Secretary
Federal Energy Regulatory Commission
888 First Street, NE,
Washington, DC 20426

COMMENTS AND MOTION TO INTERVENE
OF AMERICAN WHITEWATER
IN RESPONSE TO THE "NOTICE OF APPLICATION ACCEPTED FOR FILING, SOLICITING MOTIONS TO INTERVENE AND PROTESTS, READY FOR ENVIRONMENTAL ANALYSIS, AND SOLICITING COMMENTS, RECOMMENDATIONS, PRELIMINARY TERMS AND CONDITIONS, AND PRELIMINARY FISHWAY PRESCRIPTIONS" REGARDING THE HAWKS NEST AND GLEN FERRIS PROJECTS, FERC PROJECTS 2512-075 AND 14439-001

Submitted on: May 27, 2016

The New River Dries is one of the last and most compelling unmitigated bypassed river reaches in the eastern United States. This reach, nearly dewatered by the Hawks Nest Project, has vast potential to support whitewater paddling, angling, and a diverse fishery. It simply needs water and basic river access. The License Application proposes two different modes of operation: one under which the river remains largely dewatered if their industrial customer remains in need of 25-Hz power, and another under which more water is restored if their customer's need ceases for any reason. Relicensing studies show that the river's ecology and public use would improve with additional water, and the License Application hinges on FERC weighing the industrial power purchaser's interests as more important than those gains or at least heavy in the balancing scales.

The alloy plant (WVAM) and the Project were built before modern environmental laws and awareness, and before outdoor recreation became an economic engine for West Virginia. The Final License Application (FLA) seeks to largely maintain the highly profitable status quo hydropower operations, with minimal mitigation for the Project's significant impacts. The FLA seeks a license that is not up to modern standards and that supports the alloy plant, but leaves outdoor recreation and the outdoor recreation economy shorted, as well as leaves the river radically dewatered and impacted. We believe that the choice is not as binary as the FLA makes it out to be, and that there are opportunities for win-win-win Project operations that strike a better balance. The proposals in the FLA for public river access and flows would perpetuate unacceptable and unnecessary impacts on the public interest. In these comments we propose alternatives that we request be considered in the Draft Environmental Impact Statement

(DEIS), express our current operational preferences, and share ideas for mutual-gains solutions.

1) Motion to Intervene

American Whitewater hereby moves to intervene in this proceeding pursuant to 18 C.F.R. § 385.210 and § 385.214. Service of process and other communications should be made, with a strong preference for electronic service, to:

Kevin Colburn
National Stewardship Director
American Whitewater
PO Box 1540
Cullowhee, NC 28723
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American Whitewater is a national non-profit 501(c)(3) river stewardship organization founded in 1954. We have over 5,500 members and 100 affiliate clubs, representing approximately 80,000 whitewater paddlers across the nation. American Whitewater's mission is to conserve and restore America's whitewater resources and to enhance opportunities to enjoy them safely. As a conservation-oriented paddling organization, American Whitewater has an interest in the New River. A significant percentage of American Whitewater members reside within driving distance from this river or would travel to this area for recreation. Federal actions that affect flow, access to the river, navigation, and license compliance may potentially adversely impact opportunities for American Whitewater members to utilize the New River.

Intervention by American Whitewater is in the public interest as required by 18 C.F.R. §385.214(b)(2)(iii). American Whitewater has significant undeniable interests in the enjoyment, preservation, restoration, and enhancement of the New River. No other party to the proceeding will be able to adequately represent those interests. American Whitewater has a direct and substantial interest in the outcome of this process. American Whitewater improved flows and access that offer paddling opportunities and mitigate the Projects' significant recreational impacts.

Granting intervenor status to American Whitewater is unlikely to delay this proceeding. No other party represents American Whitewater's interests in this proceeding. For these reasons, the Commission should accept this motion to intervene in this proceeding.

2) Summary of American Whitewater's Comments on the Draft License Application

American Whitewater filed significant comments on the Draft License Application (DLA) and include those comments herein in their entirety by reference.[1] In our comments we highlight that:

- The Hawks Nest project diversion virtually eliminates vast natural and potential paddling opportunities in the bypassed river reach (New River Dries) at moderate flows, especially during the summer and fall, and the few paddling opportunities that remain are fleeting and hard to predict or utilize.
- The Hawks Nest project diversion dramatically reduces base flows, flow variability in the summer and fall, and small pulses that are ecologically important elements of the natural flow regime, as shown by an Indicators of Hydrologic Alteration (IHA) analysis.
- The instream flow studies (PHABSIM) conducted during relicensing do not consider, and are incapable of considering, the values of and need for a variable flow regime.
- The Licensee's proposal to offer no scheduled variable flow releases in the summer and fall season as mitigation for the aforementioned recreational and ecological impacts is unacceptable and not in the public interest.
- The relationship between Project operations and operations of the alloy plant, and opportunities for minimizing and mitigating effects of Project operation changes on alloy plant operations, are not part of any independent analysis in the FERC record and may or may not be relevant to the FERC relicensing.
- The Licensee's proposal to offer no vehicle-based river access at the put-in immediately below the Hawks Nest Dam, or at a take out below the Hawks Nest Powerhouse severely limits the recreational value of the New River Dries and is not in the public interest.
- An ecologically-based plan for restoring at least 25 small pulses to the New River Dries in the summer and early fall would have significant recreational and ecological value, and this concept should be considered and required by FERC.
- The Licensee should be required by FERC to create and maintain river access in the vicinity of the Hawks Nest Dam and the Hawks Nest Powerhouse, and doing so would have significant recreational and economic value.

