

PUBLIC

SCOPING DOCUMENT 2

YADKIN HYDROELECTRIC PROJECT

PROJECT NO. 2197-073

YADKIN-PEE DEE RIVER HYDROELECTRIC PROJECT

PROJECT NO. 2206-030

May 2007

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, DC 20426
May 4, 2007

OFFICE OF ENERGY PROJECTS

Yadkin Hydroelectric Project No. 2197-073-NC
Alcoa Power Generating, Inc.
Yadkin-Pee Dee River Hydroelectric Project No. 2206-030- NC
Progress Energy Carolinas

To the Parties Addressed:

RE: Scoping of Environmental Issues for New Licenses for the Yadkin and Yadkin-Pee Dee Hydroelectric Projects

Dear Addressee:

The Federal Energy Regulatory Commission (Commission) is reviewing applications for new licenses for the Yadkin and Yadkin-Pee Dee Hydroelectric Projects. On April 25, 2006, Alcoa Power Generating, Inc. filed an application using the traditional licensing process for a new major license for the Yadkin Hydroelectric Project, FERC Project No. 2197-073 (Yadkin Project) located on the Yadkin River in North Carolina. On April 26, 2006, Carolina Power and Light (now operating as Progress Energy Carolinas) filed an application using the traditional licensing process for a new major license for the Yadkin-Pee Dee River Hydroelectric Project, FERC Project No. 2206-030 (Yadkin-Pee Dee Project), located on the Yadkin and Pee Dee rivers in North Carolina.

Pursuant to the National Environmental Policy Act (NEPA), the Commission Staff intends to prepare an environmental impact statement (EIS) that includes the Yadkin and Yadkin-Pee Dee projects. The Commission will use the EIS to determine whether, and under what conditions, to issue licenses for the two projects. To support and assist our environmental review, *a* scoping process *has been completed* for the Yadkin and Yadkin-Pee Dee projects to ensure that all pertinent issues are identified and analyzed and that the environmental document we prepare is thorough and balanced.

In our December 21, 2006, Scoping Document (SD1), we disclosed our preliminary view of the scope of environmental issues associated with the Yadkin and Yadkin-Pee Dee projects. Based on the verbal comments that we received at the scoping meetings held January 23 through January 25, 2006, in Lexington, Albemarle, and Wadesboro, North Carolina, and written comments we received throughout the scoping process, we prepared the enclosed Scoping Document 2 (SD2). We appreciate the participation of governmental agencies, non-governmental organizations, and the

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general public in the scoping process. The enclosed SD2 for the projects is intended to serve as a guide to the issues and alternatives to be addressed in the EIS. Key changes from SD1 to SD2 are identified in bold, italicized type.

SD2 is distributed to parties on the Service List for this proceeding, as well as to other individuals and organizations that we have identified as having previously expressed an interest in this project; no response is required. SD2 is also available from our Public Reference Room at 202-502-8371. It also can be accessed online at <http://www.ferc.gov/docs-filing/elibrary>.

Please direct any questions about the scoping process to Stephen Bowler at 202-502-6861, or e-mail at stephen.bowler@ferc.gov, or Lee Emery at 202-502-8379, or email at lee.emery@ferc.gov.

Attachment: Scoping Document 2 for the Yadkin and Yadkin-Pee Dee Projects

cc: Public Files
Mailing List

SCOPING DOCUMENT 2



YADKIN HYDROELECTRIC PROJECT NO. 2197-073
YADKIN-PEE DEE RIVER HYDROELECTRIC PROJECT NO. 2206-030

**Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Licensing
Washington, DC**

May 2007

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SCOPING DOCUMENT 2

Yadkin Hydroelectric Project (FERC No. 2197-073) Yadkin-Pee Dee River Hydroelectric Project (FERC No. 2206-030) North Carolina

1.0 INTRODUCTION

The Federal Energy Regulatory Commission (Commission or FERC), under the authority of the Federal Power Act (FPA),¹ may issue licenses for 30 to 50 years for the construction, operation, and maintenance of non-federal hydroelectric projects.

