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Bracewell & Giuliani LLP
2000 K Street NW
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20006-1872

October 25, 2013

Hon. Kimberly H. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Re: Yadkin Project, No. P-2197-073

Dear Ms. Bose:

On behalf of Alcoa Power Generating Inc ("APGI"), current licensee for the Yadkin Project and applicant for a new permanent license for that project in the above-referenced docket, please find enclosed a copy of APGI's Petition for Contested Case Hearing, filed on September 25, 2013, by which APGI has appealed the denial of its latest application for certification under Section 401 of the Clean Water Act.

Respectfully submitted,

/s/ David R. Poe

David R. Poe
Counsel for Alcoa Power Generating Inc.

Enclosure

PLEASE PRINT CLEARLY OR TYPE

STATE OF NORTH CAROLINA

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS

COUNTY OF WAKE

Alcoa Power Generating Inc.,

PETITIONER,

v.

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

RESPONDENT.

**PETITION
FOR A
CONTESTED CASE HEARING**

Petitioner Alcoa Power Generating Inc. (Petitioner, or APGI) hereby asks for a contested case hearing as provided for by North Carolina General Statute § 150B-23 because the Respondent Division of Water Resources, North Carolina Department of Environment and Natural Resources (Respondent, or DWR) has:

By letter dated August 2, 2013 from Thomas A. Reeder to E. Ray Barham (Denial), DWR unlawfully denied the application (Application) submitted to DWR on or about September 28, 2012, by APGI for a Water Quality Certification (401 Certification) pursuant to § 401 of the Clean Water Act (CWA) and related rules, in violation of the CWA and the federal and North Carolina rules to implement the CWA and the North Carolina Administrative Procedure Act. A copy of the Denial is attached as Attachment A. Please also refer to Attachment B, which is an attached additional description of the errors reflected in the Denial and the claims that arise from those errors. Also attached are Attachment C "Hearing Officer's Report and Recommendations" (without attachments), dated July 29, 2013, issued by Jim Gregson to Mr. Reeder, and Attachment D, which is the draft 401 water quality certification prepared pursuant to his Report for issuance by DWR. Attachments A, B, C and D are incorporated by reference as if set forth herein. APGI reserves the right to supplement the facts set forth herein as appropriate.

(5) Because of these facts, the State agency or board has: (check at least one from each column)

- ☒ deprived me of property;
☐ ordered me to pay a fine or civil penalty; or
☒ otherwise substantially prejudiced my rights;

AND

- ☒ exceeded its authority or jurisdiction;
☒ acted erroneously;
☒ failed to use proper procedure;
☒ acted arbitrarily or capriciously; or
☒ failed to act as required by law or rule.

Date: September 25, 2013

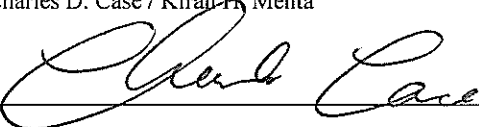
Phone number: [See below]

Print your address: Charles D. Case, Hunton & Williams LLP, 421 Fayetteville Street, Suite 1400, Raleigh, NC 27601 (919) 899-3045

Kiran H. Mehta, K&L Gates LLP, 214 N. Tryon Street, Suite 4700, Charlotte, NC 28202 (704) 331-7437

Print your name: Charles D. Case / Kiran H. Mehta

Your signature: _____



You must mail or deliver a COPY of this Petition to the State agency or board named on line (3) of this form. You should contact the agency or board to determine the name of the person to be served.

CERTIFICATE OF SERVICE

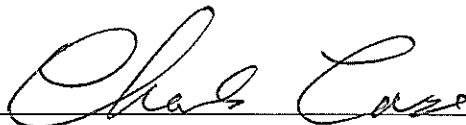
I certify that this Petition has been served on the State agency or board named below by depositing a copy of it with the United States Postal Service with sufficient postage affixed **OR** by delivering it to the named agency or board:

Lacy M. Presnell, III, Esq.
1601 Mail Service Center
Raleigh, NC 27604

Department of Environment and Natural Resources
1617 Mail Service Center
Raleigh, NC 27604

This the 25th day of September, 2013.

Charles D. Case / Kiran H. Mehta



When you have completed this form, you **MUST** mail or deliver the **ORIGINAL AND ONE COPY** to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714.

ATTACHMENT A



North Carolina Department of Environment and Natural Resources

Division of Water Resources

Water Quality Programs

Pat McCrory
Governor

Thomas A. Reeder
Director

John E. Skvarla, III
Secretary

August 2, 2013

DWQ # 12-0900

Davidson, Davie, Montgomery,
Rowan and Stanly Counties

CERTIFIED MAIL: 7003 2260 0005 5380 8979
RETURN RECEIPT REQUESTED

Mr. E. Ray Barham
Alcoa Power Generating, Inc. (APGI)
293 Highway 740
Badin, NC 28009

Subject: DENIAL OF 401 Water Quality Certification
Yadkin Hydroelectric Project FERC P-2197

Dear Mr. Barham:

On September 28, 2012, the Division of Water Resources ("Division"), then operating as the Division of Water Quality, received Alcoa Power Generating Inc.'s ("APGI") application dated September 28, 2012, with additional information received on October 17, 2012; January 7, 2013; January 22, 2013; February 1, 2013; February 7, 2013; March 18, 2013; April 1, 2013; June 11, 2013; June 20, 2013; July 2, 2013 and July 3, 2013, requesting a 401 Water Quality Certification from the Division for the subject project.

Under 15A NCAC 02H.0502 (f) your signature on the certification application "certifies that the applicant has title to the property, has been authorized by the owner to apply for certification or is a public entity and has the power of eminent domain." The required ownership certification ensures that the applicant owns the project's dams and powerhouses and is fully capable of implementing all protections of water quality that may be imposed as conditions in a 401 certification.

On August 2, 2013, the State of North Carolina, by and through its agency, the North Carolina Department of Administration, initiated a civil action in the Superior Court of Wake County, North Carolina, Case No. 13-CVS-10477("the pending lawsuit") seeking a judicial declaration that the State owns the submerged bed of portions of the Yadkin River located beneath the Yadkin Hydroelectric Project, Federal Energy Regulatory Commission Project No. P-2197 (the

1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

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"project"). In the pending lawsuit, the North Carolina Department of Administration asserts that the State of North Carolina owns, and holds in trust for the people of North Carolina, the submerged bed of the Yadkin River and portions of the project's dams standing on the State's riverbed land.

Comments were received at a public hearing on May 14, 2013, and the hearing officer submitted a report on July 29, 2013, before the pending lawsuit was filed. A letter was received on August 1, 2013, from the Secretary of the North Carolina Department of Administration challenging the validity of APGI's application and certification of ownership.

With the filing of the pending lawsuit and the issues of ownership raised, the Division cannot consider the application to be a valid application until the issues and conflicting claims of ownership are resolved by the parties or by a final order of the Court in the pending lawsuit.

In the event that ownership issues and claims involving the project's dams are resolved by the parties or a final order is entered in the pending lawsuit declaring ownership, the owner or owners may submit a new application for a 401 Water Quality certification, and the Division is prepared to expedite the processing and review of the application.

In accordance with 15A NCAC 02H .0507(e), APGI's application for a 401 Water Quality Certification is hereby denied.

This decision can be contested as provided in Articles 3 and 4 of General Statute 150B by filing a written petition for an administrative hearing to the Office of Administrative Hearings (hereby known as OAH) **within sixty (60) calendar days**.

A petition form may be obtained from the OAH at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000 for information. A petition is considered filed when the original and one (1) copy along with any applicable OAH filing fee is received in the OAH during normal office hours (Monday through Friday between 8:00am and 5:00pm, excluding official state holidays).

The petition may be faxed to the OAH at (919) 431-3100, provided the original and one copy of the petition along with any applicable OAH filing fee is received by the OAH within five (5) business days following the faxed transmission.

Mailing address for the OAH:

If sending via US Postal Service:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714

*If sending via delivery service (UPS,
FedEx, etc):*

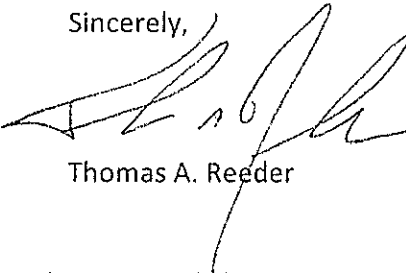
Office of Administrative Hearings
1711 New Hope Church Road
Raleigh, NC 27609-6285

One (1) copy of the petition must also be served to DENR:

Lacy Presnell, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

This completes the review of the Division under section 401 of the Clean Water Act and 15A NCAC 02H .0500. Please be aware that you have no authorization under Section 401 of the Clear Water Act for this activity and any work done within waters of the state would be a violation of North Carolina General Statutes and Administrative Code. Contact Karen Higgins at 919-807-6360 or karen.higgins@ncdenr.gov if you have any questions or concerns.

Sincerely,



Thomas A. Reeder

cc: Secretary Kimberly D. Bose, Federal Energy Regulatory Commission, 888 First Street NE, Washington, D.C. 20426
Todd Bowers, EPA, Sam Nunn Federal Center, 61 Forsyth Street SW, Atlanta, GA 30303
Mike Parker, DWQ Mooresville Regional Office Supervisor
Corey Basinger, DWQ Winston-Salem Regional Office Supervisor
Belinda Henson, DWQ Fayetteville Regional Office Supervisor
Ian McMillan, Division of Water Resources (via email)
Chris Goudreau, North Carolina Wildlife Resources Commission (via email)
Rob McDaniel, Division of Waste Management (via email)
Sandy Mort, DHHS (via email)
James D. Behmer, Salisbury-Rowan Utilities, PO Box 479, Salisbury, NC 28145
DWQ Webscape Unit

ATTACHMENT B

Attachment B to Petition - Additional Description of Claims

I. Factual and Procedural Background

APGI is the owner and operator of a series of four reservoirs and hydroelectric dams on the Yadkin River (Yadkin Project, or Project). The Yadkin Project has been operated by APGI for decades, pursuant to licenses issued by the Federal Power Commission (FPC), the predecessor agency to the Federal Energy Regulatory Commission (FERC). The original FPC license, granted in 1958, expired in 2008. Well prior to its expiration, APGI applied for another 50-year license. APGI's license application is still pending at the FERC, being most notably opposed by the State of North Carolina (State). Although it failed to file a competing license application as required by federal law and regulations, the State seeks to replace APGI as the owner of the Yadkin Project. APGI continues to operate the Project through annual licenses issued since 2008, and APGI is the sole applicant for a new FERC license for the Project. In order to receive the new FERC license, APGI is required to obtain a 401 Certification from DWR. The Certification signifies that operation of the Project will comply with water quality standards promulgated pursuant to the CWA.

Petitioner APGI submitted to DWR its Application on September 28, 2012.¹ After proper public notice of the opportunity to present comments on the Application, a public hearing was held on May 14, 2013 (Public Hearing). Sixty-four people attended the hearing, of whom sixteen provided oral comments. Comments were also received by DWR during a post-hearing comment period, which formally ended on June 13, 2013. Specifically, DWR received one voicemail comment and 154 written submissions by that deadline. Written comments continued to be received, however, and by July 8, 2013, DWR had received an additional 89 written comments. In short, DWR conducted a thorough review of the Application following its submittal, with ample opportunity for public involvement in the process.

On Monday, July 29, 2013, the DWR employee assigned to oversee the Public Hearing, Jim Gregson (Hearing Officer), issued his "Hearing Officer's Report and Recommendations" (Report, attached as Attachment C). Among other things, the Hearing Officer made an unequivocal recommendation that the 401 Certification be issued to APGI, stating that, "[b]ased on the comments received at the public hearing, the comments received during the three comment periods, the review of the record for the project, the site visit, and discussions with other DWQ [now DWR] staff, *I recommend that the 401 Certification be issued.*" (Report, p. 21 (emphasis added))

¹ The Application is the third such application for a 401 certification made by APGI. The proceedings in connection with the previous applications were mooted, however, by APGI's filing of the Application and DWR's processing of it, as described herein. The first application, made in 2007, resulted in the issuance of a 401 certification. A second application, made in 2009, also resulted in the issuance of a 401 certification, and also was subsequently revoked; the issuance and revocation resulted in multiple appeals. In order to file a new 401 application (the application which is the subject of this Petition), APGI moved to dismiss its appeal of the revocation without prejudice, and Judge Webster granted that motion, issuing an order on September 27, 2012. APGI then filed the Application on September 28, 2012. Accordingly, with APGI's filing of the Application, and DWR's processing of it to conclusion, all issues with respect to the prior applications and the issuance/revocation of 401 certifications in connection therewith, have been rendered moot.

In fact, DWR had prepared and transmitted to its Director on July 29, 2013 a draft 401 water quality certification for issuance to APGI (Draft 401 Certification). A copy of that draft is included as Attachment D to this Petition. The Draft 401 Certification, including its conditions, is entirely consistent with the Hearing Officer's recommendations in the Report.

Notwithstanding the Hearing Officer's recommendation and DWR's preparation of the Draft 401 Certification approving the Application, DWR reversed course and on August 2, 2013 (four days later) issued the Denial instead. As summarized below, the Denial is contrary to the recommendation and discussion contained in the Report and the Draft 401 Certification. Moreover, the Denial is inconsistent with the provisions of § 401 and other sections of the CWA, related federal and North Carolina statutes and rules adopted to implement the CWA, including North Carolina's rules governing DWR's action on the Application, as codified at 15A NCAC 2H.0500 ("NC 401 Rules"), as well the provisions of the North Carolina Administrative Procedure Act as codified in Chapter 150B of the General Statutes (APA).

The Denial recites that, on the same day as the issuance of the Denial, "the State of North Carolina, by and through its agency, the North Carolina Department of Administration, initiated a civil action in the Superior Court of Wake County, North Carolina, Case No. 13-CVS-10477" (Lawsuit). The Lawsuit was filed only a few hours before the Denial was publically issued. The Denial characterizes the Lawsuit as "seeking a judicial declaration that the State owns the submerged bed of portions of the Yadkin River located beneath the Yadkin Hydroelectric Project," and that, through the Lawsuit, "the North Carolina Department of Administration asserts that the State of North Carolina owns, and holds in trust for the people of North Carolina, the submerged bed of the Yadkin River and portions of the project's dams standing on the State's riverbed land."

The Denial also notes that DWR received a letter on August 1, 2013 – that is, *after* the Hearing Officer had prepared his Report, and *after* DWR had prepared the Draft 401 Certification – from the Secretary of the Department of Administration "challenging the validity of APGI's application and certification of ownership." (Denial, p. 2) However, the August 1 letter does not assert any claim by the State to the dam or powerhouse structures themselves. Rather, the letter merely asserts that the State:

has undertaken an analysis of the issue of who owns the submerged bed of that segment of the Yadkin River lying within and lying 100 yards to the north and 100 yards to the south of the project boundary of . . . [the Yadkin Project] (hereinafter the "Submerged Bed of the Relevant Segment of the Yadkin River") and has determined that the Submerged Bed of the Relevant Segment of the Yadkin River underlies waters navigable under the laws of this State and is the property of the State of North Carolina.

Nevertheless, the Denial notes that "[w]ith the filing of the pending lawsuit and the issues of ownership raised, the Division cannot consider the application to be a valid application until the issues and conflicting claims of ownership are resolved by the parties or by a final order of the Court in the pending lawsuit." This "determination" is entirely contrary to DWR's analysis of the Application, as reflected in the Report and in the Draft 401 Certification. In the Report, the Hearing Officer not only recommended the issuance of a 401 Certification to APGI, he

specifically found that “Submerged land issues are outside the scope of the 401 Certification process, *and a resolution of those issues is not required for the application to be considered sufficient* under [DWR] rules.” (Report, p. 20 (emphasis added)) Similarly, in the Draft 401 Certification, DWR stated not only that it was issuing the requested certificate, but also that (1) “the Certificate shall not be construed as addressing or making any determination with respect to title or ownership of submerged lands beneath navigable waters or public trust property,” and (2) such disputes “are outside the scope of the 401 water certification [process]” (Draft 401 Certification, p. 6)

The State’s motivation to reverse the course set by the Hearing Officer (and DWR’s pre-Denial position generally, as indicated in the Draft 401 Certification) is shown clearly by its Lawsuit. In paragraph 38 of its Complaint, the State notes that the FERC license likely would be granted “[a]bsent a declaration that the bed of the Relevant Segment of the Yadkin River is owned by the State of North Carolina.” Issuance of the 401 Certification is, of course, a prerequisite for the grant of the FERC license. This abrupt reversal of position was simply dictated by the State’s desire to prevent the issuance of a 401 certification, a prerequisite to the issuance of a FERC license, and, thereby, to continue in the efforts of its political arms (e.g., the Governor’s Office) to interfere in the FERC licensing process. As such, the Denial violates the APA, and should be overturned, as set forth in more detail below.