Please refer to our comments on the Draft License Application for detailed analysis that supports these comments.

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[1] *See* FERC eLibrary Submittal 20151102-5198

3) Response to Changes Made in the Final License Application

The FLA offers a single weekend of pulse flows on the New River Dries, and continues to rebuff requests for vehicle-based river access at the upper and lower ends of the bypassed reach. If the alloy plant's 25-Hz power needs ceases, the FLA proposes 2 weekends of pulse flows and significantly increased base flows. These proposals fail to meet the public interest and reasonably mitigate the Project's recreational and ecological impacts. We feel strongly that the proposal to severely limit summer and fall pulse flows in particular (with or without the alloy plant's 25-Hz power needs) is unreasonable and unnecessary, and would severely inhibit potential tourism and private and commercial paddling opportunities on the New River Dries. We outline more balanced mutual-gain solutions later in these comments.

Our comments on the DLA are an accurate critique of the FLA as well as the DLA, and nothing in the FLA changes the analysis and interests expressed in our DLA comments.

4) The FLA Mischaracterizes American Whitewater's Proposal

The FLA mischaracterizes our proposed pulse flows as "recreational releases." The pulse flow releases we propose are intended to restore vital ecological processes to the New River and to provide for compatible recreational values. While it may be advantageous for the Licensee to cast these releases as purely recreational, this is simply not the case. Flat-lining a river for months on end (especially at a level so low it would never naturally occur) as the Hawks Nest Project does is not natural and is fundamentally bad for the river ecosystem. Our proposal would seek to restore slightly less than the natural frequency of seasonal small flow pulses, with reduced duration and magnitude to allow for continued highly profitable hydropower generation.

The practice of restoring vital functions to bypassed river reaches through restoring carefully tailored pulse flows is well-documented and commonplace in modern river management, and still allow the lion's share of the water to be diverted for power generation. The recently released Draft EPA-USGS Technical Report: Protecting Aquatic Life from Effects of Hydrologic Alteration summarizes the context of our proposal well:

> Although low flows serve a critical role in ecosystem function, current scientific research indicates that flow criteria ideally should support the natural flow regime as a whole, and that criteria for minimum flow alone (that is, a single minimum discharge value or a minimum passing flow) are not sufficient for maintaining ecosystem integrity (Annear and others, 2004; Bunn and Arthington, 2002; Poff and others, 1997). Minimum flow

> criteria do not address the full range of seasonal and interannual variability of the natural flow regime in most rivers and streams.
>
> The natural fluctuation of water volume and levels in rivers and streams is critical for maintaining aquatic ecosystems because aquatic biota have developed life-history strategies in response to these fluctuations (Hill and others, 1991; Lytle and Poff, 2004; Mims and Olden, 2012, 2013; Postel and Richter, 2003; Stalnaker, 1990). Comprehensive flow criteria not only identify flow needs (that is, magnitude) but may also address the rate, frequency, timing, and duration of streamflow required to support ecosystem health (Poff and others, 2010). The Instream Flow Council (a non-profit organization working to improve the effectiveness of instream flow programs and activities: http://www.instreamflowcouncil.org/) recommends developing criteria that incorporate natural patterns of intra- and interannual variability in a manner that maintains and (or) restores riverine form and function to effectively maintain ecological integrity (Annear and others, 2004)…[2]

This is precisely the task we took on: to develop a flow regime for the New River Dries reach that mimics key components of the natural frequency, timing, magnitude, duration, and rate of change of hydrological patterns that species native to the New River evolved to thrive under, while continuing to allow highly profitable power generation.

The river needs higher base flows than those proposed by the FLA to function even at a moderately acceptable standard, as evidenced by the FLA's proposed higher "Alternative Minimum Flow" absent alloy plant 25-Hz power needs. The American Whitewater proposal that is before FERC to pair reasonable base flows with modest small pulses in the otherwise flat-lined summer and fall season and the spills of winter and spring will benefit the ecology of the New River.

American Whitewater's mission includes both river restoration and enjoyment. In bypassed river reaches, flow restoration synergizes these two facets of our interests. The pulse flows we propose will absolutely have high recreational value, and economic value in the recreational tourism economy. This is not to say though that they are solely recreational releases as the FLA states. Pulse flows are water in the river, and that water has many values as it flows downstream.