On April 25, 2006, Alcoa Power Generating, Inc. (Alcoa Generating) filed an application using the traditional licensing process for a new major license for the Yadkin Hydroelectric Project (FERC No. 2197-073) (Yadkin Project). On August 28, 2006, Alcoa filed an Agreement in Principle (AIP), which was signed by 27 stakeholder representatives (the Parties²). On April 26, 2006, Carolina Power & Light Company (now operating as Progress Energy Carolinas [Progress Energy]) filed an application using the traditional licensing process for a new major license for the Yadkin-Pee Dee River Hydroelectric Project (FERC No. 2206-030) (Yadkin-Pee Dee Project). On October 16, 2006, Progress Energy filed an Agreement in Principle among 15 stakeholder groups (the Parties³).

¹ 16 U.S.C § 791(a)-825(r).

² Parties to the *Alcoa Generating* AIP are, American Rivers, Badin Lake Association, Badin Museum, Catawba Indian Tribe, city of Albermarle, High Rock Business Owners Group, High Rock Lake Association, Montgomery County, North Carolina Division of Water Quality (North Carolina DWQ), North Carolina Division of Water Resources (North Carolina DWR), North Carolina Wildlife Resource Commission (North Carolina WRC), Pee Dee River Coalition, Piedmont Boat Club, Progress Energy, Rowan County, Salisbury/Rowan Association of Realtors, South Carolina Coastal Conservation League, South Carolina Department of Health and Environmental Control (South Carolina DHEC), South Carolina Department of Natural Resources (South Carolina DNR), The Land Trust for Central North Carolina, The Nature Conservancy, Town of Badin, U.S. Environmental Protection Agency (EPA), U.S. Forest Service (Forest Service), Uwharrie Point Community Association, and Yadkin Pee Dee Lakes Project.

³ Parties to the *Progress Energy* AIP are North Carolina WRC, North Carolina DWR, North Carolina DWQ, South Carolina DNR, South Carolina DHEC, EPA, Montgomery County, Alcoa Generating, Fairway Shores Homeowners Association, Pee Dee River Coalition, American Rivers, South Carolina Coastal Conservation League, The Nature Conservancy, The Land Trust for Central North Carolina, Carolina Forest Association, and Jordan Timberlands, Inc.

Alcoa Generating's Yadkin Project (comprising the High Rock, Tuckertown, Falls, and Narrows Developments) is located on the Yadkin River in Davidson, Davie, Montgomery, Rowan, and Stanly Counties, North Carolina (figure 1). Progress Energy's Yadkin-Pee Dee Project (comprising the Tillery and Blewett Falls developments) is located on the Yadkin and Pee Dee Rivers in Anson, Montgomery, Richmond, and Stanly Counties, North Carolina (figure 1). ***All six developments of the two projects are hydraulically linked and are situated within the same, 90-mile river reach.*** There are no federal lands affected by these projects.

The National Environmental Policy Act (NEPA) of 1969,⁴ the Commission's regulations, and other applicable laws require that we independently evaluate the environmental effects of licensing the Yadkin and Yadkin-Pee Dee projects as proposed, and also consider reasonable alternatives to the proposed actions. The Commission staff intends to prepare an environmental impact statement (EIS) that describes and evaluates the probable effects, if any, of the proposed action and alternatives. ***A scoping process has been completed to support preparation of the EIS and ensure that all pertinent issues are identified and analyzed.***

2.0 SCOPING

This ***Scoping Document 2 (SD2)*** is intended to advise all parties as to the proposed scope of the EIS and to seek additional information pertinent to this analysis. This document contains a brief description of: (1) the scoping process and schedule for the development of the EIS; (2) the proposed actions and project alternatives; (3) the preliminary identification of environmental issues; (4) a draft EIS outline; and (5) a preliminary list of comprehensive plans with which the projects seeking licensing must be consistent.

2.1 PURPOSES OF SCOPING

Scoping is the process used to identify issues, concerns, and opportunities associated with a proposed action. The process, according to NEPA, should be conducted early in the planning stage of the project.