II. DWR’s Errors in the Denial

A. Failing to act as required by § .0502(f) of the 401 rules

The Denial should be overturned, since it reflects DWR’s failure to act as required by the NC 401 Rules. Section .0502(f) of the NC 401 rules requires that, by signing the Application, APGI certified that it had “title to the property.” The Application was properly signed and the certification was appropriate on its face. In fact, the alleged defect in ownership certification was not raised by DWR in connection with any of the prior 401 certification applications submitted by APGI for the Yadkin Project between 2007 and 2012. The Denial does not dispute that the Application was signed by APGI, nor does it make any determination that APGI’s ownership certification is erroneous. Rather, DWR merely references unproven allegations in a lawsuit filed by the State itself filed only hours before the issuance of the Denial. That Lawsuit asserts no claim with respect to water quality as a result of APGI’s operation of the Yadkin Project and its associated dams and hydropower generation facilities, which is the point of the 401 certification process. As stated in the Report itself, “[s]ubmerged lands are outside the scope of the 401 Certification process, and a resolution of those issues is not required for the application to be considered sufficient under [the NC 401 Rules],” since DWR’s “401 certification process focuses on the project’s impact on water quality.” (Report, p. 20)

Right up until the issuance of the Denial, DWR treated the Application as it had treated other similar applications for 401 certifications for these types of projects. In fact, the Report explicitly found that, “[c]onsistent with its review of other applications for 401 Certification[s] [sic] in connection with the licensing of FERC projects, [DWR] deemed APGI’s application sufficient for purposes of Rule .0502(f) based on APGI’s representation that it owns the powerhouses and dams.” The Report noted that “APGI reiterated its claim of ownership in a letter, dated July 3, 2013, stating that ‘APGI owns the facilities from which the discharges

originate, which are the Yadkin Project's four hydroelectric dams.'" Until the issuance of the Denial, the State had never before asserted an ownership interest in submerged lands sufficient to cause DWR to deny a 401 certification for *any* hydroelectric project.

The Denial admits that the Report was prepared before the Lawsuit was filed, but attempts to justify the about-face by claiming that, "[w]ith the filing of the pending lawsuit and the issues of ownership raised, the Division cannot consider the application to be a valid application until the issues and conflicting claims of ownership are resolved by the parties or a final order of the Court in the pending lawsuit." (Denial, p. 2) Again, seeking to alter the meaning of the NC 401 Rules as the Hearing Officer correctly described them, the Denial attempts to retroactively explain that the purpose of the certification under the 401 Rules is to ensure "that the applicant owns the project's dams and powerhouses and is fully capable of implementing all protections of water quality that may be imposed as conditions in a 401 certification." (*Id.*, p. 1) However, as demonstrated in the Report, and as recognized by DWR in the Draft 401 Certification, APGI is indeed fully capable of implementing all protections of water quality that may be imposed as conditions in the 401 Certification, which DWR was prepared to issue until political actors dictated the last-minute reversal of its (DWR's) position.

Moreover, regardless of the State's unproven assertions in the Lawsuit, those assertions do not constitute a determination of ownership – they are merely claims. There has been no determination that anyone other than APGI owns the submerged lands, the dams or the powerhouses, nor has there been any determination that APGI is incapable of implementing all protections of water quality that may be imposed as conditions in a 401 certification. The State simply decided that, in order to continue with its efforts to interfere with the FERC process, it had to prevent the imminent issuance of the 401 Certification, and the State chose to do so by causing DWR to single out APGI's Application and to treat it differently from all other 401 certification applications. These actions have no bearing on water quality and are impermissible under the NC 401 Rules and § 401 of the CWA; in fact, they are contrary to those provisions. Therefore, the Denial should be reversed, since it represents a failure by DWR to act as required by those rules, as well as the APA.

B. Arbitrary or capricious action

The Denial should also be reversed because it was issued arbitrarily and capriciously by DWR. The Report specifically indicates that DWR handled the Application consistently with prior 401 applications for similar FERC projects, noting that, "[c]onsistent with its review of other applications for 401 Certification in connection with the licensing of FERC projects, DWQ deemed APGI's application sufficient for purposes of Rule .0502(f) based on APGI's representation that it owns the powerhouses and dams." The Report further indicates that "APGI reiterated its claim of ownership in a letter, dated July 3, 2013, stating that 'APGI owns the facilities from which the discharges originate, which are the Yadkin Project's four hydroelectric dams.'" (Report, p. 20) On that basis, DWR had made no "determination of the ownership of submerged lands," because under its consistent interpretation and application of the NC 401 Rules in the past, such a determination was unnecessary and irrelevant. As the Hearing Officer noted several times, the 401 certification process focuses on the project's impact on water quality (*see, e.g.*, Report at pp. 18, 19, 20) – not on land ownership.

Singling out APGI for differential treatment is quintessentially arbitrary and capricious, and therefore unlawful.

C. Exceeded its authority or jurisdiction

The Report, as noted above, acknowledged that property ownership is not a part of the 401 process. Accordingly, in issuing the Denial, DWR exceeded its authority and jurisdiction as a matter of law and in violation of the APA.

The Denial's attempt to rewrite the NC 401 Rules should be rejected for the obvious after-the-fact justification that DWR was forced to make. The assertion by DWR that the certification provision in 15A NCAC 02H.0502(f) is to ensure "that the applicant owns the project's dams and powerhouses and is fully capable of implementing all protections of water quality that may be imposed as conditions in a 401 certification" is flatly contradicted by the Report and is also contrary to the language and DWR's past application of the NC 401 rules.

The purpose of the 401 certification process is to assure that the Project operator will protect water quality. A 401 certification decision may not be used as a vehicle to interfere with and frustrate the applicant's FERC re-licensing, and by doing so the State and DWR have exceeded their authority and jurisdiction, in violation of the APA.

D. Failed to use proper procedure

As discussed above, the Denial represents a complete about-face in the manner by which DWR interpreted and applied 15A NCAC 02H.0502(f). The appropriate procedure for such a change would be for the Environmental Management Commission (EMC), which adopts such rules, to amend the NC 401 Rules to so state. The EMC has not done so, and the State's abrupt change in the interpretation and application violates the APA.

E. Acted erroneously

For the reasons stated above, the DWR acted erroneously in rejecting the recommendation in the Report and in issuing the Denial, in violation of the APA.

ATTACHMENT C



North Carolina Department of Environment and Natural Resources

Division of Water Quality

Pat McCrory
Governor

Thomas A. Reeder
Acting Director

John E. Skvarla, III
Secretary

July 29, 2013

MEMORANDUM

To: Thomas A. Reeder

From: Jim Gregson, Regional Supervisor *JHG*
Surface Water Protection Section
Wilmington Regional Office

Subject: Hearing Officer's Report and Recommendations
Alcoa Power Generating, Inc. (APGI) Yadkin Project, FERC P-2197
401 Certification Application Public Hearing (DWQ Project No. 12-0900)
Davidson, Davie, Montgomery, Rowan and Stanly Counties

On May 14, 2013, I served as the Hearing Officer for the Subject Public Hearing held at the Stanly County Commissioners' Meeting Room, at the Stanly County Commons, in Albemarle, NC. The purpose of the public hearing was to allow the public to comment on the September 28, 2012, 401 Water Quality Certification Application from Alcoa Power Generating, Inc. (APGI) for the Yadkin Hydroelectric Project (FERC No. 2197).

In addition to listening to oral comments at the public hearing, I have reviewed all written comments received during and after the public comment period. I have also reviewed all comments received through the State Clearinghouse and Public Notice on the Final Environmental Impact Statement (FEIS) for the FERC License Renewal, as well as all comments received on the November 28, 2012, Notice of Application Public Notice for the project. In preparation of this report I have considered all of the public comments, the public record, and the site visit for the project.

The report has been prepared using the following outline:

- I. Site History / Background
- II. Relicensing Settlement Agreement (RSA)
- III. Site Visit
- IV. May 14, 2013, Public Hearing and Comments Summary
- V. APGI FERC FEIS Public Comment Summary
- VI. Notice of Application Comments Summary
- VII. 15A NCAC 02H.006 (b) Recommendations
- VIII. Summary
- IX. Attachments

I. History / Background

Alcoa Power Generating, Inc. (APGI), a subsidiary of Alcoa, Inc., manages a 38-mile section of the Yadkin River in the counties of Davie, Davidson, Rowan, Stanly and Montgomery. The APGI Yadkin Project includes four hydroelectric dams and powerhouses and four reservoirs. From north to south the dams are High Rock, Tuckertown, Narrows and Falls.

In 1915 the Aluminum Company of America purchased an unfinished aluminum smelting project from the French company L'Aluminum Francais. By 1917 the first dam was completed at Narrows creating the Narrows Reservoir, known locally as Badin Lake. The dam and associated hydroelectric facility provided power to the new aluminum plant in Badin known as Badin Works. As aluminum production at the Badin Works facility increased, the company added the Falls Dam in 1919 and the High Rock Dam in 1927 to generate additional hydroelectric power for the facility. The last of the four hydroelectric stations built to serve Badin Works was completed in 1962 and is known as Tuckertown, located between High Rock and Narrows. Aluminum production at Badin Works was curtailed by Alcoa in 2002 and the plant was shut down permanently in 2007. Although no longer used to support aluminum production, the four hydroelectric stations continue to generate an average of 814,306 megawatt-hours of electricity annually which is sold on demand to the wholesale market.

In 1958 Alcoa received a 50 year license from the Federal Power Commission to operate its four hydroelectric plants on the Yadkin River. APGI filed a new license application with the Federal Energy Regulatory Commission (FERC) in April 2006. As part of the relicensing process, the applicant is required to obtain a 401 Water Quality Certification from the State of North Carolina. Section 401 of the Federal Clean Water Act requires that a 401 Certification be obtained from the state for any project that requires a Federal permit or license that may result in a discharge into waters of the US. The issuance of a 401 Certification is a determination by the state that the project, as proposed, will not violate water quality standards. If approved, the 401 Certification becomes a condition of the Federal permit or license. APGI's original license expired on April 30, 2008. Since that time the Yadkin Project has been operating under a series of one-year licenses that are automatically renewed.

II. Relicensing Settlement Agreement (RSA)

As part of the FERC relicensing process, APGI entered into a formal negotiation process with a variety of stakeholders in both North Carolina and South Carolina. In February 2007 a Relicensing Settlement Agreement (RSA) (Attachment II.) was signed by 23 stakeholders representing state and Federal agencies, local government, homeowners, recreational users and environmental groups. The RSA was submitted to FERC on May 7, 2007. The RSA was incorporated into the Final Environmental Impact Statement for the project in April 2008. The RSA serves as a mechanism to resolve issues raised by the stakeholders in connection with the

FERC relicensing of the APGI Yadkin Project. The agreement specifies APGI's obligations for the protection, mitigation, and enhancement of ecological, environmental, recreational and cultural resources affected by the project, as well as enforceable obligations of other signatories. Settlement provisions of the agreement include:

- Flow adjustment for enhancement of downstream spawning
- Low Inflow Protocol including continued funding of USGS gauges
- A tailwater dissolved oxygen enhancement schedule and operation plan
- Dissolved oxygen monitoring
- Recreation facility improvements
- Modifications to existing shoreline management plan
- Rare, threatened, endangered and invasive species monitoring
- Land donation
- Higher water levels and extended recreation season at High Rock Lake
- Increase water withdrawals for the City of Albemarle

Although the RSA and the commitments therein should be considered an integral part of APGI's application to be considered during the 401 Certification process, it should not be considered the final solution to all water quality related project impacts. Section 1.3.12 of the RSA states that execution of the Settlement Agreement by the State of North Carolina or any agency thereof expresses or implies no representation that the requirements of the Settlement Agreement ensure compliance with State water quality standards and other appropriate requirements of State Law.

III. Site Visit

A site visit was conducted on January 22, 2013, with APGI staff, staff of the DWQ Wetlands, Buffers, Stormwater, Compliance and Permitting Unit, the Program Development Unit, and the Hearing Officer. During the site visit the four dams and powerhouses of the APGI Yadkin Project were toured. Discussions during the site visit focused on dissolved oxygen (DO) enhancement technology, DO monitoring, types of turbines being used, and general operation of the facilities.

IV. May 14, 2013, Public Hearing and Comments

A Public Hearing was held on May 14, 2013, at 7:00 pm, in the Stanly County Commissioners' Meeting Room, at the Stanly County Commons, in Albemarle, NC. The purpose of the public hearing was to allow the public to comment on the September 28, 2012, 401 Certification Application from APGI for the Yadkin Hydroelectric Project (FERC No. 2197). Notice of the hearing (Attachment VI.) was published in the Dispatch, the Salisbury Post, the Winston-Salem Journal and the Charlotte Observer on April 6, 2013, in the Stanly News and Press on April 9,

2013, and sent by mail to the Water Quality Certification Mailing List on April 4, 2013. Additionally, publication of this notice was posted on the DWQ website. The 30 day public comment period ended on June 13, 2013.

Approximately 64 people attended the public hearing including six staff members of the Division of Water Quality and the Hearing Officer. A total of 57 individuals signed the attendance sign in sheets at the hearing (Attachment VII.). The Hearing Officer provided opening comments and Karen Higgins, the Wetlands, Buffers, Stormwater, Compliance and Permitting Unit Supervisor of the Division of Water Quality gave a brief overview of the project. Thirteen (13) individuals registered in advance of the hearing to make comments and three additional individuals made comments after the 13 that registered. Two individuals spoke a second time at the hearing. Speakers were given five minutes for initial presentations and additional time was provided after everyone that registered to speak was finished. The list of speakers is included as Attachment VIII. Of the 16 individuals that spoke at the public hearing nine were generally in favor of the issuance of the 401 Certification and five were generally opposed. Two speakers were neither in favor nor opposed to the project but encouraged DWQ to look strongly at the issues. The following is a summary by issue area of oral comments received at the public hearing:

- **Alcoa Environmental History and Jobs** – Several speakers acknowledged that Alcoa had past issues with contamination at Badin Works but recognized that they were actively trying to clean up the site and that addressing contamination at Badin Works will help bring jobs to the area. Several other speakers recommended denying APGI's 401 Certification request based on their poor environmental history and the perception that they cannot be trusted.
- **Dissolved Oxygen** - Two speakers voiced concern over making sure that APGI is complying with dissolved oxygen (DO) standards. An APGI representative indicated that the 401 Certification process is only about one issue (the DO standard) and that application of the proposal submitted for DO improvement will meet the state standard. One speaker questioned how the APGI DO data compares with other hydropower facilities on the river and if their improvements going to be as strong as APGI's.
- **PCB Contamination** - One speaker stated that the Badin Works plant should be considered part of the project for 401 Water Quality Certification review purposes, and that any contamination from the plant should be addressed in the 401 Certification. Two speakers indicated that PCB contamination needed to be addressed in the 401 Certification. One speaker questioned how the operation of the dams allows PCBs to move through the system. Two speakers described PCB contamination as a watershed issue and not isolated to the APGI sites. One speaker questioned why striped bass were not tested for PCBs in the most recent fish tissue study.

- **RSA** – Four speakers voiced support for the RSA and the benefits that it would provide to the region. One speaker expressed concern over the integration of the RSA and 401 processes.

The Public Hearing Transcript including oral comments is included as Attachment IX. In addition to the public hearing, DWQ received one voice mail and 154 written comments during the public comment period and 89 written comments post public comment period as of July 8, 2013. One hundred ninety-six (196) of the written comments were received using the following form letter email recommending denial of the 401 Certification:

This letter is in response to Alcoa's 401 Water Quality Application. I respectfully request that NC Division of Water Quality (DWQ) deny Alcoa's request for a Water Quality Certification to operate the hydroelectric dams at High Rock, Tuckertown, Narrows, and Falls Reservoirs on the Yadkin River for the following reasons:

On December 1, 2010, the NC DWQ, citing "intentionally withheld information" in relation to the State's water quality assessment (regarding dissolved oxygen compliance) issued a Notice of Revocation. Alcoa has had more than six years to upgrade its dam operations to comply with water quality standards since they first applied May 10, 2007, but much of the project is still failing to meet dissolved oxygen standards, crucial to the health of the river.

The Final Evaluation Impact Statements from the Federal Energy Regulatory Commission contains data from more than six years ago. These studies did not evaluate the disproportionate impact of past plant operations on the community of west Badin, where 46 of Alcoa's hazardous waste sites are located. They did not evaluate the impact or movement of PCBs throughout the Yadkin River ecosystem.

Recent state testing by the NC Department of Health and Human Services (DHHS) shows dangerously high levels of PCBs in fish throughout the Yadkin Project, spanning 50 river miles. Fish - tissue sampling revealed PCB levels 100 percent above the state health standards for safe fish consumption. Both EPA and NC DENR are aware the contamination, the danger it causes for local citizens as well as Alcoa's disposal of PCBs in Badin Lake and Falls Reservoir "resulting in PCB contamination."