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[2] References can be found at the end of these comments. The document can be viewed here: https://www.epa.gov/sites/production/files/2016-03/documents/aquatic-life-hydrologic-alteration-report.pdf

5) Cost Estimates in the FLA are Grossly Exaggerated

The FLA grossly overestimates the cost of proposed PM&E measures. The FLA, for example, estimates that the reductions in generation associated with American Whitewater's proposed pulse flow regime would result in $187,500 less power generation revenue (out of over $10,000,000 annual profit).[3] As a matter of accuracy, these are not "costs" to the Licensee at all. The Licensee has the privilege of generating power with a portion of the public's water in the New River, and the remaining water that is allocated to non-power uses in a FERC license is not theirs to consider a cost. Regardless, our larger issue with the FLA calculations is that the FLA claims each day of pulse flows will cost the Licensee $12,000 in "administration, coordination, oversight, and additional labor/other costs."[4] This outlandish figure equates to a team of 30 people working an 8-hour day at $50/hour – all for simply opening a gate on the dam. We request a detailed accounting of these estimated costs and refute their credibility. This exaggeration calls into question cost estimates throughout the FLA, and we request that FERC rigorously question and validate cost estimates throughout the FLA.

The FLA also estimates the cost of providing vehicle access to the vicinity of Hawks Nest Dam would be $2,000,000. This estimate seems exorbitantly high given that the road is in good condition and a gravel parking lot exists at the site. We ask that FERC vet this cost estimate in the DEIS. We suggest that if their concern is a paddler's vehicle blocking access to the powerhouse for emergencies, the Licensee could purchase a tow truck or use existing equipment and train existing 24/7 staff to use it for towing for a reasonable cost. There would be additional costs for providing a short trail to the put in and porta-john rentals, but these should also be reasonable. The Licensee appears to be exaggerating by an order of magnitude the costs of providing access opportunities that are standard mitigation at virtually all dams.

6) The Projects are Highly Profitable With and Without the Protection, Mitigation and Enhancement Measures (PMEs) Proposed in the FLA, and Have Capacity to Provide for Additional PMEs.

The FLA reports that under current operations with almost no mitigation the Projects have combined annual income of $17,943,590 and expenses of $7,411,200, for an annual profit of $10,532,390.[5] The FLA proposes mitigation with estimated one-time capital costs of $222,000 and annual costs of $327,000.[6] As stated above these costs may be

[3] *See* FLA, Volume 2, Exhibit E. Page 322.
[4] *See* FLA, Volume 2, Exhibit E. Page 322.
[5] *See* FLA Tables E.8-1, E.8-2, E.8-3, and E.8-4. FLA Volume 2, Exhibit E. Page 317-318.
[6] *See* FLA Tables E.8-5, E.8-6, FLA Volume 2, Exhibit E. Page 319-320. Note that providing the Alternative Minimum Flow would cost more that the FLA's lower flow proposal.

exaggerated. Still, spreading the capital costs over the presumed 30-year license term results in an annual cost of all PME's for the Projects at $334,400, or a scant 3.17% of annual profits.

Restoring vital variability to the flow regime of the New River, assuming an estimated annual cost of $200,000[7] would cut into profits another 2%, and providing normal river access at the top and bottom of the reach would cost another 0.7%[8] if one believes the FLA's questionable estimates, which we do not.

This means that the Licensee could implement their proposed PMEs, restore a modest variable flow regime vital for the river's ecology and recreational use, provide normal river access, and still make a $9,926,324 annual profit, a reduction of only 5.7%. The profit margin for the Projects would still be an enviable 55.3%.

Some projects make very little power and/or money, and have little capacity to mitigate their impacts and remain profitable. The Hawks Nest Project is not one of those projects. It makes a lot of power and money, and has similarly huge impacts. American Whitewater's modest flow restoration and public access proposal places no undue or unreasonable financial burden on the Licensee.

7) Viable Mutual-Gains Solutions Can Support Hydropower, River Ecology, Recreation, and Alloy Plant Operation.

Ideal operations for the Hawks Nest Project will allow for 1) profitable hydropower generation, 2) restoration of riverine ecological values, 3) ample spring, summer and fall paddling on the New River Dries, and 4) continued competitive operation of WVAM's alloy plant. Instead of collaboratively seeking such an outcome the FLA falls to the status quo: dewater the river, make 10 million dollars a year, and send power to the alloy plant. So the task of developing a mutual gains outcome falls on others, and we feel we have developed just such a proposal.

