfs whitewater releases are proposed to be

studied for 10 hours per day for 4 consecutive days in the fall of 2013 or the spring of 2014, depending on flow availability. Hawks Nest Hydro proposes to allow expert kayakers to submit individual evaluations of flows above 10,000 cfs through June 30, 2014, using the same recreation flow evaluation forms. Following the evaluations, a study report containing the following information would be prepared:

- A description of the whitewater boating attributes of the range of flows examined, including level of difficulty, portage requirements, length of trip, experiences, etc.
- A description of the minimum acceptable and optimal flows for the reach and description of the frequency of availability of the identified flows under current and alternative project operation scenarios.
- A description of the operational feasibility of providing scheduled releases for whitewater boating use in the bypassed reach and an estimate of potential annual whitewater boating user days for the bypassed reach if:
 - The minimum acceptable flow was made available at scheduled times; or
 - The optimal flow was made available at scheduled times.
- Identification of potential measures that would improve whitewater boating access.
- Evaluation of the potential effects of providing the minimum or optimal flows for whitewater boating on other recreational uses of the bypassed reach.

Comments on the Study

Additional Incremental Study Flows

West Virginia Professional River Outfitters (WVPRO) requests that Hawks Nest Hydro provide controlled flow releases in 100 cfs increments from 500 – 2,000 cfs and in 250 cfs increments from 2,000 – 3,000 cfs. WVPRO states that there are rapids in the bypassed reach where 100 cfs can make a significant change in how certain rapids would be run.

Discussion and Staff Recommendation

Hawks Nest Hydro's proposed recreation flow assessment will cover the same range of flows recommended by WVPRO. The flow increments proposed in the revised study plan should be sufficient for participants to evaluate the specific flow provided, or a level in between the two flows that are provided, which should provide the information necessary to evaluate project effects. Requiring Hawks Nest Hydro to provide the 14 additional flows that WVPRO suggests would be unnecessarily time-consuming and

would not be needed to inform a licensing decision on boating flows (section 5.9(b)(7)). Therefore, no modifications to the revised study plan are recommended.

Summer 2013 Releases

WVPRO requested that all releases for the whitewater flow assessment occur during the summer of 2013, but did not provide its rationale for this request.

Discussion and Staff Recommendation

WVPRO did not explain why providing the flow releases for the study in the spring or fall as proposed would not be sufficient to provide the information needed. Therefore, no modifications to the revised study plan are recommended.

Financial Impact of Flow Releases on WVAM

Globe Specialty Metals, Inc. (Globe Specialty Metals) commented on the revised study plan explaining the financial effects on its operations if recreational flow releases were provided through the bypassed reach for the recreational flow study. These impacts include additional energy and production costs, reduced production efficiency, and the possibility of complete shutdown of its WVAM plant.

Discussion and Staff Recommendation

Staff recognizes that the WVAM plant could be affected if flow releases are required. Hawks Nest Hydro has proposed a method of evaluating recreational flows with the goal of reducing the impact to the alloy plant. Providing the flow releases for the study during the Fall or Spring would appear to minimize the chances of negatively affecting the alloy plant, and the proposed flow study is needed to inform a decision on whether recreational flows should be required in the bypassed reach (section 5.9(b)(5)). Therefore, no modifications to the revised study plan are recommended.

Socioeconomic Study

American Whitewater and NCNR requested a recreational economic study to assess the economic benefits of various bypassed reach recreational flow releases. WVPRO also requested, as one component of the recreation study, an evaluation of the economic viability of commercial whitewater rafting. The study would estimate the economic benefits of predictable whitewater boating opportunities on the bypassed reach of the New River. Globe Specialty Metals requested that the Commission's

environmental analysis consider the importance of the Hawks Nest Hydropower Project to the silicon alloy plant, owned and operated by WVAM, a subsidiary of the company. It also requested that the Commission consider impacts of any proposed increased minimum flow releases on the generation of the hydropower project and related impacts on the alloy plant.

Comments on the Study

Hawks Nest Hydro commented that the study request would not inform the development of license requirements and that the Commission does not typically quantify non-power benefits. It stated that project stakeholders, in particular local outfitters represented by WVPRO, are best positioned to define the economic value of the recreational flow releases. Regarding potential impacts on the alloy plant, Hawks Nest Hydro believes that it is more appropriate that such information come from WVAM. Hawks Nest Hydro, however, offered to establish a working group or forum to share economic information with the objective of developing a common reference or framework for discussion of economic factors, and convey any potential impacts of any recommended changes in project operation on the local whitewater industry or on WVAM. In response to Hawks Nest Hydro's comments, WVPRO stated that it would participate in a working group to share economic information for discussion of economic factors and considerations if WVAM also participates. Globe Specialty Metals (or its subsidiary WVAM) did not comment on the proposal to form a workgroup in its response to the proposed or revised study plan. American Whitewater stated that the Commission should require an economic study because of the potential large economic value of recreational use of the New River bypassed reach. NCNR also responded saying that the economic benefits of whitewater recreation should be weighed into the development of the license application.

Discussion and Staff Recommendation

We intend to evaluate, to the extent feasible, the socioeconomic effects of alternative minimum flow releases to the bypassed reach. Where the effects of providing these flows can be reasonably quantified (lost generation, for example) we will do so. For non-power resources, as has been our practice, our analysis will be qualitative in nature. We do not believe that a study that attempts to quantify the value of whitewater boating is necessary to inform the development of license requirements (section 5.9(b)(5)). Therefore, we do not recommend the socioeconomic study.