The purposes of the scoping process are to:

- invite participation of federal, state, and local resource agencies, Indian tribes, and individuals, to identify environmental and socioeconomic issues related to the continued operation of each project;
- determine the depth of analysis and significance of issues to be addressed in the EIS;

⁴ Pub. L. 91-190. 42 U.S.C. § 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, § 4(b), Sept. 13, 1982.

Figure 1
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Public access for the above information is available only through
the Public Reference Room, or by e-mail at
public.referenceroom@ferc.gov

- identify reasonable alternatives for evaluation in the EIS;
- identify how the projects contribute to cumulative environmental effects in the Pee Dee River basin, including the Yadkin River;
- solicit from participants all available information on the resources at issue;
- eliminate from detailed study the issues and resources that do not require detailed analysis during review of the projects; and
- encourage statements from experts and the public on issues that should be analyzed in the EIS, including points of view in opposition to, or in support of, staff's preliminary views.

We issued Scoping Document 1 (SD1) for both projects on December 21, 2006, to enable appropriate resource agencies, Indian tribes, and other interested parties to more effectively participate in and contribute to the scoping process. In SD1, we requested clarification of preliminary issues concerning the Yadkin and Yadkin-Pee Dee projects and identification of any new issues that need to be addressed in the EIS. We revised SD1 following the scoping meetings and after reviewing comments filed during the scoping comment period. SD2 presents our current view of issues and alternatives to be considered in the EIS. Additions to SD1 are shown in bold and italic type in this SD2.

2.2 COMMENTS AND SCOPING MEETINGS

In addition to written comments solicited by SD1, we held four public scoping meetings from January 23 through January 25, 2007, in Lexington, Albemarle, and Wadesboro, North Carolina, for the Yadkin and Yadkin-Pee Dee projects. We held tours of the project sites from January 22 through January 25. Announcement of the scoping meetings and site visit was published in local newspapers and in the Federal Register. Based on completed registration forms, 317 individuals attended the January 23 and 24 evening meetings for the Yadkin Project, 97 individuals attended the January 24 afternoon meeting for both projects, and 49 individuals attended the January 25 evening meeting for the Yadkin-Pee Dee Project. A court reporter recorded the scoping meetings.

In addition to the comments received at the scoping meetings, the following entities filed written comments on SD1:

<i>Entity</i>	<i>Dated Filed</i>
<i>P-2197 and P-2206</i>	
<i>South Carolina Department of Natural Resources</i>	<i>February 21, 2007</i>
<i>South Carolina Department of Health and Environmental Control</i>	<i>February 23, 2007</i>
<i>North Carolina Dept. of Environment & Natural Resources</i>	<i>February 23, 2007</i>

<i>Entity</i>	<i>Dated Filed</i>
<i>P-2197 and P-2206 continued</i>	
<i>City of Rockingham</i>	<i>February 26, 2007</i>
<i>Progress Energy</i>	<i>February 26, 2007</i>
<i>Pee Dee River Coalition</i>	<i>February 26, 2007</i>
<i>North Carolina Wildlife Resources Commission</i>	<i>February 26, 2007</i>
<i>Interior (FWS)</i>	<i>February 27, 2007</i>
<i>National Marine Fisheries Service (NMFS)</i>	<i>March 2, 2007</i>
<i>U.S. Environmental Protection Agency</i>	<i>March 5, 2007</i>
<i>American Rivers and Coastal Conservation League</i>	<i>March 6, 2007</i>
<i>P-2197</i>	
<i>Trading Ford Historic District Preservation Authority</i>	<i>December 28, 2006</i>
<i>Rowan County</i>	<i>January 16, 2007</i>
<i>Town of Faith</i>	<i>January 16, 2007</i>
<i>Town of East Spencer</i>	<i>January 18, 2007</i>
<i>Town of Cleveland</i>	<i>January 22, 2007</i>
<i>Janet Morrow</i>	<i>January 24, 2007</i>
<i>Rick Lipe</i>	<i>January 30, 2007</i>
<i>Ron Qualkenbush</i>	<i>January 31, 2007</i>
<i>Linda Flounders Bell</i>	<i>February 5, 2007</i>
<i>Bridget Huckabee</i>	<i>February 7, 2007</i>
<i>Robert Podgaysky</i>	<i>February 8, 2007</i>
<i>Herbert Osman</i>	<i>February 12, 2007</i>
<i>Tony Garitta</i>	<i>February 21, 2007</i>
<i>State Representative David Almond</i>	<i>February 22, 2007</i>
<i>State Senator William Purcell</i>	<i>February 22, 2007</i>
<i>Duke Energy Carolinas, LLC</i>	<i>February 22, 2007</i>
<i>U.S. Forest Service</i>	<i>February 23, 2007</i>
<i>David and Hazel Frick</i>	<i>February 23, 2007</i>
<i>Alcoa power Generating Inc.</i>	<i>February 26, 2007</i>
<i>Progress Energy</i>	<i>February 26, 2007</i>
<i>Frances E. Francis</i>	<i>February 26, 2007</i>
<i>Land Trust for Central North Carolina</i>	<i>February 26, 2007</i>
<i>City of Salisbury</i>	<i>February 26, 2007</i>
<i>Joseph Korzelius</i>	<i>February 26, 2007</i>
<i>Storm Technologies</i>	<i>February 26, 2007</i>
<i>Karen Korzelius</i>	<i>February 26, 2007</i>
<i>Maynard Stickney</i>	<i>February 26, 2007</i>
<i>Stanly County</i>	<i>February 26, 2007</i>