Recreation, ecological restoration, and profitable generation are not in conflict as documented in the previous section of these comments. Status quo alloy plant operations purportedly conflict with recreation and ecological restoration. The problem for the alloy plant is in large part the cost of upgrading their systems and/or paying for the conversion

[7] See FLA Volume 2, Exhibit E. Page 322. The FLA estimates the foregone generation associated with our proposal to be $187,500. We disregard their claim implementation costs will be an additional $12,000 per day, and instead estimated the foregone generation and the implementation costs to be very roughly $200,000 annually.
[8] *See* FLA Table E.8-7, FLA Volume 2, Exhibit E. Page 321.

of 60-Hz power from the grid to 25-Hz.[9] Paying these costs could be borne by the WVAM, the Licensee, or the river and all the species and people it could support. We suggest that the Licensee subsidize the alloy plant's energy needs, if the alloy plant is to be a consideration in the balancing of resources in the FERC relicensing. If the alloy plant is relevant enough to the FERC proceeding to consider granting a legally unrelated power company permission to dewater the New River to benefit the alloy plant, it is relevant enough to have FERC require the Licensee to compensate the alloy plant instead of dewatering the river. The FLA places a dollar value on this opportunity associated with base flows (not pulse flows), as highlighted in Table 1.

Table 1. Value of FLA Proposed Base Flows With and Without the Alloy Plant Need for 25-Hz Power, Proposed Minimum Flows and Alternative Minimum Flows, Respectively.

	MW / Year (MW)	Value / Year ($)	River Conditions
FLA Proposed Minimum Flows	4,592	$140,000*	Extremely Low Base Flow
FLA Alternative Minimum Flows	24,111**	$723,343**	Study Supported Base Flow
Difference (Value of Base Flows Allocated to Alloy Plant)	19,519	$583,343	N/A

* *From* FLA Table E.8-5, FLA Volume 2, Exhibit E. Page 319.

** Calculated from the flow volumes and associated MW (4,592MW) associated with the proposed base flows, as described in FLA Volume 2, Exhibit E. Page 321, applied to the volumes of the AMF listed in FLA Volume 2, Exhibit E. Page 40.

Table 1 shows that the Licensee proposes to forgo an additional $583,343 of annual revenue to restore base flows to the New River if the alloy plant's need for 25-Hz power ceases. In effect, this is the added revenue they propose to receive for severely dewatering the New River on behalf of an unrelated business as long as the demand for 25-Hz power exists, to an extent unsupported by the Licensee's own studies. Table 2 depicts similar information for variable (pulse) flows.

[9] *See* FERC eLibrary Submittal 20151030-0068.

Table 2. Value of FLA Proposed Variable Flows With and Without the Alloy Plant in Need of 25-Hz Power, and American Whitewater's Proposed Variable (Pulse) Flows.			
	MW / Year (MW)	Value / Year ($)	River Conditions
FLA Proposal (Alloy Plant Need 25-Hz)	900*	$27,000**	3 days of predictable paddling, several months of little or no variability.
FLA Proposal (Alloy Plant Does Not Need 25-Hz)	1,800***	$54,000**	6 days of predictable paddling, months of little or no variability.
Difference Between Alloy Plant Needing 25-Hz or Not. (Proposed Value Allocated to Alloy Plant in FLA)	900	$27,000	N/A
American Whitewater Proposal	6,250 Or 5,730 at higher no alloy plant operations base flows.*****	$187,000**** Or $171,442 at higher no alloy plant operations base flows.*****	25 days of predictable paddling, vital natural flow variability restored.
Difference Between FLA Proposal and AW Proposal (True Value Allocated to Alloy Plant in the FLA)	5,350 Or 4,905 with higher base flows associated with no alloy plant 25-Hz needs.*****	$160,000 Or $144,442 with higher base flows associated with no alloy plant 25-Hz needs.*****	N/A

*From Page 322, FLA Volume 2, Exhibit E.

**Based on the value of power of $30/MW in FLA Table E.8-1

***From page 44 and 322, FLA Volume 2, Exhibit E.

****From FLA Table E.8-7

*****Higher base flows reduce the amount of water needed to reach 2500 cfs.

We propose that the proposed $583,343 of revenue received for eliminating well-justified proposed base flows, and $160,000 of revenue for eliminating well-justified pulse flows, solely to benefit an unrelated power consumer, should not be profit for the Licensee - it should be returned to the natural resources of the New River. Given our mutual gains goals for this analysis, we propose that at least this annual $743,343 be allocated to flow

restoration. Over the life of the 30-year license, this is $22,300,290 that could be split in some manner towards 1) foregone generation, and 2) subsidizing the alloy plant's energy purchases, energy conversion, and/or loans or outright payments for re-tooling. If the alloy plant's operation is the limiting factor in restoring flow to the New River, subsidizing the alloy plant is the key to restoring water to the New River. Table 3 combines base and variable (pulse) flow information from the above tables as a summary.

Table 3. Summary of Value of Combined FLA Proposed Base *and* Variable Flows Under Various Alternatives

	MW / Year (MW)	Value / Year ($)	River Conditions
FLA Proposal (Alloy Plant Needs 25-Hz)	5,492	$167,000	Extremely low base flow and severe lack of variability.
FLA Proposal (Alloy Plant Does Not need 25-Hz)	25,911	$777,343	Study supported base flow and severe lack of variability.
Balanced River Restoration Alternative (AW variable flow proposal + FLA base flow proposal (Alloy Plant Does Not Need 25-Hz)	29,841	$867,785	Study supported base flow and key natural variability components restored.