Not one of the agencies reviewing PCB contamination in the Yadkin project—NC DWQ, NC DHHS or EPA — support Alcoa's claims that the PCBs the company discharged into Badin Lake and Falls Reservoir have not contributed to biological impairment of fish in the Yadkin River system.

PCB fish testing in Tuckertown Reservoir was never completed, but PCBs were discovered in fish sampled upstream in High Rock Lake. Since fish pass through the dams, the movement of PCBs through entrainment of contaminated fish should be studied. Additional testing needs to be done.

On September 28, 2012, ALCOA applied for a new 401 certification as it continues in its attempts to gain another 50- year license from FERC for its Yadkin Project. In this most recent application, Alcoa asserted 'no public lands' are involved in its hydroelectric project, and therefore does not require State Environmental Policy Act (SEPA) review. Yet, according to the NC Department of Administration, "all lands beneath navigable rivers are sovereign lands of the State. "

Based on the additional testing that still needs to be conducted, Alcoa's poor stewardship of the Yadkin River, and Alcoa's conflicting and misleading statements to state and federal agencies, Alcoa should not be rewarded with 401 Water Quality Certification. The public, which rightfully owns the Yadkin River, should not have to wait another fifty years to revisit these important issues. Please deny Alcoa's 401 application request.

Other written and voice mail comments by issue area received during and after the public comment period include the following:

- **401 Certification Process** - Written comments were received from Duke Law Environmental Law and Policy Clinic (ELPC) at the Public Hearing concerning a 2001 meeting between Duke Power, Progress Energy and NCDENR covering relicensing activities and the 401 Water Quality Certification process for hydropower projects in North Carolina. The information included recommended options from Duke Power and Progress Energy on improving the 401 Certification process.
- **Land Conservation** – One comment was received supporting land conservation of as much of Alcoa's riparian land as possible.
- **Alcoa Environmental History** - In addition to the form letter emails four additional comments were received recommending denial of the 401 Certification citing withholding information and past environmental history. One voice mail comment was received during the public comment period concerning Alcoa's past environmental history and PCB contamination in fish in High Rock Lake.
- **Environmental Justice** - Comments were received from Southern Environmental Law Center (SELC) on behalf of the North Carolina Environmental Justice Network. SELC urges DWQ to include conditions in the 401 Certification that require a community and state agreed upon remediation plan for Alcoa's clean-up of the existing contamination on and around the site of the retired aluminum facility near Badin Lake. The letter also indicated that the Alcoa's corrective measures study is inadequate because their remediation plan lacks a process with objectives, steps and deliverables that illustrate

the action Alcoa will take to effectively remediate the contamination sites. Additionally, the community affected by the contamination has not been involved in the remediation decision process.

Clean Water for North Carolina also submitted comments stating that documented hazardous waste disposal and subsequent contamination in the west Badin area, coupled with selective location of low income and people of color in the area, have created a disproportionate risk of exposure to toxic smelting - related wastes, through groundwater and other exposure routes. In addition, low income populations living close to bodies of water are known to consume local fish more frequently than higher income or recreational visitors, and the elevated PCB levels in lake fish have almost certainly further increased health risks to these residents over decades.

- **Management of High Rock Lake** - One comment was received in support of approval of the 401 Certification so that there will be a business oriented verses political management of High Rock Lake.
- **Property Ownership** – In addition to the property ownership issues discussed in the form letter email, several other comments were received concerning ownership of the submerged lands of the Yadkin Project. Comments were also received from Duke Law ELPC on behalf of the Yadkin Riverkeeper concerning ownership of the riverbed in the Yadkin Project. The Yadkin Riverkeeper is requesting denial of the 401 Certification unless and until the applicant obtains an easement from the NC Department of Administration for its use of state-owned public trust lands. The comments state that APGI's application for certification does not meet the requirements of DWQ's rules because it has not obtained permission to use the property from its owner, the State of North Carolina.
- **NEPA Process** – In addition to the NEPA issues discussed in the form letter email, Comments were also received from Duke Law ELPC on behalf of the Yadkin Riverkeeper requesting denial of the 401 Certification on the basis that the FEIS is inadequate and outdated for failure to study the impact of the Yadkin Project on transport of hazardous substances such as PCBs with an ecological risk assessment.
- **The City of Salisbury** – The City of Salisbury requested that the 401 Certification include the following two conditions:
 - Condition 1: Immediately implement sedimentation and flood protection measures that will protect the City of Salisbury's water supply intakes and pump station from service interruption by sedimentation and by the FEMA base flood elevation.

Condition 2: Immediately implement flood protection measures that will protect the City of Salisbury's wastewater treatment plant from service interruption by the FEMA base flood elevation.

- **Division of Water Resources** – The Division of Water Resources stated that they had no additional comments regarding the most recent application assuming the Relicensing Settlement Agreement from February 2007 remains in force and unaltered.

V. APGI FERC FEIS Public Comment Summary

A total of 54 comments were received through the State Clearinghouse and Public Notice on the FEIS for the FERC License Renewal for the APGI Yadkin Project. Fifty-three (53) comments were received during the comment period and one was received after the comment period ended. Most comments were directly related to the perceived failure of the NEPA process to adequately address certain issues or to follow proper procedures. Several comments were not directly related to the FEIS but were more specific to the operation of the dams and the Badin Works site. The following is a summary by issue area of the comments received:

- **Environmental Justice** - Two comments were received that directly addressed the issue of environmental justice. One comment was received from SELC on behalf of the North Carolina Environmental Justice Network. The other comment was received from Duke Law ELPC on behalf of the Yadkin Riverkeeper. Several other comments were received that briefly mentioned social and economic impact of the proposed action that the FEIS failed to address.

(SELC Comments) - FEIS fails to include information relating to environmental justice and water quality in Badin Lake. DWQ should request additional study of PCB contamination on communities of color near Badin Lake. FEIS does not consider cumulative human health impacts.

(ELPC Comments) - FEIS made no assessments of the impact of the project on environmental justice hot spots. No one is warning the people who live around these lakes or fish there that they may be eating fish with PCBs above the levels that triggered the fish consumption advisories in Badin Lake. Many of those people eating these fish are from communities of color. On behalf of the Yadkin Riverkeeper, we comment that the FEIS is inadequate in its analysis of the impact of the operation of the project on PCBs in the system.

- **Dissolved Oxygen** – 40 comments were received (32 using a form letter email) related to Water Quality DO standards and the operation of the dams to “maximize” water

quality. Other comments relating to dissolved oxygen were very similar and included statements such as “the FEIS does not consider the scope of the environmental impacts from the operation of the dams and should explain that the water is too oxygen deprived for fish to adequately live”.

(Form Letter Comments) - The FEIS did not look at operating the dams to maximize water quality, rather it analyzed how to maximize Alcoa's profits by generating electricity to meet peak power demands. The water below the dams and the waters of High Rock Lake does not meet state water quality standards for dissolved oxygen at all times. The latest proposal from Alcoa in January of this year, proposes to allow continued water quality standard violations for years to come.

- **PCB Contamination** – 44 comments were received (32 using a form letter email) related to PCB contamination in Badin Lake and at the Badin Works site.

(Form Letter Comments) - The FEIS did not examine the contamination by PCBs and hazardous wastes at the Badin Works, the town of Badin and the riverbed itself. For more than 50 years the smelter was the Project, its impacts cannot be ignored. New testing reported to NC DENR about this PCB contamination last year, but NC DENR has taken no enforcement response. The FEIS pretends this documented contamination does not exist. The FEIS makes no review of fish sampling and PCB testing done by the State of North Carolina and EPA. The fish were contaminated enough that the State issued a fish consumption advisory, but this information is not examined in the FEIS.

- **Public Ownership and Job Creation** - 37 comments were received (32 using form letter email) related to public versus private ownership of the dams and the impact on job creation.

(Form Letter Comments) - The FEIS does not look at all the alternatives. It looks at how the dams were allowed to be run before and how they will be allowed to be run in the future with Alcoa in charge as the sole alternative. The FEIS never looked at the benefits to the public of public ownership or a public /private partnership running the dams. Recent studies reported to the Uwharrie Regional Resources Commission show that jobs could be created by an alternative licensing arrangement, yet none was considered by the FEIS. Job creation is a key socioeconomic impact and must be considered in an FEIS.

- **Alcoa / APGI Environmental History** – Several comments received protested the relicensing to Alcoa based on its “past history of non-compliance”. Several commenters stated that Alcoa had not been a good steward of the river and its environment. One commenter questioned how the state could have a FEIS without considering the damage Alcoa has already done in the river. One commenter

recommended that the 401 Certification be approved because Alcoa has done everything asked of them.

- **Clearinghouse Comments** – Agency specific comments were received from the NC Division of Water Resources (DWR), NC Department of Transportation (DOT), and the NC Department of Public Safety (DPS). A summary of those comments is below.

DWR - To address the concerns about potential disruption of the municipal water supply and the potential flooding of municipal water supply facilities, we recommend that Alcoa Generating develop a sedimentation and flood protection plan for the Salisbury pump station. The plan would include (a) specific measures to ensure dredging of sufficient volume and frequency such that the city of Salisbury's water intake remains clear of sediments, (b) physical modifications to the facilities such as a protective dike for the pump station, improved access to the pump station with the road consistent with the city of Salisbury's design specifications, or other feasible options for achieving the same benefits (e.g. relocating the pump station or providing an alternative emergency water supply), (c) planning level capital and operation and maintenance cost estimates for all alternatives, and (d) a recommendation as to which alternative to implement. This plan is to be developed in consultation with the city of Salisbury, Rowan County, and North Carolina DWQ and filed with the Commission within 6 months of license issuance. The plan as described above should also include consultation with the NCDENR - Division of Water Resources — Public Water Supply Section — Mooresville Regional Office. The applicant should be advised that plans and specifications for all water system improvements must be approved by the Division of Water Resources / Public Water Supply Section prior to the award of a contract or the initiation of construction (as required by 15A NCAC 18C .0300et. seq.). Of course, this requirement will depend upon which alternative is selected.

DOT - The Transportation Planning Branch would like to make the North Carolina Department of Environment and Natural Resource aware of some project developments; that are listed in the Davidson County CTP, which may impact the study area: Minor Widening Project: • NC 8 -- It is recommended that NC 8 be widened from 2 to 3 -lanes from SR 1 115 (Wrenn Rd) to SR 2412 (Rotbrock Rd). This recommendation includes Transportation Improvement Program (TIP) Project R -2300 BA (SR It 15 to NC 49).

DPS - The North Carolina Floodplain Mapping Program (NCFMP) does not model the Alcoa Power Generating Hydroelectric Dams as providing base flood flow attenuation. If any of these lakes are to be operated for flood control, please coordinate with the NCFMP to assure the revised hydrology is appropriately modeled and mapped on future Flood Information Studies.

- **FEIS / NEPA Process** – Comments were received from Duke Law ELPC on behalf of the Yadkin Riverkeeper concerning perceived failures of the FEIS / NEPA process. Those comments are summarized below.
 - FEIS fails to meet criteria of NEPA.
 - NEPA relies on RSA. Federal agencies did not sign RSA.
 - FEIS did not take “hard look” required by NEPA.
 - The scoping document (SD) process was inadequate.
 - SD2 excludes from FEIS any mention of contamination at Badin Works.
 - FEIS fails to address social and economic impacts of the proposed action and any alternatives.
 - FEIS did not consider reasonable alternatives to the proposed action.
 - FERC staff discouraged public participation in the process forming the FEIS.

VI. Notice of Application Comments

A total of 79 comments were received in response to the public notice of application by Alcoa Power Generating, Inc. (APGI) for a 401 Water Quality Certification for the Yadkin Hydroelectric Project on November 28, 2012. This is in addition to 20 comments received prior to the public notice. Most of the comments were to request a public hearing and extension of the public comment period. The following is a summary by issue area of the comments received.

Extension of the public comment period – 64 comments were received requesting that the public comment period be extended. There was considerable confusion by the public after the notice was posted when later a request for additional information was sent to the applicant. Many believed that the public comment period was placed on hold while the application was on hold and therefore requested an extension of the public comment period. SELC/NCEJN requested an extension of the public comment period to comply with Title VI of the Civil Rights Act of 1964, (federal) Executive Order 12898 on Environmental Justice and the state of North Carolina’s Environmental Equity Initiative.

Public hearing – 59 comments were received requesting that the Division of Water Quality hold a public hearing on the application.

Land preservation – 20 comments were received (16 using a form postcard) requesting that NC DENR negotiate for more land to be preserved by the state of North Carolina.

Water quality and public welfare – 6 comments were received related to the quality of the Yadkin River and the health of the communities. Commenters asked that the long-term and far-reaching impact this action will have to be considered.

Favoritism for AGPI – 8 comments were received related to the state showing favoritism for APGI. Because of the confusion about the initial public comment period, commenters felt the state was showing favoritism towards APGI and excluding the public from effectively participating in the comment process.

Distrust of Alcoa/APGI – 6 comments were received related to a general distrust towards Alcoa. (see FEIS comments for further discussion)

No delay – 2 comments were received related to no longer delaying the process for APGI to receive a 401 water quality certification and FERC license.

Wildlife Resources Commission – requested that certain provisions from the 2007 Relicensing Settlement Agreement (RSA) be included as conditions of the 401:

- Article PO-1 – Reservoir Operations
- Article PO-2 – Project Instream Flows
- Article PO-3 – Flow and Reservoir Elevation Monitoring
- Article PO-4 – Low Inflow Protocol
- Article PO-5 – Hydro Project Maintenance and Emergency Protocol
- Article WQ-1 – Water Quality
- Article WQ-2 – Dissolved Oxygen Monitoring
- Article WQ-3 – Additional Dissolved Oxygen Enhancement Actions
- Article SMP-1 – Shoreline Management Plan

City of Salisbury – requested that the 401 be conditioned on the prompt implementation of the sedimentation and flood protection plans recommended as Environmental Measure 17 in the FEIS.

Duke Law ELPC submitted comments on behalf of the Yadkin Riverkeeper. Those comments are summarized below.

- The proposal continues to allow the operation of the project in violation of state water quality standards. The process for bringing a facility into compliance is a Special Order by Consent.
- While working on behalf of a regulated utility, the current Division Director advocated for changes to the hydropower relicensing and certification process that benefited the industry. This participation should preclude the Director from being in the decision-making chain as a conflict of interest.
- The 401 comment process is being rushed ahead of the SEPA comment process.
- The issues of fish consumption have not yet been studied or addressed. The environmental justice impacts of this decision on the community of West Badin have not been accorded due respect by DENR in any of its decisions to date.

SELC and the North Carolina Environmental Justice Network submitted a copy of the comments that were submitted to the Division of Waste Management in regards to the PCB capping project:

- The comment period should be extended to comply with Title VI of the Civil Rights Act of 1964.
- The comment period should be extended to comply with (federal) Executive Order 12898 on Environmental Justice.
- The comment period should be extended to observe the state of North Carolina's Environmental Equity Initiative.

VII. 15A NCAC 02H.0506 (b) 1-6 Recommendations

Based on the review of public comments, the 401 Certification Application, and the North Carolina General Statutes and Administrative Code, I offer the following comments and recommendations on the criteria for issuance of a 401 Certification pursuant to 15A NCAC 02H.0506.

(1) Has no practical alternative under the criteria outlined in Paragraph (f) of this Rule.

Paragraph (f) reads as follows: A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction in size, configuration or density of the proposed activity and all alternative designs the basic project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impact to surface waters or wetlands.)

Alcoa acquired the Yadkin Project in 1915, constructed the first dam in 1917, the second dam in 1919, the third dam in 1927 and the fourth dam in 1962. Alcoa received its original 50 year FERC license in 1958.

The RSA contains specific commitments by APGI for the installation of measures designed to enhance the Yadkin Project tailwater dissolved oxygen (DO) conditions. These improvements include: the addition of two aeration valves on each of the Narrows Units 1, 2, and 3; installation of a through the blade aerating turbine at High Rock Unit 1; installation of aeration valves or other appropriate technology, if needed, at Falls Units 1, 2, and 3 in accordance with the Falls Action Plan; and installation of aeration technology, if needed at Tuckertown, in accordance with the Tuckertown Action Plan.

In addition to the RSA commitments, APGI has also suggested several new or additional provisions regarding DO improvements for inclusion into a new 401 Certification. Included in Attachment B in APGI's April 1, 2013, response to DWQ's third Additional

Information Request (AIR) are suggested 401 Certification conditions relative to additional DO enhancement technology at all four powerhouses. These conditions include: through the turbine DO enhancement for all three units at High Rock; installation of draft tube aeration enhancement at Narrows Unit 3 (draft tube installation has already been completed at Narrows Units 1, 2, and 4); installation of a fixed cone (Howell-Bunger) valve at Tuckertown; installation of fixed cone valves on two of the three drain valves at High Rock; potential installation of a third fixed cone valve at High Rock; potential installation of a fixed cone valve or other technology at Narrows; potential installation of additional DO enhancements at Tuckertown and Falls if the Tuckertown and Falls Action Plans indicate that the instantaneous or average DO levels do not meet or exceed the applicable water quality standards.