<i>Entity</i>	<i>Dated Filed</i>
<i>P-2197 continued</i>	
<i>SaveHighRockLake.org</i>	<i>February 26, 2007</i>
<i>Tony Dennis</i>	<i>February 27, 2007</i>
<i>Ann Brownlee</i>	<i>February 27, 2007</i>
<i>April B. Underwood</i>	<i>February 27, 2007</i>
<i>Carolina Sand, Inc.</i>	<i>February 27, 2007</i>
<i>Gary S. Lowder</i>	<i>February 27, 2007</i>
<i>Jerry D. Meyers</i>	<i>February 27, 2007</i>
<i>Patricia B. Shaver</i>	<i>February 27, 2007</i>
<i>Robert M. Van Geons</i>	<i>February 27, 2007</i>
<i>Alex Cousins</i>	<i>March 1, 2007</i>
<i>Jennifer and James Farmer</i>	<i>March 1, 2007</i>
<i>Ashley Hightower</i>	<i>March 1, 2007</i>
<i>Cody Myrick</i>	<i>March 1, 2007</i>
<i>Daniel Barringer</i>	<i>March 1, 2007</i>
<i>Martha Hughes</i>	<i>March 1, 2007</i>
<i>David Beaver</i>	<i>March 1, 2007</i>
<i>Donna L. Pleasant</i>	<i>March 1, 2007</i>
<i>Donnie Swaringen</i>	<i>March 1, 2007</i>
<i>Dustin Poplin</i>	<i>March 1, 2007</i>
<i>Elizabeth M. Hill</i>	<i>March 1, 2007</i>
<i>Kristen B. Laton</i>	<i>March 1, 2007</i>
<i>Lindsay Smith</i>	<i>March 1, 2007</i>
<i>Martha Sullivan</i>	<i>March 1, 2007</i>
<i>Michael P. Laton, Sr.</i>	<i>March 1, 2007</i>
<i>Michael P. Laton, Jr.</i>	<i>March 1, 2007</i>
<i>Natalie Almond</i>	<i>March 1, 2007</i>
<i>Richmond County Tourism Authority</i>	<i>March 1, 2007</i>
<i>Robbie Walters</i>	<i>March 1, 2007</i>
<i>Sarah G. Bivins</i>	<i>March 1, 2007</i>
<i>Brooke Laton</i>	<i>March 5, 2007</i>
<i>Town of Spencer</i>	<i>March 5, 2007</i>
<i>Michael Benham</i>	<i>March 5, 2007</i>
<i>Jon Reynolds</i>	<i>March 19, 2007</i>
<i>P-2206</i>	
<i>JMG Land and Timber Inc.</i>	<i>January 16, 2007</i>
<i>Jane Watson</i>	<i>January 31, 2007</i>
<i>Terry Sharpe</i>	<i>January 31, 2007</i>