FERC has a more comprehensive view of the relationship between the Projects and the alloy plant operations than American Whitewater, and we ask that the DEIS thoroughly explore opportunities for acceptable outcomes. It appears at least from WVAM filings that several thresholds exist that could offer parameters for a river restoration alternative. For example, WVAM states that replacement power for each MW of reduced generation at the Projects costs an additional $22/MWh.[10] To offset this increase WVAM would require a subsidy from the Licensee of less than $535,678 annually for the proposed added pulse flows and higher base flows (Balanced River Restoration Alternative in the above table minus FLA Proposal (Alloy Plant Needs 25-Hz) in the above table). Assuming that there is at least $743,343 allocated for river restoration, this leaves at least $207,665 to offset a portion of the foregone power generation. Given this rough analysis we feel confident that some combination of subsidies for WVAM and provision of base and pulse flows can result in an outcome that restores key public values to the New River

[10] *See* eLibrary Submittal 20151030-0068

while having little to no effect on WVAM profitability, and reducing the Project's profitability by less than 10%.

One important facet to explore is the WVAM claim that they require 1,600cfs for Project generation of 25-Hz energy at all times to operate due to certain engineering and technical problems with their plant. They claim to require 800cfs for generation and 800cfs held for reactive support. Because these needs compete with vital base and small pulse flows for the New River, these engineering problems should be fixed. We propose that the first priority of subsidies from the Project should be for retooling the 25 to 60-Hz frequency converters to operate on 60-Hz power. Should this prove infeasible, We recommend a joint venture between the Licensee and WVAM to build a 8MW 25-Hz gas-fired power plant to power these converters or serve as reactive support, which should cost around $7 Million.[11]

We recognize that the recommended foregone generation is to a degree additive with recommended subsidies, resulting in additive costs for the Licensee. We suggest FERC could view this a number of ways. First, the value of power to the Licensee ($30/MW) versus the cost for WVAM to purchase power ($22) does offer significant resources for subsidies so the relationship is not one to one. Second, some balance of subsidies and foregone generation would result in more water in the river than the FLA proposes, without impacting WVAM, even if it is not the full amount of water recommended by studies and stakeholders. While we would view this as unacceptable, it is better than the FLA proposal. Third, upfront subsidies for retooling could be paired with interim lower flows, and when the retooling is complete flows could be raised - so more money would go to subsidies initially and then to foregone generation later in the license. This is also far from ideal due to the unnecessary delay in mitigation. Far better though, loans could be secured for the license term that result in upfront investment in the plant, a more modern alloy plant less reliant on New River base flows, and prompt opportunities for flow restoration, with costs and benefits spread over the license term. Lastly, while we believe the financial value of the FLA proposal to *not* release adequate base or pulse flows should be reserved for PMEs, it is by no means a cap on such expenditures.

8) American Whitewater's Proposed Alternatives for the Draft Environmental Impact Statement.

a) <u>Scheduled Ecological Flow Variability Alternative</u>: American Whitewater requests that FERC analyze an alternative that is substantially similar to our proposed alternative in our comments on the DLA, with additional provisions for flows in October based on

[11] See FLA, V5, Page 23, highlighting that new generation facilities may be the most economical option in this situation.

recent analysis. Specifically in response for the loss of 80 days of natural predictable base flows over 2,500 cfs and 25-32 pulses over 5,000 cfs in June-September season, we request that a series of at least 28 pulse flows of 2,500cfs (or inflow, whichever is smallest) be scheduled for each June-October time frame as depicted in Table 4.

