



Duke Energy Lake Services  
EC120 / PO Box 1006  
Charlotte, NC 28201-1006

May 23, 2006

Mr. Gene Ellis  
Licensing and Property Manager  
Alcoa Power Generating Inc.  
Yadkin Division  
PO Box 576  
Badin, North Carolina 28009-0578

Re: Yadkin Hydroelectric Project (FERC No. 2197)  
APGI Draft Agreement In Principle (AIP) Document

Dear Mr. Ellis:

The Intent of this letter is to provide you with comments from Duke Energy Carolinas concerning the subject relicensing AIP and to encourage you to make adjustments to the AIP to better protect the power production capability of the project, including energy produced from Duke's Buck Steam Station.

Duke Energy Carolinas ('Duke') owns and operates the four-unit, coal fired 369 MW Buck Steam Station ('Buck') located on the High Rock Development of the Yadkin Project No. 2197 and uses the water from the development for condenser cooling and other purposes. In addition, Duke Energy Carolinas has been a Party to the Meetings and Negotiations Protocol of the Yadkin Project No. 2197 relicensing since December 2004. Duke has reviewed the latest draft Agreement in Principle (AIP) provided via e-mail on May 5, 2006 and provides the following comments for Alcoa Power Generating, Inc. ("APGI") to address in development of a final AIP and subsequent Relicensing Settlement Agreement

Duke's specific interest in the Yadkin Relicensing is focused on the operating guides for the High Rock Development. The operation of Buck is directly affected by reservoir levels at the High Rock Development. The NPDES permit (Permit No. NC0004774, issued in 2004 and expires in 2009) for Buck explicitly states that when High Rock Lake is drawn down 10 feet or greater, Buck shall use no more than two-thirds (2/3) of the stream flow for condenser cooling and Buck shall ensure that the minimum unheated daily average stream flow does not fall below one-third (1/3) of the 7-day, 10-year low flow (7Q10). During periods of low inflow to the High Rock Development, this requirement can restrict or shut down the output of Buck. During the drought of 1998-2002, Duke was forced to shut down all of Buck's generating units in June 2002 due to low inflows

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and lowered reservoir levels at High Rock Development. In addition, during summer months, Buck experiences operational restrictions when High Rock Lake is drawn down more than 6 feet below full pond. From a regional energy supply perspective, Buck generates much more energy per unit volume of water used than both the Yadkin Hydroelectric Project and the downstream Yadkin-Pea Dee Hydroelectric Project No. 2206 combined. In addition to this amount of generation, Buck also provides voltage support ("vars") to the grid, which is needed to insure adequate voltage for Industrial, commercial and residential customers. Loss of vars could place the regional transmission grid at risk of experiencing unacceptably low voltage.

APGI's latest draft AIP calls for operating High Rock Lake in accordance with a guide curve such that the reservoir water level would be maintained within 4 feet of full pond between April 1 and October 31 and within 10 feet of full pond between November 1 and March 31 of each year, except as needed in order to maintain minimum flows, or as provided under the Low Inflow Protocol (LIP) or Hydro Project Maintenance and Emergency Protocol (HPMEP). The draft AIP further states that APGI can operate at reservoir levels below the guide curve as needed to maintain downstream minimum flows or as provided under the LIP or HPMEP, but when APGI goes below the guide curve, daily generation from High Rock Development will be reduced to the daily average flow equivalent of the minimum flow requirement at the Falls Development plus up to 25%. Duke has serious concerns about this operating proposal and its potential effect on Buck's operations. Duke does not agree that downstream flows should have such a dominant priority over reservoir levels during low inflow periods. Both should have equal priority and when there is not enough inflow to support both, the LIP should be triggered. In the proposed winter drawdown of 10 feet or more, Duke is very concerned that the reservoir will not be able to be refilled entering into the drier part of the year with reduced inflows and at the same time the guide curve is supposed to be increasing. Under the proposed operating proposal, the reservoir could be drawn down below ten feet and if inflows were not sufficient to meet downstream flow requirements, then the reservoir could continue to be drawn down for several more weeks until the LIP is invoked, thereby resulting in the reservoir being well below the ten foot drawdown.

For the above reasons and the fact that there are numerous other aspects of the flow modeling and proposed operation that lack conservatism, Duke recommends that the proposed AIP be modified such that the downstream flow would be restricted to the daily average flow equivalent of the minimum flow requirement at the Falls Development plus up to 25% when the reservoir reaches 3 feet drawdown between April 1 and October 31 and 7 feet drawdown between November 1 and March 31. If the reservoir levels continue to drop below the

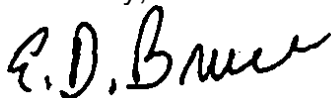
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3-foot or 7-foot drawdown levels and the 4-foot or 10-foot drawdown level is reached, then the downstream flow would be restricted to the minimum flow requirement at Falls Development until the LIP is Invoked and further downstream flow reductions take place. Under this proposed modification, downstream flows and reservoir levels have equal importance and the probability of causing problems with Buck's operations is reduced. This proposed modified operating guide for High Rock Development should have minimal financial impact to APGI. If there is enough inflow to the reservoir, APGI can follow peak load energy demands between full pond and the 3/7 feet limits and would be assured of refill for the next peak period. If there is not enough inflow to the reservoir to refill for the next peak period, then the amount of water between 3 and 4 feet drawdown in the summer period and 7 and 10 feet in the winter period can only be used one time if there is not sufficient inflow to refill, As APGI's own modeling has shown, this is predicted to be a relatively infrequent condition and therefore the financial Impact to APGI should be minimal.

In summary, Duke appreciates the efforts APGI and the other stakeholders have put into the preparation of draft AIP's. Duke also appreciates the opportunity to provide comments on the May 5, 2006 draft AIP. Duke respectfully requests that you thoughtfully consider the above modifications of the proposed operations of High Rock Development and further development of the LIP.

If there are any questions, please call me at 704-382-5239 or email at [edbruce@duke-energy.com](mailto:edbruce@duke-energy.com).

Sincerely,



E. D. Bruce, PE  
Senior Engineer, Hydro Licensing  
Duke Energy Carolinas

cc: Steve Reed, NCDENR(DWR)  
Don Rayno, NCDENR(DWR)