<i>Entity</i>	<i>Dated Filed</i>
<i>P-2206 continued</i>	
<i>William Campbell</i>	<i>January 31, 2007</i>
<i>Maynard Stickney</i>	<i>February 5, 2007</i>
<i>Jerry Meacham</i>	<i>February 9, 2007</i>
<i>John Mullis</i>	<i>February 21, 2007</i>
<i>John and Martha Hough</i>	<i>February 21, 2007</i>
<i>Ron and Nancy Bryant</i>	<i>February 22, 2007</i>
<i>Richmond County Bd. of Commissioners</i>	<i>February 23, 2007</i>
<i>Town of Norwood</i>	<i>February 26, 2007</i>
<i>Dr. and Mrs. James L. Marshall</i>	<i>February 26, 2007</i>
<i>Joyce Bissonette</i>	<i>February 26, 2007</i>
<i>Richmond County Tourism Authority</i>	<i>March 1, 2007</i>
<i>Anson County</i>	<i>March 2, 2007</i>
<i>Raymond Miller</i>	<i>March 5, 2007</i>

All comments received are part of the Commission's official record for the projects. Information in the record is available for inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street, NE, Room 2A, Washington DC, 20246, or by calling (202) 208-1371. Information may be viewed through the eLibrary on the Commission's webpage (www.ferc.gov). Call (202) 208-2222 for assistance.

2.2.1 Issues Raised During Scoping

The general concerns raised by participants in the scoping process are summarized below by subject area. Both oral and written comments are addressed in the summary. The summary does not include every oral and written comment made during the scoping process. For instance, we do not address comments that are recommendations for schedule changes, or whether or not we should prepare an environmental assessment (EA) rather than an EIS, or minor editorial corrections. We also have not included comments that are recommendations for license conditions. Such recommendations will be addressed in the EIS.

GENERAL

Comment: Alcoa Generating comments that SD1 incorrectly states that the current license for the Yadkin Project expires on May 19, 2008, and that SD2 should correct that date to April 30, 2008.

Response: The license expiration date for the project has been corrected in the SD2.

Comment: *Patricia B. Shaver comments that renewal of Project No. 2197-073 should not be affected by the possible future closing of Alcoa's Badin Plant and that Alcoa Generating has a proven record of stewardship.*

Response: *Relicensing Project No. 2197 is unrelated to the possible future closing of the Badin Plant or any other Alcoa Inc. business activity not associated with the operation of the Yadkin Project by Alcoa Generating.*

Comment: *SaveHighRockLake.org (SaveHighRock) requests that the Commission limit the license term for the Yadkin Project to no more than 30 years because of increased recreation use projections.*

Response: *The term for any new license issued for the project will be determined by the Commission at the time of license issuance.*

Comment: *Progress Energy comments that section 4.2 of SD1 presents several resource issues for Project 2206-030 which it believes there is no evidence of any issues (e.g., salinity in the estuary, effects of upstream sources of pollution discharge), and it suggests that the Commission follow the intent of NEPA and focus on resources that have been identified as issues throughout the relicensing process.*

Response: *This SD2 includes a revised list of issues that will be addressed in the EIS, based on our analysis of the comments received during the scoping process, our site visits, and the complete public record for this proceeding.*

Comment: *The city of Rockingham requests that the Commission staff discuss with public agencies, including Rockingham, how it can effectively cooperate in the analysis of impacts and in the preparation of the EIS.*

Response: *Our process for preparing an EIS is delineated in our regulations and includes multiple opportunities for agency and public comments, including via the scoping process prior to preparation of the draft EIS, and after issuance of the draft EIS. After issuance of the draft EIS, we will hold public meetings in the project area, where agencies and the public may offer comments and corrections/suggestions on the EIS, in addition to filing written comments on the draft EIS. All comments made on the draft EIS will be considered in our preparation of the final EIS, which may be revised based on those comments. In addition, staff notes that in the tendering notices issued by the Commission for the Yadkin and Yadkin Pee Dee projects on May 10, 2006, FERC staff had solicited agency cooperation but did not receive any responses.*

Comment: *The city of Rockingham requests that the Commission staff convene a technical conference before publication of the EIS so the staff and experts for the licensee and other parties can discuss and exchange scientific data.*

Response: *Commission staff may convene a technical conference if there is a specific technical issue that would benefit from such a conference, in which staff might gain a better understanding of the issue, or that might result in resolution of the issue.*

We see no issues at this time in this proceeding that would benefit from holding such a conference.