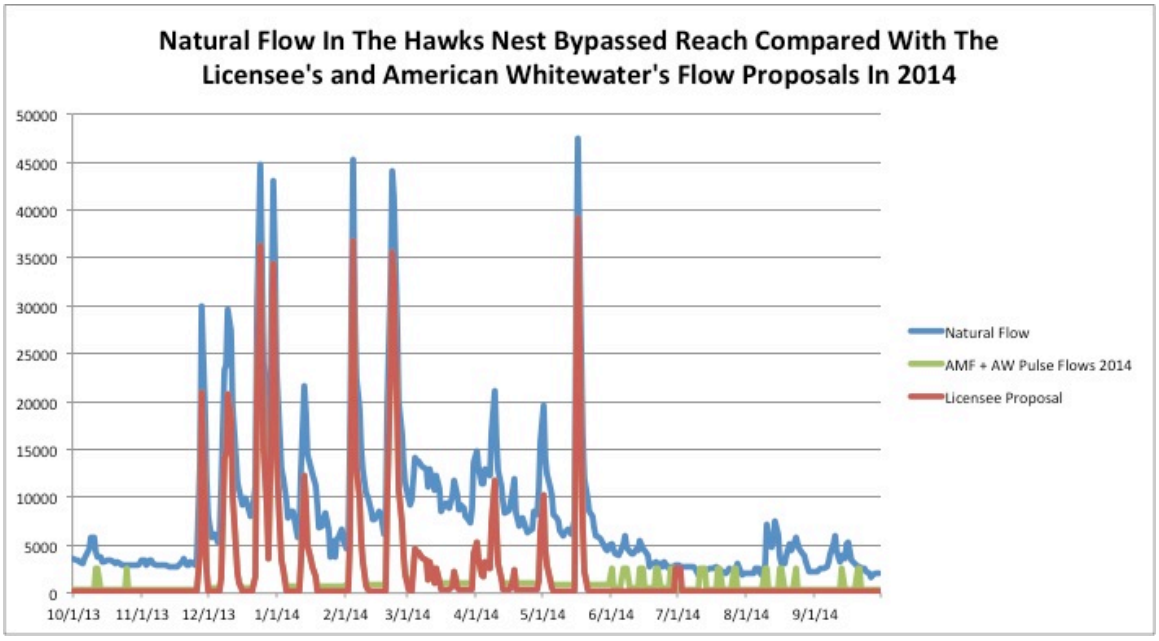
Table 4. Days of Releases of 2,500cfs Per Month Under the Scheduled Ecological Flow Variability Alternative	
June	10
July	7
August	5
September	3
October	3
Total	28

We ask that FERC analyze this alternative in concert with both of the base flow proposals outlined in the FLA. We reiterate our request that FERC rigorously vet the Licensee's cost/value estimates in the FLA before adopting them, and appreciate this effort. This alternative will have significant recreational and commercial value by providing predictable releases in the prime recreation season, on weekends, at good flows. It is well within the natural range of variability for base and pulse flows as depicted in the charts below and would have significant ecological benefits. This is our preferred pulse flow alternative at this point.

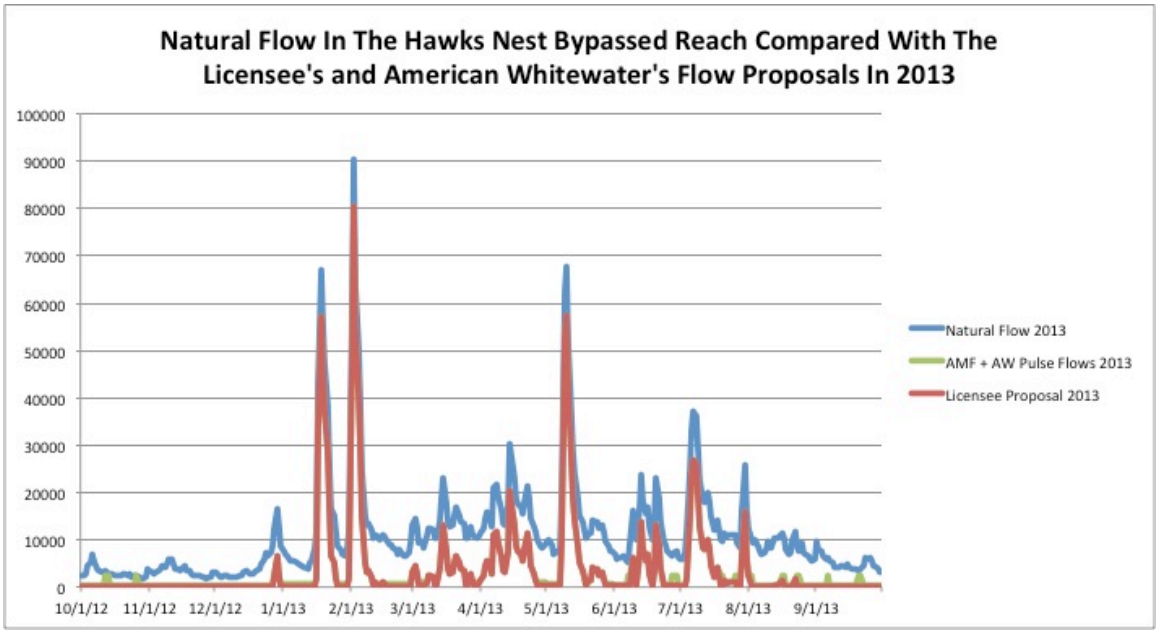
Please note that this alternative is not a recreational or ecological ideal, but rather is our attempt after many rounds of self-imposed concessions and considerations to present a viable alternative that recognizes competing demands for water. Without the Project diversion, the New River would be an outstanding paddling river *every day of the year,* and it could be again while continuing to allow power generation much of the time. A purely recreational alternative would see flows of 2500 and much higher when possible restored at least every weekend of the May-October peak paddling season, and high boatable spring base flows every day of March, April, and at least part of May.

Basic hydrological model shows the relative differences between American Whitewater's proposal and the Licensee's, as depicted in the charts below. The chart for 2014 shows a typical year in which there are few summer spills, and how the American Whitewater

proposal would restore natural variability in a period otherwise largely flat-lined by the Project, but at a magnitude similar to the natural base flow.