RECOMMENDATION:

Due to the fact that all four facilities exist and are currently operating, it would not be practical or cost effective to reduce the size of the four facilities. Narrows has been in operation for 96 years, Falls for 94 years, High Rock for 84 years and Tuckertown for 51 years. APGI has and is continuing to make improvements to the design of the units to reduce the overall impact of the facilities on surface waters. The incorporation of RSA commitments and APGI's proposed conditions into the 401 Certification relative to DO enhancement technologies along with a reopener clause and the requirement for a surety bond to insure that necessary improvement to tailwater DO are implemented should be sufficient to insure water quality standards are met.

- (2) Will minimize adverse impacts to the surface waters based on consideration of existing topography, vegetation, fish and wildlife resources, and hydrological conditions under the criteria outlined in Paragraph (g) of this Rule.**

Paragraph (g) reads as follows: Minimization of impacts may be demonstrated by showing that the surface waters or wetlands are able to continue to support the existing uses after project completion, or that the impacts are required due to:

- (1) The spatial and dimensional requirements of the project; or**
- (2) The location of any existing structural or natural features that may dictate the placement or configuration of the proposed project; or**
- (3) The purpose of the project and how the purpose relates to placement, configuration or density.**

The project is completed and portions of the project have been in operation for 96 years. APGI's 2012 Yadkin Project Tailwaters Dissolved Oxygen Report (March 2013) indicates tailwater DO during May through November 2012 met the instantaneous minimum standard of 4mg/l 97.0% of the time at Falls, 99.9% at Narrows, 51.6% at Tuckertown and 60.0 % at High Rock. The daily average minimum standard was met

88.8 % of the time at Falls, 99.5% at Narrows, 33.7% at Tuckertown and 40.7 % at High Rock.

In order to minimize the impacts associated with low tailwater DO, APGI has initiated installation of additional DO enhancement technology at Narrows. Beginning in 2001, three of the four turbines (Turbines 1, 2 and 4) at Narrows have been fitted with draft tube air valves in addition to the existing vacuum breaker air valves. APGI has also proposed to begin the process for federal approval of the installation of draft tube air valves at Narrows Unit 3 within 30 days of receiving the final FERC License for the Yadkin Project. Additional DO enhancement upgrades proposed by APGI and the proposed timelines for these upgrades are listed in the following table provided by APGI. This table also includes estimated costs of the upgrades and DO monitoring that were provided as suggestions by APGI for surety bond amounts.

Assumes FERC license 1/1/2014 - cost in \$ millions

DO Action - Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
DO Monitoring and Annual Report Generation	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Narrows Unit 3 - Draft Tubes	2.50									
High Rock 1 - Aerating Turbine		26.80								
High Rock 2&3 - Aerating Turbines				13.40						
High Rock Cone Valves (CV)*	1.00	DO Sampling		DO Sampling						
DO Monitor HR	0.04									
Tuckertown CV*			0.75							
DO Monitor TT					0.04					
DO Monitor Falls				0.04						
Yearly Total	3.84	27.10	1.05	13.74	0.34	0.30	0.30	0.30	0.30	0.30



- Equipment that should result in compliance and subject to bonding
- Monitoring cost subject to bonding
- * -Two CV's for immediate improvement until turbines installed

Total Possible Cost = \$47.57
 Equipment Bond = \$44.57
 Monitoring Bond = \$3.00
 Total Bond = \$47.57

RECOMMENDATION:

Currently the project is not meeting the instantaneous or average minimum DO standards during all times of the year or during all periods of operation. APGI has already implemented DO enhancement upgrades at Narrows which has shown to provide significant increases in tailwater DO of the upgraded units and significant increases overall for Narrows. Additional DO enhancement equipment is currently proposed at Narrows Unit 3. Upgrades are proposed for all three turbines at High Rock as well as installation of two cone valves. A third cone valve will be installed at High Rock if needed. Installation of one cone valve is proposed for Tuckertown, with additional measures to be taken if needed. The need for equipment to enhance DO at

Falls will be evaluated based on monitoring results following scheduled upgrades at the three upstream dams. APGI has upgraded the DO monitor at Narrows and is proposing to upgrade the existing monitors at High Rock, Tukertown and Falls to the same “real-time” technology. Data from these monitors will be used to better coordinate and optimize DO technologies to meet Water Quality Standards in the future.

It is recommended that APGI continue to demonstrate, through monitoring, the status of tailwater DO in the Yadkin Project and to continue the DO enhancement upgrade process following FERC approval. Should monitoring indicate that installed DO technology upgrades are not sufficient to meet DO standards at all times of the year and under all operating conditions, APGI must continue to make improvements to the units until DO standards are met. The 401 Certification for the project should include conditions for the requirement of a surety bond or other similar instrument to insure the timely completion of proposed upgrades and continuation of monitoring should APGI’s financial position affect their ability to complete the improvements. The 401 Certification should also contain a continuing compliance condition, similar to Condition #4 in the May 7, 2009 Certification, to guarantee that the state has the ability to modify the Certification when necessary to assure compliance with the standards.

(3) Does not result in the degradation of groundwaters or surface waters.

Surface Waters - Currently the project is not meeting the instantaneous or average minimum DO standards during all times of the year or during all periods of operation. APGI has already implemented DO enhancement upgrades at Narrows which has been shown to provide significant increase in tailwater DO of the upgraded units and significant increases overall for Narrows. Additional DO enhancement is currently proposed at High Rock, Narrows Unit 3, as well as Tuckertown and Falls if needed.

Groundwaters - The current project, as defined by FERC, is the relicensing of the four hydroelectric developments in the APGI Yadkin Project. Contamination associated with the Badin Works site should only be considered as it relates to the operation of the dams and associated powerhouses. However, NC DWM is continuing to work with Alcoa to evaluate site contamination at Badin Works and to implement corrective action measures. In January 2013, Alcoa submitted Phase 4 (Corrective Measures Alternatives) and Phase 5 (Justification and Recommendation of the Selected Corrective Measures Alternative) in accordance with their RCRA Part B Permit, dated March 4, 2006. It is important to note that PCBs were not identified as a contaminant of concern in the 2012 Phase 3 Engineering Data Collection for the Corrective Measures Study. For addressing groundwater at the Alcoa/Badin Landfill and the Old Brick Landfill, Alcoa has proposed to implement monitoring with institutional controls as the selected corrective measure. For groundwater at the main plant, risk-based assessment was selected as the preferred alternative.

RECOMMENDATION:

None.

Continued operation of the Yadkin Project is not expected to result in degradation of surface or groundwaters. DO upgrades at Narrows have shown a significant increase in tailwater DO and it is expected, as other upgrades are installed at the four powerhouses that continued improvement in tailwater DO will be realized. Corrective measures for groundwater contamination at the Badin Works site are being addressed in the RCRA Permit. Because the Badin Works site is not within the scope of the Project, as defined by FERC, Alcoa's past history and contamination associated with the Badin Works site should only be considered as it relates to the operation of the dams and associated powerhouses.

- (4) Does not result in cumulative impacts, based upon past or reasonably anticipated future impacts, that cause or will cause a violation of downstream water quality standards.**

The only impacts associated with continued operation of the Yadkin Project identified thus far are low DO levels in the tailwaters of the four power plants. There is no evidence that suggests that past impacts from PCBs and other contamination associated with Badin Works or that existing PCB contamination in fish tissue is being increased or further transported by operation of the dams and associated powerhouses.

RECOMMENDATION:

The 401 Certification should be conditioned to require yearly monitoring of the discharges from the four lakes for priority pollutants and yearly monitoring of lake sediment in transects from the Badin Works site to the discharge at Narrows Dam for heavy metals, PCBs and PAHs that are present in the cove adjacent to the Badin Works site. If movement of the pollutants is detected or if pollutants of concern are detected in the lake discharges, APGI should submit a plan for DWQ approval to stop the movement of pollutants and/or eliminate the discharge of pollutants from the lakes.

- (5) Provides protection for downstream water quality standards through the use of on-site stormwater control measures.**

Existing impervious areas associated with the Yadkin Project include portions of the dams, powerhouses and parking areas. There is currently no proposal from APGI to expand to these areas.

RECOMMENDATION:

None.

Due to the fact that that all impervious areas of the project are existing, and considering the Yadkin Project has a 4,400 square mile watershed and a 23,000 acre lake area, impacts from stormwater runoff from the existing facilities are minimal. Should APGI propose to increase the size of impervious surfaces in the future, provisions for management of additional stormwater runoff could be included in the revised Shoreline Management Plan or in the NPDES Permits for each powerhouse. Falls and High Rock NPDES Permits currently have conditions and limits for stormwater discharges associated with secondary containment area for transformers.

(6) Provides for replacement of existing uses through mitigation.

The RSA specifies APGI's obligations to various stakeholders for the protection, mitigation, and enhancement of ecological, environmental, recreational and cultural resources affected by the project. These obligations include:

- Flow adjustment for enhancement of downstream spawning
- Low Inflow Protocol including continued funding of USGS gauges
- A tailwater dissolved oxygen enhancement schedule and operation plan
- Dissolved oxygen monitoring
- Recreation facility improvements
- Modifications to existing shoreline management plan
- Rare, threatened, endangered and invasive species monitoring
- Land donation
- Higher water levels and extended recreation season at High Rock Lake
- Increase water withdrawals for the City of Albemarle

RECOMMENDATION:

The 401 Certification process is only to certify compliance with state water quality standards. Many of the mitigative and conservation measures outlined in the RSA, such as land donation, are not related to water quality standard impacts and therefore should not be considered in the 401 Certification decision making process. Some mitigative measures such as shoreline management, water level control and low inflow protocol do have indirect relationships to best usage of the surface waters. Obligations in the RSA related to DO enhancement and DO monitoring are directly related to water quality standards and best usage and should therefore be considered in the 401 Certification process. Because the RSA is a comprehensive document incorporating many different types of mitigative measures, it seems prudent to incorporate the entire

RSA and the commitments contained therein into the 401 Certification where not in conflict with other conditions of the Certification.

In order to protect the City of Salisbury's raw water intake from siltation and/or flooding, it is recommended that the Division of Water Resources' comments on the FERC FEIS be incorporated into the 401 Certification as a mitigative measure to protect the use of these waters as a water supply.

VIII. Summary

Public comments concerning the 401 Certification Application and the FERC FEIS Public Notice focused on several major issue areas including dissolved oxygen, PCB contamination, Alcoa's environmental history, property ownership, environmental justice, the NEPA process, and protection of the public water supply and wastewater facilities for the Town of Salisbury. Due to the number of public comments and the fact that most comments were received as a form letter email, I have not addressed each comment individually. Comments that have direct relevance on the 401 Certification decision making process have been addressed in the recommendations in Section VII. Other comments by issue area are discussed briefly below.

Alcoa's environmental history, primarily as it relates to past activities at the Badin Works site, has been suggested as a reason to deny the 401 Certification. The 401 Certification process should be limited to an assessment of the impacts that the proposed project will have on water quality. The current project, as proposed, is the relicensing of the four hydroelectric developments in the APGI Yadkin Project. Alcoa's past history and contamination associated with the Badin Works site should only be considered as it relates to the operation of the dams and associated powerhouses. After reviewing available data, the North Carolina Division of Public Health has stated that there is not enough evidence to directly link PCBs found in fish of Badin Lake or in blood samples of persons eating fish from Badin Lake, to identify Alcoa as the only possible source of PCBs. PCBs associated with Badin Works are the same as those generally found throughout the US. *[DPH Opinion Paper, 7/2010, rev 6/2012]*. A sediment capping project was completed in "the Cove" of Badin Lake in January of 2013. This was part of an administrative agreement with Alcoa and DENR. DWM approved the remediation project in Sept of 2012 as part of ongoing efforts to stabilize PCB contaminated sediments in the area and to keep aquatic life from continuing to come into contact with the areas of known contamination. DWM believes that PCBs entered the lake via two stormwater outfalls that drained areas that were historically used for equipment storage that leaked and spilled over the years. Areas on the site that were likely sources of PCB contamination have been remediated. The 401 Certification process is limited in scope to evaluating whether operation of the dams will result in compliance with NC water quality standards. The purpose of the Certification is not to determine the source of existing PCBs in the Yadkin River System, or to implement additional cleanup of the Badin Works site, which is currently being overseen by the NC Division of Waste Management.

Comments received stated that APGI's application for certification does not meet the requirements of DWQ's rules because APGI has not obtained permission to use the property from its owner, the State of North Carolina. The comments are premised on the contention that DWQ is required to resolve submerged land issues before it can consider the application complete. Submerged land issues are outside the scope of the 401 Certification process, and a resolution of those issues is not required for the application to be considered sufficient under DWQ rules. 15A NCAC 02H.0502(f) states: "The application shall be considered a 'valid application' only if the application bears the signature of a responsible officer of the company, municipal official, partner or owner. The signature certifies that the applicant has title to the property, has been authorized by the owner to apply for certification or is a public entity and has the power of eminent domain." Consistent with its review of other applications for 401 Certification in connection with the licensing of FERC projects, DWQ deemed APGI's application sufficient for purposes of Rule .0502(f) based on APGI's representation that it owns the powerhouses and dams. APGI reiterated its claim of ownership in a letter, dated July 3, 2013, stating that "APGI owns the facilities from which the discharges originate, which are the Yadkin Project's four hydroelectric dams." As stated previously, DWQ's 401 certification process focuses on the project's impact on water quality. DWQ is making no determination of the ownership of submerged lands.

Comments were received from SELC on behalf of the North Carolina Environmental Justice Network, as well as from Clean Water for North Carolina concerning the contamination at the Badin Works site, the Corrective Measures Study for the site, and contamination in fish tissue in the waters near the West Badin area and the disproportionate risk of exposure to low income populations and people of color in the area. While DWQ is very concerned about any project that has a disproportionate impact on lower income communities and/or communities of color, the issues discussed in the comments do not appear to have a direct relationship to the continued operation of the dams and associated powerhouses, which is the limit of the proposed project being reviewed under the 401 Certification. As previously stated, I found no evidence in the record to indicate that the operation of the dams is contributing to downstream migration of contaminated sediments from the Badin Works site. I also found no evidence in the record that the operation of the dams is contributing to contamination in fish tissue.

Many comments were received on the inadequacy of the FEIS to meet the criteria of NEPA and to address the contamination from the Badin Works site. The FEIS for the Yadkin Project and the Yadkin-Pee Dee River Project was prepared by staff of the Federal Energy Regulatory Commission (FERC). Questions concerning the adequacy of the environmental document should be addressed to the agency that prepared the document (FERC) or the federal agency that oversees the NEPA process (The Council on Environmental Quality). While DWQ uses the FEIS and the comments received through the State Clearinghouse and Public Notice as an information source in the 401 Certification review process, it is not relied upon as the only source to determine potential environmental impacts of the project. Numerous studies have been conducted by multiple agencies to assess the presence of pollutants at the Badin Works site (which is not within the scope of this review) and the movement of those pollutants into

the Yadkin River. DWQ will consider the entire record for the project, including all available studies, in making the decision on the 401 Certification.

Several comments expressed concern about the fact that no PCB advisory has been issued as a result of the 2012 studies. In September 2012, NC DENR staff collected sediment samples from 10 locations in Falls Reservoir that were likely to have human contact such as fishing areas and boat ramps. None of the samples detected PCBs. DPH concluded that no adverse health effects were likely from direct contact or incidental ingestion of Falls Reservoir sediments. *[DPH Report, Falls Fish Tissue, May 2013]*. Fish tissue samples were also collected along the full reach of Falls Reservoir, between Narrows Dam (upstream) and Falls Dam (downstream). Three samples (all bottom feeders/catfish) had PCBs above DPH's action level. DPH recommends that for catfish >18" in length, consumption should be limited to one meal per week. Since the existing statewide mercury advisory is more restrictive for catfish than the Falls Reservoir recommendation, DPH has elected not to issue a separate fish consumption advisory for PCBs in Falls Reservoir. *[DPH Report, Falls Fish Tissue, May 2013]*.

Based on the comments received at the public hearing, the comments received during the three comment periods, the review of the record for the project, the site visit, and discussions with other DWQ staff, I recommend that the 401 Certification be issued and subject to the conditions included in my recommendations in Section VII. It is also recommended that the Division include any additional conditions necessary to insure that the project will meet water quality standards.

