



North Carolina Department of Environment and Natural Resources  
Division of Water Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary  
John Morris, Director

January 4, 2006

Mr. Gene Ellis  
Licensing and Property Manager  
Alcoa Power Generating Inc. – Yadkin Division  
P.O. Box 576  
Badin, North Carolina 28009-0576

RE: Yadkin Hydroelectric Project (FERC No. 2197)  
Draft Application for New License

Dear Mr. Ellis:

The North Carolina Division of Water Resources (DWR) has reviewed the Draft License Application (DLA) received under cover letter from APGI dated October 5, 2005. Our comments are as follows.

A primary interest for DWR is the provision of instream flows for the Yadkin – Pee Dee River downstream from the Yadkin Hydroelectric Project. We are currently engaged in discussions with Progress Energy (with APGI participation) regarding instream flow requirements that will be implemented downstream of their Tillery and Blewett Falls dams under terms of a new FERC license. The amount of these flow requirements for Progress Energy will directly affect the amount that the Yadkin project will need to contribute in order to meet downstream flow targets.

We are hopeful that our discussions with APGI will lead to an Agreement in Principle (AIP) and settlement agreement that successfully resolves FERC relicensing issues between the NC Department of Environment and Natural Resources (NCDENR) and your company. We are also hopeful that our discussions with Progress Energy will result in an instream flow regime that will allow NCDENR and Progress Energy – as well as other parties, including APGI – to sign an AIP and settlement agreement for the Progress Energy hydroelectric facilities. As you are well aware, the provision of adequate instream flows is the link that intertwines the separate relicensing efforts of both APGI and Progress Energy.

Our discussions with Progress Energy are still continuing, and progress is being made towards successful resolution of instream flow issues and potential mitigation measures. Much effort has been expended in analyzing the results of the studies of instream flows and aquatic habitat downstream of the Tillery and Blewett Falls dams. However, we have not yet reached the point of being able to sign an AIP. In lieu of such an agreement on a total settlement package, our analysis of the instream flow studies has determined the continuous minimum flows to be maintained downstream of each dam as shown in the table below.

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The table also includes a third column of flows that would need to be released from the Yadkin Project (as measured at Falls dam). These were determined by deducting the monthly median accretion flows between the Falls, Tillery, and Blewett Falls dams, as determined in the hydrologic models developed by both Progress Energy and APGI. In some months the release from the Yadkin Project is driven by instream flow needs below Tillery dam (January, July, August, November, and December), and in the others it is driven by instream flow needs below Blewett Falls dam.

<b>MONTH</b>	<b>Overall Tillery Release (cfs)</b>	<b>Overall Blewett Release (cfs)</b>	<b>Overall Falls Release (cfs)</b>
<b>JAN</b>	1125	1450	761
<b>FEB</b>	985	4390	2007
<b>MAR</b>	935	4815	2439
<b>APR</b>	1035	4280	2681
<b>MAY</b>	1380	3210	2413
<b>JUN</b>	1440	2610	2070
<b>JUL</b>	1365	1701	1252
<b>AUG</b>	1310	1651	1215
<b>SEP</b>	1235	1830	1518
<b>OCT</b>	1180	1792	1510
<b>NOV</b>	1390	1667	1313
<b>DEC</b>	1410	1690	1217

The instream flow regime shown in the table was developed from the results of site-specific studies using the Instream Flow Incremental Methodology (IFIM), as well as studies of flows needed for navigation and freshwater mussel habitat. It should be noted that the flows recommended below Blewett falls dam are based on navigation in a downstream direction only. However, this assumes that any settlement agreement with Progress Energy will include provisions for improved boating access near the Blewett Falls dam. If this enhancement is not made, then flows will need to be increased to allow upstream navigation from the boating access at the highway 74 bridge.

The DLA includes discussion or reference to downstream flows in the following sections: B.6.6.1, E.2.4, and E.2.7. We are optimistic that our ongoing discussions with both APGI and Progress Energy will lead to a mutually acceptable flow regime that would be substituted in these same sections of the final license application, or in a settlement agreement that is reached following submission of the license application.

Sections E.2.4 and E.2.7 (pages E-36 and E-46) refer to delivery of the required volume of water being released from the Yadkin project on a weekly average basis. Until hydrologic modeling can demonstrate that downstream flow targets and reservoir levels can be maintained with a particular delivery interval, our recommendation would be that flows released from Falls dam be provided on a daily, rather than weekly, average. We recognize that issue of the time interval for measuring flow delivery is important to both APGI and Progress Energy. From the standpoint of DWR, the resolution of flow delivery somewhere within the range of a daily to weekly average basis is of no direct consequence – as long as resource needs are met for reservoir levels and flows downstream of Tillery and Blewett Falls. However, we will be actively involved in model review and discussions of this issue, because it is an important part of achieving a successful settlement agreement.

The flows proposed in the DLA (sections E.2.4 and E.2.7, pages E-36 and E-46) are based on a target flow at the Rockingham gage downstream of Blewett Falls dam, pro-rated by a factor of 60%. A factor of 60% was selected because of the relative drainage area upstream of the Yadkin project. DWR's analysis of intervening accretion inflows between Falls, Tillery and Blewett Falls dams indicates that a drainage area ratio does not adequately reflect the contribution of the watershed above Falls dam to the total hydrology of the Yadkin-Pee Dee system. The Rocky and Uwharrie Rivers are the major tributaries between Falls, Tillery and Blewett Falls dams. The Rocky River, in particular, is quite flashy and has a low yield during dry periods of the year. Therefore, using a simple drainage area ratio of a downstream flow target tends to overestimate the release needed from Falls dam during December through March, and underestimate the contribution needed from the Yadkin project during other months. Rather than drainage area ratio, DWR will be relying on the OASIS and CHEOPS models, and analysis of intervening inflows, to determine what portion of the flow targets below Tillery and Blewett Falls needs to be provided from the Yadkin Project.

We noted a minor detail that should be corrected to improve the DLA. An annual flow duration curve is supposed to be included in Figures E-5a through E-5l, but only the monthly curves are provided. Also, these flow duration curves would be more useful if they all had a common vertical scale of zero to 10,000 cfs. This would allow closer, more consistent comparison of existing and proposed operations in the range of flows of most interest.

We encourage APGI to consider additional recreational enhancements as the final license application is developed. Providing additional opportunities for non-motorized boating, swimming, picnicking, primitive camping, and reservoir related trails would strengthen the application. These and other interests of a wide variety of stakeholders could be addressed by the provision of additional conservation lands at the Project. We feel that the lands NCDENR has identified for the expansion of Morrow Mountain State Park along the west side of Falls Reservoir could provide many of these types of recreational opportunities for a wide range of users. The conservation of these lands is a high priority for NCDENR and would provide significant public benefits.

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We appreciate this opportunity to review the DLA and would be glad to discuss our comments with you or your consultants. We remain committed to continuing our work with both APGI and Progress Energy to successfully resolve these issues.

Sincerely,

Steven E. Reed

cc: John Morris, John Sutherland, Tom Fransen, Jim Mead, and Don Rayno – DWR  
Darlene Kucken – DWQ  
Carol Tingley - DPR  
Todd Ewing and Chris Goudreau – WRC  
Danny Johnson - SCDNR  
John Ellis and Mark Bowers – USFWS  
Ben West - EPA  
Phil Lucas – Progress Energy