The Chart for 2013 shows that in years with more frequent summer spills American Whitewater's proposal has a less pronounced difference from the Licensee's proposal, but restores additional natural variability and still offers 28 days of guaranteed paddling opportunities, many of which were overwhelmed by spill (which would be welcomed by most paddlers).



We are confident that our proposed flows will do no ecological harm and have significant ecological benefits while restoring vital natural variability and offering terrific paddling opportunities. While the pulse flow releases are extremely subtle compared to the natural flow regime, we are confident they will have important restorative values compared to the base flows alone.

b) Threshold-Based Ecological Flow Variability Alternative: WVAM states in comments that a minimum of 1,600 cfs is required for power generation to operate their alloy plant. As stated elsewhere in these comments we ask that FERC rigorously explore this purported constraint in the DEIS to the extent FERC considers alloy plant operations in this relicensing process. It is likely, and we feel essential, that through subsidies or simple capital expenditures the alloy plant could be retooled to negate this constraint. Should this prove a non-viable opportunity, and if FERC considers alloy plant operations in relicensing, we propose a flow release regime that could support base-operations of the alloy plant while restoring flow variability.

Under this alternative, the Hawks Nest Project would reserve 1,600cfs for power generation and provide pulse flow releases in the bypassed reach whenever inflows flows exceed certain thresholds on weekend days as follows in Table 5.

Table 5. Threshold-Based Ecological Flow Variability Alternative Releases

Project Inflow (cfs)	Bypassed Reach Release (cfs)
<2,600	No Release (Just base flow)
2,600-5,100	Inflow minus 1,600 (1,000-2,500 release)
5,100-13,000	3,000
>13,000	Unregulated Spill

We expect this alternative to result in an average of 20-25 days of releases ranging from 1,000 - 3,000 cfs each summer/fall season. Releases at some flow in June and July would be highly likely most weekends, but would typically be on the low end of the 1,000-2,500 range. This alternative would have less recreational value than scheduled releases of 2,500 cfs because of less certainty and lower flows. Experience shows that trigger-based releases receive significantly less recreational use than scheduled releases, and are especially challenging (if not impossible) for commercial rafting companies to utilize. This alternative would offer the ecological values of restored variability comparable to the scheduled release alternative. This alternative should only serve as interim operations while the alloy plant problems are fixed to negate the constraints that require 1,600 cfs be

held for generation, after which our preferred alternative should be implemented. We appreciate FERC considering this alternative for consideration.

c) Study-Supported Base Flow Alternative: While the FLA spends little time discussing the proposed Alternative Minimum Flow (AMF), it describes the flows and notes that "The AMFs are supported by today's state-of-the-art Instream Flow Study…"[12] We ask that FERC fully consider these flows as an alternative because they could in fact be the future flow regime. We also ask that FERC consider proposing these flows or similar flows immediately in the preferred alternative. It may be that the WVAM Subsidies Alternative we propose below could make these instream flows compatible with WVAM operations, and in fact they may be compatible either way. This is our preferred base flow alternative at this time. If FERC seeks to reduce overall environmental flow volumes from levels proposed in this and our Scheduled Ecological Flow Variability Alternative, we recommend slightly trimming the base flows prior to trimming our (relatively low cost) recommended pulse flow program.

d) High Flow Down-Ramping Alternative: The Licensee proposes a linear ramping rate for the Hawks Nest Project from March through October when there are flows of 2,600 cfs or less in the bypass reach, to maintain a ramping rate not greater than 1 foot per hour.[13] It is clear from considering the natural flow regime that natural high flows drop rapidly to roughly 8,000-10,000cfs in the winter/spring months and roughly 5,000cfs in the summer/fall and then drop more slowly. We propose that FERC consider expanding the ramping season to year round, since the most dramatic and rapid drops from very high to very low flows are most likely to occur in the winter. We also propose that the ramping rate begins as flows in the bypassed reach drop below 8,000cfs in January through May, and below 5,000cfs in June through December, and that these conditions only apply to down-ramping.

Figures 1 through 37 depicting 2-D Model Results for Combined Suitability clearly show a significant portion of the bypassed reach channel is un-wetted at flows of 2000cfs, so ramping of flows significantly above 2000cfs would allow these areas to be more slowly exposed as flows drop, and allow the most extreme velocities to slowly shift in location and intensity.

e) WVAM Alloy Plant Subsidies Alternative: If FERC intends to consider the alloy plant in allocating flows, American Whitewater proposes that FERC consider an alternative that requires the Licensee to subsidize the energy needs of the alloy plant to allow for the provision of base and pulse flows while minimizing or reducing impacts to WVAM operations. We propose that FERC start with the analysis of what flows the river and the public needs in balance with power generation, as the Agency would in any other

[12] FLA Volume 2, Exhibit E, Page 40.
[13] FLA Volume 2, Exhibit E, Page 30.

proceeding. If there is a relevant conflict between these flow needs and the alloy plant operations, we ask that FERC consider requiring the Licensee to subsidize the alloy plant and require flow releases, rather than allow the Licensee to profit from foregoing mitigation and dewatering the river. Our very basic analysis (based on Licensee values in the FLA) shows that the proposed energy value of the proposed well-justified additional flow restoration measures is roughly $750,000 annually, and that may serve as a reasonable starting point for a release program that includes assistance to the alloy plant, though to account for foregone generation and subsidies the cost of the program may function best in the range of $1,000,000 annually.