IX. Attachments

- I. September 28, 2012 401 Water Quality Certification Application
- II. APGI Relicensing Settlement Agreement and Stanly County Settlement Agreement
- III. Notice of Application on November 28, 2012
- IV. Written comments received during notice of application (on CD)
- V. Written comments received through the State Clearinghouse on the FEIS (on CD)
- VI. Notice of Public Hearing, April 4, 2013
- VII. Non-speaker sign-in sheets
- VIII. Speaker sign-in sheets
- IX. Public Hearing transcript, including oral comments
- X. Documentation received during public hearing (on CD)
- XI. Written comments received post hearing till close of record (on CD)
- XII. Written comment received after the close of record (on CD)

ATTACHMENT D



North Carolina Department of Environment and Natural Resources

Division of Water Quality

Pat McCrory
Governor

Thomas A. Reeder
Acting Director

John E. Skvarla, III
Secretary

DATE

DWQ # 12-0900

Davidson, Davie, Montgomery,
Rowan and Stanly Counties

CERTIFIED MAIL: XXXX XXXX XXXX XXXX XXXX
RETURN RECEIPT REQUESTED

Mr. E. Ray Barham
Alcoa Power Generating, Inc. (APGI)
293 Highway 740
Badin, NC 28009

DRAFT

**Subject: DRAFT APPROVAL OF INDIVIDUAL 401 WATER QUALITY CERTIFICATION WITH
ADDITIONAL CONDITIONS**
Yadkin Hydroelectric Project FERC P-2197

Dear Mr. Barham:

Attached hereto is a copy of Certification No. XXXX issued to Alcoa Power Generating, Inc., dated XXXX. Please note that you should get any other required federal, state or local permits before proceeding with your project.

This Certification can be contested as provided in Articles 3 and 4 of General Statute 150B by filing a written petition for an administrative hearing to the Office of Administrative Hearings (hereby known as OAH) **within sixty (60) calendar days**.

A petition form may be obtained from the OAH at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000 for information. A petition is considered filed when the original and one (1) copy along with any applicable OAH filing fee is received in the OAH during normal office hours (Monday through Friday between 8:00am and 5:00pm, excluding official state holidays).

The petition may be faxed to the OAH at (919) 431-3100, provided the original and one copy of the petition along with any applicable OAH filing fee is received by the OAH within five (5) business days following the faxed transmission.

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Mailing address for the OAH:

If sending via US Postal Service:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714

If sending via delivery service (UPS, FedEx, etc):

Office of Administrative Hearings
1711 New Hope Church Road
Raleigh, NC 27609-6285

One (1) copy of the petition must also be served to DENR:

Lacy Presnell, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

Unless such a petition is filed, this Certification shall be final and binding.

This completes the review of the Division under section 401 of the Clean Water Act and 15A NCAC 02H .0500. Contact Karen Higgins at 919-807-6360 or karen.higgins@ncdenr.gov if you have any questions or concerns.

Sincerely,

DRAFT

Thomas A. Reeder

TAR/kah

cc: Secretary Kimberly D. Bose, Federal Energy Regulatory Commission, 888 First Street NE, Washington, D.C. 20426
Todd Bowers, EPA, Sam Nunn Federal Center, 61 Forsyth Street SW, Atlanta, GA 30303
Mike Parker, DWQ Mooresville Regional Office Supervisor
Corey Basinger, DWQ Winston-Salem Regional Office Supervisor
Belinda Henson, DWQ Fayetteville Regional Office Supervisor
Ian McMillan, Division of Water Resources (via email)
Chris Goudreau, North Carolina Wildlife Resources Commission (via email)
Rob McDaniel, Division of Waste Management (via email)
Sandy Mort, DHHS (via email)
James D. Behmer, Salisbury-Rowan Utilities, PO Box 479, Salisbury, NC 28145
DWQ Webscape Unit

File name: 120900YadkinProjectFERC2197(Davidson DavieMontgomeryRowanStanly)_401_IC

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NORTH CAROLINA 401 WATER QUALITY CERTIFICATION

CERTIFICATION #XXXX is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to North Carolina's Regulations in 15 NCAC 02H .0500, to Alcoa Power Generating, Inc. (APGI) to continue the operation of hydropower dams at High Rock, Tuckertown, Narrows (Badin) and Falls Reservoirs in the Yadkin Project on the Yadkin River in Davidson, Davie, Montgomery, Rowan and Stanly Counties in North Carolina, as described within the application received by the N.C. Division of Water Quality (Division) on September 28, 2012, the Relicensing Settlement Agreement (RSA) dated February 2007, subsequent information received on October 17, 2012, January 7, 2013, January 22, 2013, February 1, 2013, February 7, 2013, March 18, 2013, April 1, 2013, June 11, 2013, June 20, 2013, July 2, 2013 and July 3, 2013, and by Public Notice issued by the Division on November 28, 2012 and April 4, 2013.

The application and supporting documentation provides adequate assurance that the proposed work will not result in a violation of Water Quality Standards. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of the Public Laws 92-500 and PL 95-217 if conducted in accordance with the application, the supporting documentation, and conditions hereinafter set forth.

The following definitions are used in this Certification:

- A. **"Daily Average Dissolved Oxygen Water Quality Standard" or "Daily Average Standard" or "Daily Average DO"** means the standard set forth in 15A NCAC 02B .0211 (3)(b). The continuous dissolved oxygen (DO) monitoring data collected for this Certification at 15 minute intervals shall be averaged every 24 hours in order to calculate the daily average. The Daily Average Standard must be met as measured at the DO monitors placed in the tailraces below the dams regardless of whether or not the generators are operating.
- B. **"Dams"** mean and include the four dams at the Yadkin Project, specifically High Rock dam, Tuckertown dam, Narrows (aka Badin) dam, and Falls dam.
- C. **"Date that APGI receives the Final FERC License"** is the date on which the New License becomes final and non-appealable.
- D. **"Division"** means the Division of Water Quality or its successor.
- E. **"DO" or "Dissolved Oxygen"** means the concentration of oxygen that has been dissolved or otherwise introduced into water.
- F. **"Final and non-appealable"** means either (1) the thirty-first day after the date FERC issues an order setting forth the New License for the Yadkin Project if no Party seeks rehearing of such order; or (2) if any Party seeks rehearing of such an order, the earliest date upon which no further court appeal of a FERC order issuing a New License for the Yadkin Project, including a Petition for Writ of Certiorari to the Supreme Court of the United States, or

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action by a court or by FERC with respect to such appeal, is possible.

- G. **"Final FERC License"** or **"New License"** means a new long-term license granted by FERC for the Yadkin Project that is final and non-appealable.
- H. **"Full DO Season"** means May 1 of each year through November 30 of each year.
- I. **"Minimum Instantaneous Dissolved Oxygen Water Quality Standard"** or **"Instantaneous Standard"** or **"Instantaneous DO"** means the standard set forth in 15A NCAC 02B .0211 (3)(b). The Instantaneous Standard must be met 24 hours a day, seven days a week, as measured at the DO monitors placed in the tailraces below the dams regardless of whether or not the generators are operating and whether or not the DO enhancement equipment is operating.
- J. **"Project"** or **"Yadkin Project"** or **"APGI Project"** means the hydroelectric project on the Yadkin River in North Carolina operated by APGI pursuant to FERC license 2197.
- K. **"Tailrace"** means the free-flowing section of the Yadkin River downstream from each dam. The length of this section of the river is no less than the length of the river from the dam to the dissolved oxygen monitor located below each dam.

This approval requires APGI to follow the conditions listed in the Certification below.

Conditions of Certification:

1. Sediment and Erosion Control for any project-related construction
During any project-related construction, erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices and if applicable, comply with the specific conditions and requirements of the NPDES Construction Stormwater Permit issued to the site:
 - A. Design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - B. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - C. Reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

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- D. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.
2. No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control Best Management Practices shall be performed so that no violations of state water quality standards, statutes, or rules occur.
 3. Sediment and erosion control measures shall not be placed in wetlands or waters. Exceptions to this condition require application submittal to and written approval by the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, then design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands, stream beds, or banks, adjacent to or upstream and downstream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Energy, Mineral and Land Resources (DEMLR) or locally delegated program has released the specific area within the project.
 4. This approval is for the purpose and design described in your application and as described in the Public Notice. The plans and specifications for this project are incorporated by reference and are an enforceable part of the Certification. If you change your project, you must notify the Division and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. Any new owner must notify the Division and request the Certification be issued in their name.
 5. This Certification grants permission to the Director, an authorized representative of the Director, or DENR staff, upon the presentation of proper credentials, to enter the property during normal business hours.
 6. This Certification does not grant or affirm any property right, license, or privilege in any waters or any right of use in any waters. This Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and this Certification does not create any prescriptive right or any right of priority regarding any usage of water. No person shall interpose this Certification as a defense in any action respecting the determination of riparian or littoral rights or other water use rights. No consumptive user is deemed by virtue of this Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded. This Certification is issued with the express understanding of the NC Department of Environment and Natural Resources (NCDENR) that pursuant to the Federal Power Act Section 27, 16 U.S.C. § 821, the License does not establish or determine a proprietary right to any use of

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water. It establishes the nature of the use to which a proprietary right may be put under the Federal Power Act. This Certification shall not be construed as addressing or making a determination with respect to title or ownership of submerged lands beneath navigable waters or public trust property. Disputes and claims involving ownership of submerged lands and public trust property are outside the scope of the 401 water quality certification and must be resolved by parties with competing claims or an appropriate court.

7. Continuing Compliance

Alcoa Power Generating, Inc. (APGI) shall conduct project operations and any construction activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with Section 303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the Division determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the Division may reevaluate and modify this Certification in accordance with 15A NCAC 02H .0507(d). Before modifying the Certification, the Division shall notify Alcoa Power Generating, Inc. (APGI) and the Federal Energy Regulatory Commission (FERC), provide public notice in accordance with 15A NCAC 02H .0503 and provide the opportunity for a public hearing in accordance with 15A NCAC 02H .0504. Any new or revised conditions shall be provided to Alcoa Power Generating, Inc. (APGI) in writing, shall be provided to the FERC for reference in any permit or license issued by that agency, and shall also become conditions of the FERC License for the project. In addition, if the DO enhancement upgrades as outlined in Condition #12 of this Certification do not result in compliance with the water quality standards for DO or temperature, then this condition shall be triggered to result in requirements for additional measures to meet these standards.

8. Sediment Removal at City of Salisbury Water Supply Intake

APGI shall allow access to and provide for dredging operations to remove sand and other debris that may accumulate at the City of Salisbury's water supply intake in order to manage the accumulation of sand and other debris to maintain the intake in operable condition. If this condition conflicts with any existing arrangements between APGI and other parties, then additional written approval is required from the Division to resolve the conflict.

9. Sedimentation and Flood Plan

APGI shall develop a sedimentation and flood protection plan that includes:

- A. Specific measures to ensure dredging of sufficient volume and frequency such that the City of Salisbury's water intake remains clear of sediments,
- B. Physical modifications to the facilities such as a protective dike for the pump station, improved access to the pump station with the road consistent with the City of

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Salisbury's design or other feasible option(s) for achieving the same benefits,

- C. Planning level capital and operation and maintenance cost estimates for each alternative, and
- D. A recommendation as to which alternative to implement.
- E. An implementation schedule.

This plan shall be developed in consultation with the City of Salisbury, Rowan County, NC Division of Water Quality and the NC Division of Water Resources – Public Water Supply Section – Mooresville Regional Office.

10. Additional Monitoring

- A. The Fish Sampling Work Plan for Narrows Reservoir dated December 14, 2007 as prepared by URS Corporation shall be conducted by APGI. The Division shall approve the timing of this sampling.
- B. APGI shall provide yearly monitoring of the discharges from the four lakes for pollutants to include heavy metals and organic pollutants, including volatile organic compounds, acid-extractable compounds, base-neutral compounds, and PCBs using a priority pollutant scan analyzed in accordance with 40 CFR Part 136. Test results shall be reported to Division within 90 calendar days of sampling using a form approved by the Division. This monitoring shall be done annually for a minimum of five years. At the end of five years, APGI may submit a request to the Division for approval to modify the monitoring requirements. If monitoring shows levels of contaminants that violate water quality standards, then APGI shall develop a plan that proposes measures for ensuring compliance with water quality standards. APGI shall submit a plan for the Division's approval within six (6) months of notification by the Division that monitoring showed levels of contaminants that violate water quality standards. Sensitivity levels for these analyses must be at least those used by the Division's Central Laboratory.
- C. APGI shall provide yearly monitoring for lake sediment in a series of transects from the Alcoa Badin Works Plant site to the Narrows dam for those heavy metals and compounds including PCBs and PAHs that are present in the sediment in the swimming area as reported in the Badin Lake Swim/Picnic Area and Badin Boat Access Sediment Assessment, Stanly County. The Division must provide written approval for this study plan. This monitoring shall be done annually for at least five years. At the end of the five years, APGI may submit a request to the Division for approval to modify the monitoring requirements. If movement of contaminated sediment is detected, then APGI shall develop a plan that proposes measures for stopping contaminated sediment transport. APGI shall submit a plan for the Division's approval within six (6) months of notification by the Division that movement of contaminated sediment was detected. Sensitivity levels for these analyses must be at least those used by the Division's Central Laboratory.

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11. Financial Assurance

- A. Within thirty (30) calendar days of the issuance of this Certification, APGI shall provide draft language for two surety bonds; one to cover the construction of the planned improvements and upgrades that are required by this Certification (Surety Bond) and one to cover the ongoing monitoring of the Project as required by this Certification (Monitoring Bond).
- B. The "Surety Bond" and "Monitoring Bond" shall be from a surety company that is rated no less than "A-" as rated by A.M. Best and shall be issued in favor of the state of North Carolina. The financial assurance provided must be continuous in nature and must bind APGI as well as its successors-in-interest.
- C. The amount of initial coverage provided by a "Surety Bond" shall be at least 100% of the estimated cost of completing the planned Project upgrades required by this Certification, but not less than \$44,570,000.00.
- D. The amount of initial coverage provided by a "Monitoring Bond" shall be at least 100% of the estimated cost to provide monitoring of the Project as required by this Certification, but not less than \$3,000,000.00.
- E. Within sixty (60) calendar days of the final non-appealable FERC License, APGI shall secure the "Surety Bond" and "Monitoring Bond" and shall provide documentation to the Division.
- F. A "Surety Bond" shall be maintained until all of the improvements and upgrades required by this Certification have been completed. The amount of the "Surety Bond" may be decreased upon written approval from the Division as upgrades required by this Certification are completed. The amount of the "Surety Bond" may be increased if additional work is required in order to bring the Project into compliance with North Carolina water quality standards.
- G. A "Monitoring Bond" shall be issued in the form of an annual bond renewable each year for a minimum of ten (10) years. The "Monitoring Bond" shall be extended annually by the surety via a Continuation Certificate. The amount of the "Monitoring Bond" may be decreased upon written approval from the Division as each year of monitoring as required by this Certification is completed. If the Project is not in compliance with the water quality standards at the end of the initial 10-year period, then the Division may require APGI to continue to provide a "Monitoring Bond." If the Division determines that the "Monitoring Bond" is no longer required, then the Division will provide written notification to APGI.
- H. The financial assurance must contain a provision requiring the surety company to notify the Division and APGI at least ninety (90) calendar days before canceling the "Surety Bond" or "Monitoring Bond." APGI must provide a substitute or replacement bond that meets the requirements of this Condition (#11) within ninety (90) calendar days of the surety company's notice of intent to cancel the bond. The substitute or replacement

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bond must be in place before the original “Surety Bond” or “Monitoring Bond” is cancelled. If APGI does not provide a substitute or replacement bond before the original “Surety Bond” or “Monitoring Bond” is cancelled, then the Division shall take appropriate action to require APGI to substitute or replace the bond, including filing a civil action for injunctive relief, assessing civil penalties, or both, for the failure to comply with this condition of this Certification.

12. Dissolved Oxygen Enhancements and Monitoring

- A. **FERC Approval.** FERC approval is required before APGI may begin installation or construction of any of the DO enhancements at the Project requiring capital expenditures, and FERC also retains authority regarding operational changes that may affect DO. APGI will file appropriate documentation with FERC requesting FERC's approval of such capital enhancements, when appropriate, including a request for FERC approval for the upgrades to the three generating units at High Rock. Unless and until all necessary FERC and other governmental approvals are received, work on capital DO enhancement technologies cannot proceed. All deadline dates are contingent upon receipt of FERC approval, which APGI will seek on a timely basis.
- B. **Installation of Upgrades to Generators at High Rock and Narrows**
 - i. **High Rock.** Install the through- the-turbine DO enhancement technology for all three generating units at the High Rock powerhouse on the following expedited basis.
 - a. Within thirty (30) calendar days after APGI receives the Final FERC License for the Project, APGI will commence the design engineering process for the upgrade and request FERC approval of the design engineering and casting for the upgrade.
 - b. Within sixty (60) calendar days after APGI receives the Final FERC License, APGI will request FERC approval for the High Rock Unit upgrades, provided such request is determined to be necessary.
 - c. Within one hundred eighty (180) calendar days after APGI receives the Final FERC License, APGI will sign all necessary contracts for engineering work.
 - d. Within eighteen (18) months after APGI receives an order from FERC approving this work, APGI will begin the upgrade process on the first of the three units at High Rock.
 - e. Within twenty-four (24) months after APGI receives an order from FERC approving this work, APGI will complete the upgrade for DO enhancement to the first of the three units at High Rock.
 - f. Within twenty-four (24) months after APGI receives an order from FERC approving this work, APGI will begin the upgrade process on the second unit at High Rock.
 - g. Within thirty (30) months after APGI receives an order from FERC approving this work, APGI will complete the upgrade for DO enhancement to the second of the

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three units at High Rock.