We suspect this plan will include some combination of subsidies to offset capital costs for retooling the 25 to 60-Hz frequency converters to operate on 60-Hz power, or efforts to fund or cost share on replacing roughly 8MW of reserved or utilized 25-Hz power. These actions would permanently fix one major problem and ease any impacts of flow restoration on WVAM. Should those fail, or perhaps either way, the subsidies could also simply offset increased power costs, which would only address part of the conflict between base and small pulse flows and summer/fall WVAM operations.

Structurally, this would likely work best as license articles requiring flows, as well as a license article requiring a post-license plan describing how the Licensee will financially assist WVAM in adjusting to generation constraints associated with the new License. Ideally this type of arrangement would be set up as a pre-license settlement agreement, and perhaps there is some way that FERC can explore that through a technical conference or other means.

We recognize this may be an unconventional proposal, and raise it only due to the rare if not unique purported connection between the alloy plant and the Project. We have sought creative mutual-gains solutions here because we believe the restoration of the New River Dries is an incredible once-in-a-lifetime opportunity to bring an outstanding river back to life, and because we certainly prefer solutions under which WVAM and their employees continue to prosper. In reality, the alloy plant has been subsidized by the New River itself for generations, and we simply feel it is time for the burden to be shared by the Licensee under a modern license that restores vital flows to the river if subsidies are to continue. We feel that the Project is profitable enough to create a win-win-win solution for the Licensee, the river, and WVAM.

f) <u>Standard River Access Alternative</u>: We ask that FERC analyze and support a license article requiring the Licensee to provide for year round, free, vehicle based river access immediately below the Hawks Nest Dam, and within a reasonable distance of the Powerhouse (which includes the campground area used during the flow study). Both sites

should provide parking and a trail to the river sufficient for carry-in raft and kayak access. A raft slide should be considered at the put in to lower rafts from the parking lot to the riparian/riverbed bedrock. Provisions for seasonal/portable restroom facilities should be available as needed based on use levels.

The Licensee owns sufficient land to provide such access at the put-in (dam), and should consider leasing or purchasing lands, or making other arrangements, for take-out (below powerhouse). We see no validity to the Licensee's opposition to providing standard river access in the vicinity of their dam, or their cost estimates for doing so. Failing to provide river access in this area effectively eliminates paddling access for most paddlers to 1.25 high-quality miles of the New River Dries that contain outstanding rapids. It is unreasonable to expect the public (including commercial rafting customers) to carry rafts, canoes, and kayaks 1.25 miles on a perfectly good road to reach the put-in.

9) American Whitewater Requests Consulting Party Status

American Whitewater requests that we be included among parties the Licensee must consult with in post-licensing recreation, flow, and flow information planning and implementation. In doing so FERC can improve the recreational and ecological relevance of license implementation.

10) Need for Flexibility

The Recreational Instream Flow Study was a solid study in our view, but still a small sample size to strictly govern flows for 30 or more years. We request that FERC allocate a volume of water to pulse flows with an initial schedule per our proposed alternative, but recognize that the exact timing and amount of flows may need to shift as we learn more about recreational demand and use patterns, based on consensus recommendations by American Whitewater and other consulting parties. Setting some basic sideboards covered by the DEIS such as pulse volume and frequency could allow for consensus-based plan-level adaptive management that does not require a license amendment.

11) Conclusion

American Whitewater proposes to restore variable base and pulse flows to the New River Dries, which is currently severely dewatered by the Hawks Nest Project. Our preferred alternatives remain similar to our recommendations in our comments on the DLA, however we have responded to comments by WVAM and the Licensee by proposing various options for win-win-win solutions that allow for river restoration, alloy plant operation, and highly profitable power generation. We hope FERC will recognize this

incredible once-in-a-lifetime opportunity to restore flows to the New River Dries, and will prepare the DEIS with flow restoration as a goal and open minds as to how to reach that goal.

Sincerely,

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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Brookfield Renewable Energy Group **Hawks Nest and Glen Ferris** **Hydroelectric Projects**	**Project No. 2512-075** **Project No. 14439-001**

CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, I hereby certify that I have this day caused the foregoing American Whitewater's Comments and Motion to Intervene on the Hawks Nest and Glen Ferris Hydroelectric Projects (P-2512-075 and P-14439-001) to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated this 27th day of May 2016.

Megan Hooker
American Whitewater