- h. Within thirty (30) months after APGI receives an order from FERC approving this work, APGI will begin the upgrade process on the third unit at High Rock.
- i. Within thirty-six (36) months after APGI receives an order from FERC approving this work, APGI will complete the upgrade for DO enhancement to the third of the three units at High Rock.
- ii. **Narrows Unit 3.** Install the draft tube DO enhancement technology specified in this Certification for Narrows Unit 3 on the following expedited basis.
 - a. Within thirty (30) calendar days after APGI receives the Final FERC License, APGI will commence the engineering process for the upgrade.
 - b. Within sixty (60) calendar days after APGI receives the Final FERC License, APGI will request FERC approval for the Narrows Unit 3 upgrades, provided such request is determined to be necessary.
 - c. Within ninety (90) calendar days after APGI receives the Final FERC License, APGI will sign all necessary contracts for engineering work.
 - d. Within sixty (60) calendar days of receiving an order from FERC approving this work, APGI will begin installation of the DO enhancement equipment.
 - e. Within one (1) year of receiving an order from FERC approving this work, APGI will complete the installation of the Unit 3 DO enhancement upgrade.
- iii. **Operation of High Rock and Narrows Generator DO Enhancement Technologies.** As DO enhancement equipment or measures are installed or implemented on the schedule described in this Certification, APGI shall operate the generating units with DO enhancement equipment added on a "first-on-last-off" basis, subject to unit availability, from May 1 of each year through November 30 of each year. If DO enhancement equipment or measures are not associated with generating equipment, once completed, that equipment or those measures shall be operated or implemented as designed from May 1 of each year through November 30 of each year.

C. Installation of Fixed Cone Valves at High Rock, Tuckertown, and Narrows Dams

- i. **High Rock.** Fixed cone (Howell-Bunger) valve DO enhancement technology will be used to improve DO in the tail waters at High Rock.
 - a. **Install two (2) fixed cone valves.** APGI will install two (2) fixed cone valves on two (2) of the three (3) drain valves at High Rock dam on the following expedited schedule.
 - 1. Within thirty (30) calendar days after APGI receives the Final FERC License, APGI will initiate the additional engineering process for the installation of the fixed cone valves.

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2. Within sixty (60) calendar days after APGI receives the Final FERC License, APGI will sign all necessary contracts for additional engineering work.
 3. Within one hundred fifty (150) calendar days after APGI receives the Final FERC License, APGI will provide proposed engineering plans and specifications for the fixed cone valves to the Division. At the same time, APGI will submit plans and any other required documents to FERC for approval of the installation of the fixed cone valves.
 4. Within ninety (90) calendar days of receiving FERC approval of the installation of the fixed cone valves, APGI will commence installation of the cone valves at High Rock.
 5. Within one hundred eighty (180) calendar days of receiving FERC approval of the installation of the fixed cone valves, APGI will complete installation of the fixed cone valves.
- b. **Operation.** As soon as practicable after the "real-time" DO data monitoring system (see "12-G" below) for the High Rock tailwaters is fully operational, APGI will use those data to adjust operation of the fixed cone valve(s) to improve DO in the High Rock tailwaters in advance of completion of the High Rock turbine upgrades.
 - c. **Evaluation.** APGI will provide DO data to the Division on a quarterly basis. The data will be screened and reviewed in accordance with APGI's QA/QC procedures approved by the Division. Each quarter's DO data will be submitted within thirty (30) calendar days after the last day of the quarter in which it was collected.
 - d. **Potential installation of a third fixed cone valve.** If after one full DO season of operation with the first two fixed cone valves and the other DO Technology at High Rock, integrated and coordinated through the use of "real-time" monitoring data (see "12-G" below), the instantaneous and/or daily average levels of DO fail to meet water quality standards, then the Division may require installation of a third fixed cone valve at High Rock.
 1. Prior to any determination by the Division to require installation of a third fixed cone valve at High Rock, APGI will consult with the Division to determine if adding a fixed cone valve is required to improve DO in the tailwaters.
 2. If after consultation as described above, the Division requires installation of an additional fixed cone valve, APGI shall submit a request for approval for this work to FERC within thirty (30) calendar days of receiving a formal notice from the Division and will complete installation of the additional cone valve ninety (90) calendar days after receiving FERC approval.

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- ii. **Tuckertown.** Fixed cone (Howell-Bunger) valve DO enhancement technology will be used to improve DO in the tail waters at Tuckertown.
 - a. **Install one (1) fixed cone valve.** APGI will install one (1) fixed cone (Howell-Bunger) valve at Tuckertown within eighteen (18) months of receipt of the final FERC license.
 - b. **Operation.** As soon as practicable after the "real-time" DO data monitoring system (see "12-G" below) for the Tuckertown tailwaters is fully operational, APGI will use those data to adjust operation of the fixed cone valve to improve DO in the Tuckertown tailwaters in advance of completion of the High Rock turbine upgrades.
 - c. **Evaluation and Action.**
 1. **Quarterly data.** APGI will provide DO data to the Division on a quarterly basis. The data will be screened and reviewed in accordance with APGI's quality assurance and quality control procedures (QA/QC) approved by the Division. Each quarter's DO data will be submitted within thirty (30) calendar days after the last day of the quarter in which it was collected.
 2. **Report after upgrade to third unit at High Rock.** Within ninety (90) calendar days after the end of the first full DO season after the third unit at High Rock is upgraded, APGI will provide a report (90-day Report) to the Division assessing the performance of (1) the fixed cone valve at Tuckertown and (2) the upgrades and fixed cone valves at High Rock on the DO levels below the Tuckertown dam. APGI will also provide an assessment of the need for additional DO enhancement technologies at Tuckertown in this report. Upon receipt of the report, the Division may request additional information.
 3. **Submit Tuckertown Action Plan.** If the Tuckertown 90-day report shows that the DO instantaneous and/or daily average levels at Tuckertown do not meet the applicable water quality standards, then at the same time APGI submits the Tuckertown 90-day report, APGI will provide an Action Plan for additional DO enhancement at Tuckertown including its recommendation for additional measures or technology and a proposed schedule for installation on an expedited basis (Tuckertown Action Plan).
 4. **Installation of Additional Tuckertown DO Enhancements.** If required, the Tuckertown Action Plan shall propose the installation of oxygen diffuser technology, aeration valves, or other appropriate aeration technology at Tuckertown, on an expedited basis. Installation of the additional appropriate technology after approval of the Tuckertown Action Plan by both the Division and FERC shall begin within ninety (90) calendar days of the later of those approvals and any required FERC order, and shall be completed according to the schedule in the approved Tuckertown Action Plan.

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iii. **Narrows.** The Division may require that APGI install a fixed cone valve at Narrows under the following conditions:

a. **Evaluation.**

1. After installation of the draft tube air valve at Narrows Unit 3, APGI will provide DO data to the Division on a quarterly basis. The data will be screened and reviewed in accordance with APGI's quality assurance and quality control procedures (QA/QC) approved by the Division. Each quarter's DO data will be submitted within thirty (30) calendar days after the last day of the quarter in which it was collected.
2. If after one full DO season after the upgrade of Unit 3 at Narrows dam, integrated and coordinated through the use of "real-time" monitoring data (see "12-G" below), the instantaneous and/or daily average DO fail to meet water quality standards, then the Division may require installation of a fixed cone valve at Narrows.
3. If the Division requires the installation of a fixed cone valve at Narrows in accordance with the previous paragraph, APGI shall continue to provide DO data after the beginning of operation of the fixed cone valve for the Division's evaluation. The Division may require that APGI install a second fixed cone valve at Narrows.
4. If APGI and the Division agree, another appropriate aeration technology may be substituted for the fixed cone valve(s), irrespective of whether the upgrade to the DO data monitor has been completed.

b. **Installation.** If the Division determines that a fixed cone valve or valves should be installed at Narrows, installation will be performed on the following expedited schedule.

1. Within thirty (30) calendar days of receiving formal notification from the Division that a fixed cone valve or valves should be installed, APGI will initiate the additional engineering process for the installation of fixed cone valve(s).
2. Within sixty (60) calendar days of receiving formal notification from the Division that a fixed cone valve or valves should be installed, APGI will sign all necessary contracts for such additional engineering work.
3. Within one hundred fifty (150) calendar days of receiving notification from the Division that a fixed cone valve or valves should be installed, APGI will provide proposed engineering plans and specifications for the fixed cone valve(s) to the Division. At the same time, APGI will submit plans and any other required documents to FERC for approval of the installation of the fixed cone valve(s).

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4. Within ninety (90) calendar days of receiving FERC approval of the installation of the fixed cone valve(s), APGI will commence installation of the cone valve(s) at Narrows.
5. Within one hundred eighty (180) calendar days of receiving FERC approval of the installation of the fixed cone valve(s), APGI will complete installation of the fixed cone valve(s).

D. Assess Need for Installation of DO Enhancement Technology at Falls

i. Reporting Falls DO Information.

- a. **Quarterly data.** Within ninety (90) calendar days after APGI receives the Final FERC License, APGI will provide the Division with DO Data from the Falls DO monitor (following QA/QC review) on a quarterly basis.
- b. **Report after upgrade to Unit 3 at Narrows.** Within ninety (90) calendar days after the end of the first full DO season after the upgrade of Unit 3 at Narrows, APGI will provide a report (Falls 90-day report) to the Division assessing the performance of the upgrades at Narrows on the DO levels below Falls Dam. APGI will also provide an assessment of the need for DO enhancement technologies at Falls in this report. Upon receipt of the report, the Division may request additional information.

ii. Evaluation and Action.

- a. **Submit Falls Action Plan.** If the Falls 90-day report shows that the instantaneous and/or daily average DO levels at Falls do not meet the applicable water quality standards, then at the same time APGI submits the Falls 90-day report, APGI will provide an Action Plan for DO enhancement at Falls including its recommendation for additional measures or technology and a proposed schedule for installation on an expedited basis (Falls Action Plan).
- b. **Installation of Falls DO Enhancements.** If required, the Falls Action Plan shall propose the installation of aeration valves, or other appropriate aeration technology at Falls Units 1, 2 and/or 3 on an expedited basis. Installation of the appropriate technology after approval of the Falls Action Plan by both the Division and FERC shall begin within ninety (90) calendar days of the later of those approvals and any required FERC order, and shall be completed according to the schedule in the approved Falls Action Plan.

E. Upgrade DO Monitoring Equipment in Tailwaters Below Dams in Yadkin Project

APGI will upgrade the DO monitoring equipment below each of the dams in the Yadkin Project to allow for the transmittal of data in 15-minute increments from the DO monitors to the Dispatch Center ("real time" DO data - see "12-G" below).

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i. **Schedule for Upgrades.**

- a. The DO monitoring station below Narrows has been modified.
 1. APGI will complete the implementation of real time data transmission from the upgraded DO monitor below Narrows within 6 months after APGI receives the Final FERC License.
- b. The DO monitoring stations below High Rock, Tuckertown, and Falls dams will be modified in the order listed.
 1. APGI will request the necessary approvals, if any, to relocate the DO monitoring stations below High Rock, Tuckertown, and/or Falls within thirty (30) calendar days after APGI receives the Final FERC License.
 2. APGI will complete installation of the upgraded DO monitor below High Rock by the date the installation of the first fixed cone valve at High Rock is completed, provided all required approvals, orders and permits have been obtained.
 3. The remaining upgraded DO monitors at Tuckertown and Falls will be completed within twenty-four (24) months after APGI receives the Final FERC License, provided all required approvals, orders and permits have been obtained.

ii. **Design and Engineering.** FERC and the North American Electrical Reliability Corporation ("NERC ") may impose certain requirements regarding location, connection, or operation of the DO monitors.

- a. Relocation of the DO monitors may require FERC approval.
- b. Prior to relocating any of the DO monitors, APGI will provide the Division with a summary report and data on which the report is based establishing that the new location for the DO monitor will be representative of the water quality in the tailwaters below the dam.

F. **DO Monitoring Plan and QAPP**

- i. Within one (1) year of this Certification, APGI will submit to the Division for written approval an updated draft of the DO Monitoring Plan and Quality Assurance Project Plan ("QAPP"), as updates and revisions to the document "*Draft Dissolved Oxygen Monitoring Plan (May 2007)*." This updated document will include, at a minimum: updated contact information, background information, a description of proposed technologies, a discussion of monitoring and reporting procedures for the proposed upgraded "real-time" DO monitoring equipment, and a discussion of how DO meters will be repaired or replaced quickly in the event of malfunction. The DO Monitoring Plan and QAPP will be updated in consultation with the Division and other appropriate state and federal resource agencies.

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- ii. The primary component of the DO Monitoring Plan will be the operation of four (4) continuous DO/temperature monitors, one in each tailwater below High Rock, Tuckertown, Narrows and Falls, for the period of May 1 through November 30 of each year. The DO Monitoring Plan shall include a schedule for preparing an annual DO and temperature data report. The annual report shall be filed by March 1 of the following year with the Division and with the downstream Licensee of the Yadkin-Pee Dee River Project (FERC No. 2206).

- iii. APGI shall file the DO Monitoring Plan with FERC within thirty (30) calendar days of receiving the Division's written approval of the draft Plan. APGI shall include with the DO Monitoring Plan an implementation schedule, documentation of consultation, copies of the Division's comments and recommendations on the plan, and specific descriptions of the manner in which the Division's comments have been accommodated by the plan.

G. Optimization of Electrical Generation for DO Enhancement Using Information from the Upgraded DO Monitoring Equipment

- i. **Approval.** APGI will request FERC approval (if needed) within thirty (30) calendar days after APGI receives the Final FERC License, to use "real-time" DO data to optimize operation of the DO enhancement equipment.
- ii. **"Real-Time" Monitoring Data.** For the purposes of this Certification, "real-time" monitoring data mean data collected and recorded every fifteen (15) minutes, for instantaneous reading, with the instantaneous readings being averaged over a 24-hour period to obtain the daily average reading.
- iii. **Use of "Real-Time" Monitoring Data.** APGI will use the "real-time" DO monitoring data to coordinate and optimize the operation of the Project's DO enhancement technology, including turbines, fixed cone valves and any other controllable DO enhancement technology, to meet water quality standards. Such optimization may also include "pulsing" one or more hydroelectric generating units, and/or opening spill (flood) gates to maintain DO levels in the tailwaters at or above the water quality standards.

H. Additional Reporting Requirements

In addition to other requirements for reporting set forth in this Certification, APGI will provide the following:

- i. **Annual Report.** The annual report filed by March 1 of the following year to the Division will summarize the DO data and assess the compliance with North Carolina water quality standards. In addition, the annual report will include a narrative description of the operation of DO enhancement technologies and APGI's use of the "real-time" DO data in operating those DO enhancement technologies. APGI shall include information regarding the QA/QC procedure in its annual report.

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However, once the QA/QC procedures are approved and provided that APGI does not change its QA/QC procedures, the annual report may simply refer to and incorporate the QA/QC procedures previously approved by the Division.

- ii. **Data provided on a quarterly basis.** In addition to the annual report, APGI will provide the Division with the "real-time" DO data for each dam on a quarterly basis. Each quarter's data will be submitted to the Division, after being screened and reviewed in accordance with QA/QC procedures, within thirty (30) calendar days after the last day of the quarter in which it was collected. This quarterly reporting requirement will become effective ninety (90) calendar days after APGI receives the Final FERC License.
- iii. **QA/QC.** Within one (1) year of this Certification, APGI shall submit to the Division for approval a written copy of the QA/QC procedures it uses on raw DO data. Within ninety (90) calendar days, the Division will provide a written response to APGI approving or requesting changes to the QA/QC procedures. APGI shall include information regarding the QA/QC procedure in its Annual Report.
- iv. **Placement of DO monitors.** Every five years, beginning at the end of the calendar year following the year in which APGI receives the Final FERC License, APGI will include in the Annual Report an assessment of the placement of the DO monitors verifying that the chosen location below each of the dams is a representative site at which to measure DO levels in the water under the following conditions: when generators are operating at optimal levels, during periods of low flow, and when the generators are not operating.

I. Notice Provided to the Division

APGI agrees to provide Notices of Initiation and Notices of Completion to the Division for each of the events that APGI agrees to undertake, pursuant to the terms set forth in this Certification. This information will include at minimum the following information: 1) a description of the work being initiated or completed, 2) a reference to the condition in this Certification requiring the work, 3) the effective date of the notice, and 4) the name and contact information for the person providing notice. This information shall be sent, until further notice, to the following address:

Director, Division of Water Quality
 c/o Karen Higgins
 NC Department of Environment and Natural Resources
 1650 Mail Service Center
 Raleigh, NC 27699 -1650

J. Assurance of Compliance

- i. **RSA Consistency.** This Certification shall not require APGI to violate or operate inconsistently with any provisions of the New License or any provisions of the RSA (including the Low Flow Inflow Protocol). To the extent the terms of this Certification

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provide an expedited schedule and additional conditions appropriate to meet state and/or federal requirements, they are not inconsistent with the RSA.

ii. **Additional Improvements to Ensure Standards are Met:**

- a. If at any time during the term of the New License, after all the DO Enhancement equipment and measures outlined in the RSA and this Certification have been installed and implemented, all of the upgraded units are operational, and at least two full DO seasons of monitoring have been completed, APGI is notified by the Division that based on the monitoring data collected under the DO Monitoring Plan, water quality standards are not being met as a result of APGI's hydroelectric operations, APGI shall develop a plan to implement corrective actions. APGI shall file a Dissolved Oxygen Corrective Action Plan (DOCAP) for the Division's approval within six (6) months of notification by the Division that water quality standards are not being met as a result of APGI's hydroelectric operations. APGI shall include with the DOCAP an implementation schedule, documentation of consultation, copies of the Division's comments and recommendations and specific descriptions of the manner in which such comments and recommendations have been accommodated by the DOCAP. Within thirty (30) calendar days of receipt of the Division's written approval of the DOCAP, APGI shall file the DOCAP with FERC.
- b. If, after implementation of the DOCAP in accordance with "a" above, DO levels do not meet water quality standards after completion of all the improvements required by the RSA (including the Low Inflow Protocol) and this Certification, APGI shall propose to the Division additional measures including an implementation schedule to meet water quality standards for DO. Following its review of APGI's proposal, the Division may, in writing, require that APGI implement those additional measures to meet water quality standards for DO.

iii. **Tailwater Dissolved Oxygen Enhancement Operations.**

If at any time during the term of the New License, after all the DO Enhancement equipment and measures outlined in the RSA and this Certification have been installed and implemented, all of the upgraded units are operational, and at least two full DO seasons of monitoring have been completed, APGI can demonstrate through studies and/or monitoring that water quality standards are met twenty-four hours a day, seven days a week, then APGI may consult with the Division regarding the possibility of reducing the period of DO Enhancement operations (May 1—November 30). Should any such consultation result in an agreement between APGI and the Division to modify the operation of the Project for purposes of DO enhancement, APGI shall consult with the Division to develop a plan to revise DO enhancement operations. APGI shall include with the plan an implementation schedule, documentation of consultation, copies of the Division comments and recommendations and specific descriptions of the manner in which such comments

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and recommendations have been accommodated by the plan. Within thirty (30) calendar days of receipt of the Division written approval of the plan, APGI shall file the plan with FERC for any necessary regulatory approval.

13. Additional Conditions

The following conditions, which were included in the February 2007 Relicensing Settlement Agreement (RSA), are set forth separately and independently as requirements of this Certification.

A. **Project Operations**

Unless in accordance with the Hydro Project Maintenance and Emergency Protocol and Low Inflow Protocol, Project minimum flows take priority over reservoir water elevations, as specifically described in Articles PO-1 and PO-2 below.

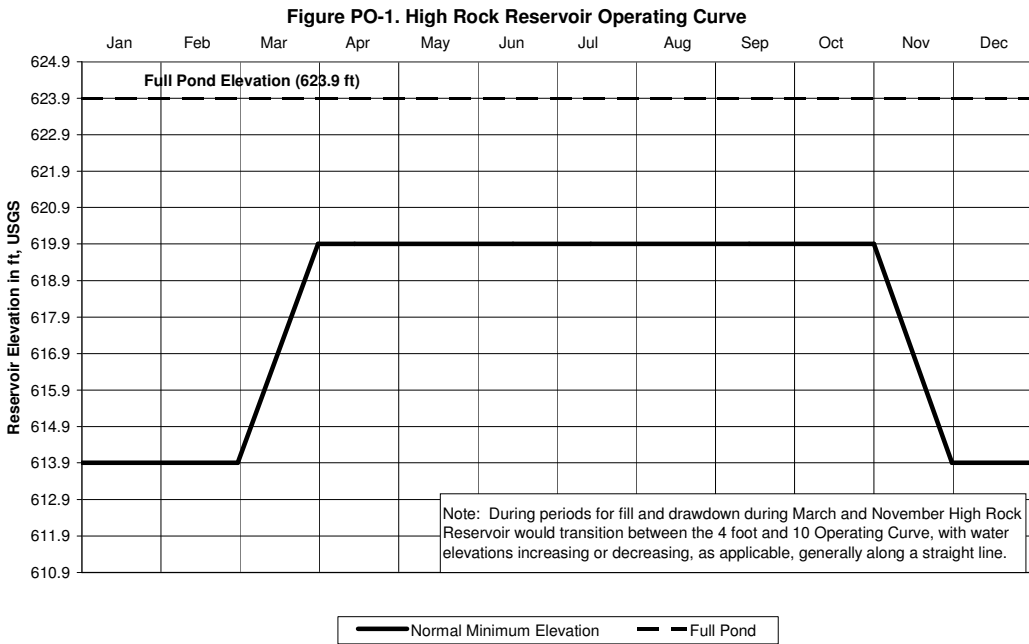
i. **Article PO-1 – Reservoir Operations (RSA Section 3.1.1)**

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a. **High Rock Reservoir Operations**

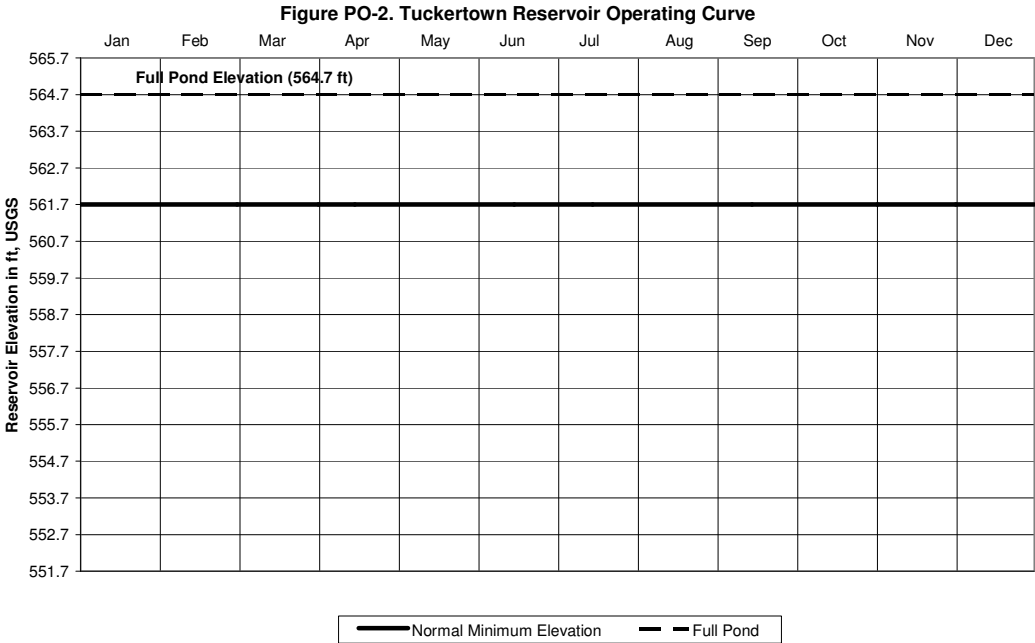
APGI shall operate High Rock Reservoir at or above the normal minimum elevation (NME) as depicted on the High Rock Operating Curve (Figure PO-1), except as needed in order to maintain minimum flows or as provided under the Low Inflow Protocol (LIP) or the Hydro Project Maintenance and Emergency Protocol (HPMEP). High Rock Reservoir may be drawn down below its NME in order to meet the Required Minimum Instream Flow at Falls, as specified in Article PO-2, only after Narrows Reservoir has reached its NME. If High Rock Reservoir water elevation is below the NME at 12:01 AM on any operating day, where the operating day is defined as 12:01 AM through 12:00 midnight, APGI shall reduce releases from High Rock Reservoir for that operating day up to a maximum of the daily average flow equivalent of the minimum flow requirement at Falls, as specified in Article PO-2. Under this condition, releases from Falls will be limited to those defined in Article PO-2.



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b. Tuckertown Reservoir Operations

APGI shall operate Tuckertown Reservoir at or above the NME as depicted on the Tuckertown Operating Curve (Figure PO-2), except as provided in the HPMEP.

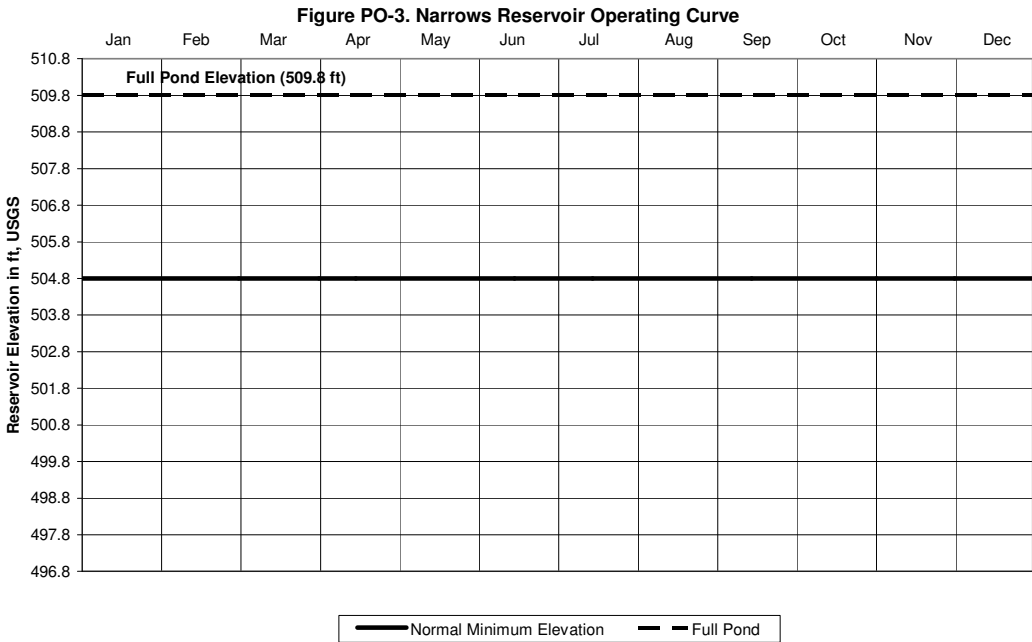


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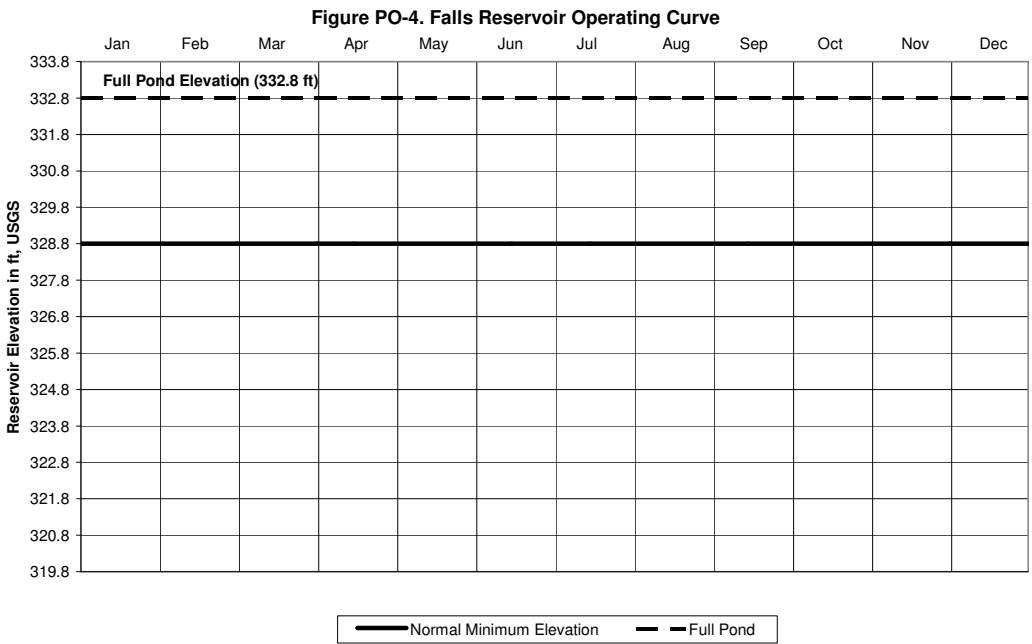
c. Narrows Reservoir Operations

APGI shall operate Narrows Reservoir at or above the NME as depicted on the Narrows Operating Curve (Figure PO-3), except as needed in order to maintain minimum flows, or as provided under the LIP or HPMEP.



d. Falls Reservoir Operations

APGI shall operate Falls Reservoir at or above the NME as depicted on the Falls Operating Curve (Figure PO-4), except as provided in the HPMEP.



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e. Reservoir Stabilization to Enhance Fish Spawning

From April 15 through May 15 of each year, APGI will endeavor to maintain reservoir water elevations at all four Project reservoirs no lower than -1.0 feet below the elevation of each reservoir on April 15 to enhance conditions for fish spawning in the reservoirs. No later than August 31 of each year, APGI will report the resulting reservoir water elevations at each reservoir during the April 15 through May 15 period in a letter report to the North Carolina Wildlife Resources Commission (NCWRC). The letter report will provide an explanation of any circumstances that prevented APGI from maintaining the target water elevations. Within 60 days of filing the letter report with the NCWRC, a copy of the letter report will be filed with the Division and FERC. Satisfaction of these reporting commitments shall constitute compliance with this Article.

ii. Article PO-2 – Project Instream Flows (RSA Section 3.1.2)

a. Required Minimum Instream Flows

Commencing no later than six months from the effective date of the New License and except when operating under the Low Inflow Protocol (LIP) or Hydro Project Maintenance and Emergency Protocol (HPMEP), APGI shall operate the Project to provide a daily average minimum flow from the Falls Development according to the following schedule:

June 1 – January 31	1,000 cfs
February 1 – May 15	2,000 cfs
May 16 – May 31	1,500 cfs

iii. Flow Adjustment for Enhancement of Downstream Spawning (RSA Section 2.1.1)

APGI will work with the licensee of the Yadkin-Pee Dee River Project, FERC No. 2206, (Downstream Licensee), the North Carolina Division of Water Resources (NCDWR), the North Carolina Wildlife Resources Commission (NCWRC), the South Carolina Department of Natural Resources (SCDNR), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), The Nature Conservancy (TNC) and American Rivers (collectively, Group) to develop a process to allow the Downstream Licensee to provide adjusted flow between February 1 and May 15 to enhance spawning conditions in the lower river downstream of the Blewett Falls development, part of the Yadkin-Pee Dee River Project.

APGI's role in enhancing downstream spawning below Blewett Falls will be limited to:

- a. Attending an annual meeting with the Group, if held, to consider expected flow and hydrologic conditions and to schedule adjusted flow period(s) for the upcoming spawning season, and

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- b. Once the schedule for adjusted spawning flow period(s) has/have been established by the Group, APGI will communicate its daily generation/flow release schedule during the adjusted spawning flow period(s) to the Downstream Licensee at least one week in advance of the start of the adjusted spawning flow period(s). If unexpected hydrologic conditions, or other conditions, such as those covered in the Low Inflow Protocol (LIP, Appendix A) or the Hydro Project Maintenance and Emergency Protocol (HPMEP, Appendix B), occur during any adjusted spawning flow period, APGI shall communicate to the Downstream Licensee any resulting changes in its daily generation/flow release schedule for the remainder of that adjusted spawning flow period.

APGI will not be required to attempt to match Yadkin Project outflow to inflow during any adjusted spawning flow period(s), nor will APGI be required to provide an instantaneous minimum flow release from the Yadkin Project during any adjusted spawning flow period(s).

APGI's participation in enhancement of downstream spawning will take place within the confines of the other requirements of the New License and this Certification relating to management of flows and reservoir water elevations, and would not result in any modification of those flow and reservoir management requirements. Specifically, nothing in this section will require or cause APGI to fall below the Project Minimum Flows as described in Article PO-2 or to have to modify its reservoir operations as prescribed in Article PO-1.

If state and federal agencies and the Downstream Licensee are unable to come to an agreement on what measures are to be undertaken by the Downstream Licensee to achieve Flow Adjustment for Enhancement of Downstream Spawning, APGI will be under no obligation to meet the commitments outlined in this Condition [13(A)(iii)].

iv. **Article PO-3 - Flow and Reservoir Elevation Monitoring (RSA Section 3.1.3)**

Within six months of the effective date of the New License, APGI shall file with the Division a final Flow and Reservoir Elevation Monitoring and Compliance Plan for the Yadkin Project. The Flow and Reservoir Elevation Monitoring and Compliance Plan shall be developed in consultation with the North Carolina Division of Water Resources (NCDWR), the South Carolina Department of Natural Resources (SCDNR), the U.S. Geological Survey (USGS) and the Downstream Licensee (the Licensee of the Yadkin-Pee Dee River Project, FERC No. 2206), and shall include detailed provisions for monitoring reservoir water elevations and for monitoring flows from both the Narrows and High Rock developments.

APGI shall include with the final plan documentation of consultation, copies of comments and recommendations on the draft plan after it has been prepared and provided to the agencies and Downstream Licensee, and specific descriptions of how comments are accommodated by the final plan. APGI shall allow a minimum of 30 days for the agencies and Downstream Licensee to comment prior to filing the plan

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with the Division. If APGI does not adopt a recommendation, the filing shall include APGI's reasons, based on Project-specific information.

The Division reserves the right to require changes to the plan. Upon Division approval, APGI shall submit the plan to FERC for approval. Upon receiving FERC approval, APGI shall implement the plan, including any changes required by the Division and/or FERC. APGI shall file the final plan with Division within 30 days of receiving FERC approval.

a. Releases from High Rock Development

Flow monitoring from the High Rock Development will serve as the measure for the flow releases from the High Rock Development required under Article PO-1 or under the Low Inflow Protocol (LIP). Daily average flows within +25% of the applicable maximum flow, measured from 12:01 AM to 12:00 midnight, shall be considered compliant for each operating day.

b. Releases from Falls Development

Flow monitoring from the Narrows Development will serve as the compliance measure for the flow release from the Falls Development required under Articles PO-1, PO-2 or under the LIP. Daily average flows within -5% of the applicable minimum flow, measured from 12:01 AM to 12:00 midnight, shall be considered compliant for any operating day so long as:

1. Whenever High Rock Reservoir is at or above its normal minimum elevation (NME), the applicable daily average minimum flow is achieved on a weekly average basis, measured from 12:01 AM Saturday to 12:00 midnight Friday.
2. Whenever High Rock Reservoir is drawn down below its NME (when a maximum release from Falls is also applicable), releases from Falls shall be limited to \pm 5% of the cfs equivalent of the Required Instream Minimum Flow at Falls, as measured on a weekly average basis from 12:01 AM Saturday to 12:00 midnight Friday.

APGI shall endeavor to meet the Required Minimum Instream Flows required in Article PO-2, and shall not routinely use the flow variances provided above. APGI shall prepare an annual flow monitoring report documenting its compliance with minimum flow releases, including a record of any days during the year when the daily average required minimum instream flow fell within the -5% and was made up as part of the weekly average, a record of flows during any period when High Rock was below its NME, and a record of any LIP events. By no later than March 31 of the following year, APGI shall file the report with the Division summarizing its evaluation. If, based on the results of the report, the state of North Carolina has a concern about the frequency or pattern of use of the variance by APGI, the state may request consultation with APGI to discuss APGI's reasons for that use and any practicable alternatives to that use.

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v. **Article PO-4 – Low Inflow Protocol (LIP) (RSA Section 3.1.4)**

This condition highlights the responsibilities of APGI from Appendix A, “Low Inflow Protocol for the Yadkin and Yadkin-Pee Dee River Hydroelectric Projects.” The complete text of the LIP is included by reference in this Certification (see “D” below).

a. **Definitions.** The following definitions shall be applicable to this condition:

1. **Stream Gage Three-Month Rolling Average Flow** – The three-month rolling average of streamflow at the following U.S. Geological Survey (USGS) stream gages:

- Yadkin River at Yadkin College (02116500)
- South Yadkin River near Mocksville (02118000)
- Abbotts Creek at Lexington (02121500)
- Rocky River near Norwood (02126000)

On the last day of each month, APGI shall calculate the arithmetic mean of (a) the daily flows of the current month and (b) the arithmetic mean of the daily flows of each of the two preceding months. The sum of the three-month rolling average for these four gage stations shall be compared by APGI to the Historic Stream Gage Three-Month Rolling Average Flow for the corresponding period and a percentage of Historic Three-Month Rolling Average shall be calculated.

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2. **Historic Stream Gage Three-Month Rolling Average Flow** – The historical three-month rolling average flow for each of the four designated USGS stream gages for the period 1974 through 2003 (except for the Abbotts Creek gage, for which the period is 1988 through 2003) are set forth in Table LIP-1 below:

Table LIP-1. Historic Stream Gage Three-Month Rolling Average Flow		
For Evaluation of Flow Trigger on:	Average of daily flows during:	Historic Three-Month Rolling Average Flow, cfs
January 1	Oct-Nov-Dec	4,000
February 1	Nov-Dec-Jan	5,200
March 1	Dec-Jan-Feb	6,250
April 1	Jan-Feb-Mar	7,700
May 1	Feb-Mar-Apr	7,550
June 1	Mar-Apr-May	6,850
July 1	Apr-May-Jun	5,350
August 1	May-Jun-Jul	4,200
September 1	Jun-Jul-Aug	3,600
October 1	Jul-Aug-Sep	3,200
November 1	Aug-Sep-Oct	3,300
December 1	Sep-Oct-Nov	3,550

3. **Full Pond Elevation** – The Full Pond Elevation for each development's reservoir is listed in Table LIP-2.

Table LIP-2. Full Pond Elevations	
Reservoir	Full Pond Elevation (feet, USGS datum - NGVD 1929)
High Rock	623.9
Tuckertown	564.7
Narrows	509.8
Falls	332.8

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4. **Normal Minimum Elevation (NME)** – NME for each Project reservoir is listed in Table LIP-3.

Table LIP-3. Normal Minimum Elevations (feet, USGS datum - NGVD 1929)				
Month	High Rock	Tucker-town	Narrows	Falls
Full Pond	623.9	564.7	509.8	332.8
January 1	613.9	561.7	504.8	328.8
February 1	613.9	561.7	504.8	328.8
March 1	transition	561.7	504.8	328.8
April 1	619.9	561.7	504.8	328.8
May 1	619.9	561.7	504.8	328.8
June 1	619.9	561.7	504.8	328.8
July 1	619.9	561.7	504.8	328.8
August 1	619.9	561.7	504.8	328.8
September 1	619.9	561.7	504.8	328.8
October 1	619.9	561.7	504.8	328.8
November 1	transition	561.7	504.8	328.8
December 1-15	613.9	561.7	504.8	328.8
December 16-31	613.9	561.7	504.8	328.8

5. **U.S. Drought Monitor Three-Month Numeric Average** – APGI shall calculate a three-month rolling average of U.S. Drought Monitor (<http://www.drought.unl.edu/dm/monitor.html>) values by (a) assigning a numeric value equal to the highest U.S. Drought Monitor designation (e.g. D0=0, D1=1, D2=2, D3=3 and D4=4) for any part of the Yadkin-Pee Dee River Basin draining to Blewett Falls development as of the last day of that month; and (b) calculating an arithmetic mean of that numeric value and numeric values correspondingly assigned for the previous two months. A normal condition in the basin, defined as the absence of a drought designation, shall be assigned a numeric value of negative one (-1).
6. **Yadkin-Pee Dee River Basin Drought Management Advisory Group (YPD-DMAG)** – The YPD-DMAG shall consist of one representative from each of the following organizations (to the extent that they are willing to participate): Alcoa Power Generating Inc. (APGI), Progress Energy (PE), North Carolina Department of Environment and Natural Resources (NCDENR), North Carolina Division of Water Resources (NCDWR), North Carolina Division of Water Quality (Division), North Carolina Wildlife Resources Commission (NCWRC), South Carolina Department of Natural Resources (SCDNR), South Carolina Department of Health and Environmental Control (SCDHEC), the United States Fish and Wildlife Service (USFWS), High Rock Lake Association

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(HRLA), Badin Lake Association (BLA), Duke Power Company, Lake Tillery Homeowners Association, South Carolina Pee Dee River Coalition (SCPDR) and owners of intakes that withdraw more than one million gallons of water per day from the impoundments of either the Yadkin Project (FERC Project 2197) or the Yadkin-Pee Dee Project (FERC Project 2206).

b. Implementation Procedure

1. Table LIP-4 sets forth the combinations of conditions under which the LIP shall be implemented. The determination of the applicable LIP Stage shall be made using the High Rock Reservoir water elevation as of midnight between the last day of the previous month and the first day of the current month in combination with the U.S. Drought Monitor Three-Month Numeric Average and the Stream Gage Three-Month Rolling Average Flow to determine the need to declare or change a Stage of the LIP. The LIP shall be implemented beginning at Stage 0 and, if the combination of conditions becomes more severe, the Stages shall increase in one Stage increments.

Table LIP-4. Summary of LIP Triggers					
Stage	High Rock Reservoir Elevation		US Drought Monitor Three-Month Numeric Average		Stream Gage Three-Month Rolling Average as a percent of the Historical Average
0	< NME minus 0.5 ft	and either	Any	or	Any
	or				
	< NME	and either	≥ 0	or	< 48 %
1	< NME minus 1 ft	and either	≥ 1	or	< 41 %
2	< NME minus 2 ft	and either	≥ 2	or	< 35 %
3	< NME minus 3 ft	and either	≥ 3	or	< 30 %
4	< ½ of (NME minus Critical Reservoir Water Elevation)	and either	≥ 4	or	< 30 %

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2. The average daily flows set forth in Table LIP-5 shall be initiated no later than seven days after the determination of the applicable LIP Stage and shall be in effect for the balance of the month except as provided in the section titled "Recovery from LIP Stages."

Table LIP-5. LIP Flows ⁽¹⁾ , cfs						
Stage	High Rock (daily average maximum flow target)			Falls ⁽²⁾ (daily average flow target)		
	Feb 1 - May 15	May 16 - 31	Jun 1 - Jan 31	Feb 1 - May 15	May 16 - 31	Jun 1 - Jan 31
0	2000	1500	1000	2000	1500	1000
1	1450	1170	900	1450	1170	900
2	1080	950	830	1080	950	830
3	770	770	770	770	770	770
4	Additional measures may be determined by consensus of APGI and State Agencies, subject to Division approval.					
<p>(1) Developments shall be operated to achieve the target flows to the extent practicable as a first priority and to supplement inflows equitably from the storage reservoirs as a second priority. For LIP Stages 1, 2, 3 and 4, APGI shall achieve the indicated average daily flows set forth in this table by supplementing Project inflows by drawing proportionally from High Rock and Narrows reservoirs such that the difference between the respective drawdowns below NME of High Rock and Narrows reservoirs shall be approximately one foot.</p> <p>(2) For LIP Stages 0-3, the values shown in this table reflect flow targets. These values cannot be met exactly as shown and shall likely vary slightly on a real time basis from the values shown here, but it is expected that the variances from the target flows shall be minimal.</p>						

3. APGI shall notify via email the NCDWR of LIP implementation or a change in Stage as soon as practicable but no later than (i) three business days after a Stage 0 determination; (ii) two business days after a Stage 1 or a Stage 2 determination; or (iii) 48 hours after a Stage 3 or Stage 4 determination.
4. APGI shall consult with the YPD-DMAG with respect to issues relating to or arising out of implementation of the LIP, including, but not limited to, (i) notification to the public of the possible effects of and/or continuance of drought; (ii) issues relating to the effects of drought conditions on life, health, property, wildlife, aquatic life; (iii) possible public health concerns; and (iv) short and long term prospects for recovery from drought.
5. APGI shall develop and provide information on its website to inform the public on reservoir water elevations, Project releases, usability of public access areas, reservoir inflows, meteorological forecasts, Historic and Actual Stream Gage Three-Month Rolling Average Flow calculations, U.S. Drought Monitor Three-Month Numeric Average calculations, LIP status, YPD-DMAG

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meeting summaries, and implementation of maintenance or emergency operation plans.

c. **Recovery from LIP Stages**

1. Recovery from the LIP shall be triggered by the occurrence of any of the three following conditions either separately or in combination:

- Condition 1: All three triggering conditions associated with a lower numbered LIP Stage, as described in Table LIP-4, are met.

OR

- Condition 2: High Rock Reservoir water elevations return to at or above the NME plus 2.5 ft.

OR

- Condition 3: High Rock Reservoir water elevations return to at or above the NME for 2 consecutive weeks.

2. When any of these three conditions occurs, the APGI shall take the following actions as indicated by the particular condition:

- Condition 1: The LIP recovery shall be a stage-by-stage reversal of the staged approach described in Table LIP-4 above, beginning at the first day of each month.
- Condition 2: Implementation of the LIP shall be immediately discontinued.
- Condition 3: Implementation of the LIP shall be immediately discontinued.

3. APGI shall notify the NCDWR via email within 3 business days following attainment of any of the conditions necessary to return to a lower stage of the LIP.

d. **Updating the LIP**

During the term of the New License, APGI shall consult with the YPD-DMAG at least once every five (5) years to review and consider updating the LIP. The use of the period of record 1974 through 2003 to calculate the Historic Stream Gage Three-Month Rolling Average flows set forth in Table LIP-1 of this Article shall be evaluated every five years during such review. On the basis of such consultation, review and consideration, APGI may propose modifications to this Article for the Division's review and approval.

vi. **Low Inflow Protocol (RSA Section 2.1.2)**

Assuming the U.S. Geological Survey (USGS) has necessary rights for the License term, APGI shall continue to provide 100% funding support during the License term for the maintenance of the following USGS standard flow gages that are used in the LIP to determine the Three-Month Rolling Average Flow:

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- Yadkin River at Yadkin College (02116500)
- South Yadkin River near Mocksville (02118000)
- Abbotts Creek at Lexington (02121500)

Any substantial increase in funding support due to changes in these flow gages are subject to review by APCI with the North Carolina Department of Environment and Natural Resources (NCDENR). APCI may review and propose changes in the contractor, location, or equipment associated with these gages. Any changes proposed by APCI will require agreement of the Division.

vii. Article PO-5 – Hydro Project Maintenance and Emergency Protocol (RSA Section 3.1.5)

If conditions so warrant, APCI shall operate the Project in accordance with the Hydro Project Maintenance and Emergency Protocol (HPMEP) included as Appendix B, “Yadkin Project Hydro Project Maintenance and Emergency Protocol.” The complete text of the HPMEP is included by reference in this Certification (see “D” below).

B. Water Quality

i. Total Maximum Daily Load Process (RSA Section 2.2.5)

APCI agrees to participate in the High Rock Total Maximum Daily Load (TMDL) process for High Rock Reservoir initiated by the State of North Carolina in 2005. APCI will contribute up to \$50,000 in in-kind services for planned water quality sampling efforts, upon notification that the Yadkin-Pee Dee River Basin Association has received federal or state grants of at least \$50,000, for which APCI’s contribution will be used as the required “matching funds”.

If, during the term of the New License, other TMDL processes are required for the Yadkin River or its tributaries, within the Project Boundary of the Yadkin Project, APCI will participate in these processes.

C. Shoreline Management

i. Article SMP-1 - Shoreline Management Plan (RSA Section 3.4.1)

APCI shall file a revised Shoreline Management Plan (SMP) for the Project with FERC within two years of the effective date of the New License. APCI shall revise the SMP in consultation with state and federal resource agencies and other interested parties. APCI shall provide the consulted parties with a 30-day period to review and comment on a draft revised SMP. APCI shall include with its filing copies of all comments received on the draft revised SMP and a discussion of those comments, including whether APCI adopted the comments or the APCI’s rationale for not incorporating the comments in the final revised SMP.

Upon FERC approval, APCI shall implement the approved SMP, including any changes required by FERC.

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- ii. Additional written approval from the Division is needed for this Shoreline Management Plan, notably for those issues related to water quality such as buffer zones and management of shoreline erosion.

D. Incorporation of Appendix A and B by reference

The following Appendices are hereby incorporated by reference as conditions to this Certification and are drawn verbatim from the Relicensing Settlement Agreement. In a few instances, “the Division” should be substituted for “FERC” or “Commission” in these appendices – specifically in the sections that describe approval of LIP or HPMEP updates or revisions, and approval of additional stages (level 4 and beyond) to the LIP.

- i. **Appendix A:** Low Inflow Protocol for the Yadkin & Yadkin-Pee Dee River Hydroelectric Projects
- ii. **Appendix B:** Yadkin Project, Hydro Project Maintenance and Emergency Protocol

This approval to proceed with your proposed impacts or to conduct impacts to waters as depicted in your application shall expire upon expiration of the new FERC license and any Annual Licenses issued after the expiration of the new License.

Non-compliance with or violation of the conditions herein set forth may result in revocation of this Certification and may also result in criminal and/or civil penalties.

This the XX day of XX 2013
DIVISION OF WATER QUALITY

Thomas A. Reeder, Acting Director

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CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010, I hereby certify that I have this day served a copy of the foregoing on all persons designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 25th day of October, 2013.

/s/ *Elisabeth M. Drabkin*

Elisabeth M. Drabkin

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