Comment: *Duke Energy Carolinas, LLC (Duke) is concerned about the proposed operation of the Yadkin project and its direct effects on the continued operation of Duke's Buck Steam station, a coal-fired electric generating facility that uses water from the High Rock reservoir. Duke wants the EIS to evaluate three items: (1) measures to ensure the Yadkin project operates in a manner that would minimize the number of days the High Rock reservoir is drawn down 10 feet or more below full pond elevation; (2) a water quantity model for the Yadkin project that encompasses a 50-year time period that would include future projections for hydrology, sediment fill, and water withdrawals; and (3) a water quantity model that includes projected upstream power plant usage of the Yadkin River for cooling waters by Duke over the next 50 years.*

Response: *Staff will evaluate Duke's concerns, including the effects of High Rock Lake drawdowns, non-project water withdrawals, and sedimentation in the EIS. The 30 years of data and modeling results included in the record will cover the hydraulic variability of the system (including the 2002 drought). These hydrologic and lake level data, along with substantial information on sedimentation and non-project water withdrawals, will support staff's independent analysis of Duke's concerns in these areas.*

PROPOSED ACTION AND ALTERNATIVES

Comment: *Alcoa Generating comments that the following revisions are needed to the Yadkin Project table for inclusion in a revised SDI:*

- *The first item under the category Fish, Wildlife, and Botanical in the Proposed Action column needs to end with "when needed."*
- *The fourth item under the category Fish, Wildlife, and Botanical in the Action Alternative column should be revised to state "Provide up to \$50,000 to work with North Carolina WRC to monitor freshwater mussel population in the Falls tailwater, within 10 years of license issuance. If at the completion of the 10-year mussel monitoring period, the licensee and North Carolina WRC agree that recruitment of the freshwater mussel species occurring in the Falls tailwater area is not sufficient to justify continued management efforts in this location, within 1 year of such a finding, the licensee will make a one-time contribution of \$50,000 to North Carolina WRC to assist with freshwater mussel management efforts elsewhere in the watershed."*
- *The fifth item under the category Fish, Wildlife, and Botanical in the Action Alternative column should be revised to state "Work cooperatively with North Carolina DWR and North Carolina WRC to monitor invasive exotic*

species of concern at the project and make up to \$25,000 available to the North Carolina agencies, on a 50 percent cost share basis, to undertake appropriate control actions, as needed.”

- *The second item under the category Cultural Resources in the Action Alternative column should be denoted as “Same.”*
- *The item under the category Other in the Action Alternative column should state “Modify the existing SMP within 2 years of license issuance.”*

Response: *We added these corrections to the table.*

Comment: *Stanly County comments that federal takeover of the project should be considered in the alternatives analysis.*

Response: *The Commission’s regulations at 18 C.F.R. section 16.14 require that any recommendation for federal takeover be filed no later than the comment due date specified in the Notice of Application issued on May 10, 2006 for the Yadkin Project. The comment due date was June 25, 2006. No federal agency filed such a recommendation. Federal takeover would require Congressional approval. While that fact alone would not preclude further consideration of this alternative, there is currently no evidence showing that a federal takeover should be recommended to Congress, and no federal agency has expressed an interest in operating the project.*

Comment: *EPA comments that it is unclear what alternatives will be analyzed in the EIS, specifically what constitutes the applicants’ proposed actions. North Carolina WRC comments that the signatories of the Alcoa Generating AIP have finalized a Relicensing Settlement Agreement (RSA) for the Yadkin Project, which should be filed with the Commission in April 2007, and that SD1 should be modified to use the RSA as the preferred alternative in the EIS. It also comments that the signatories of the Progress Energy AIP expect to file a Final Comprehensive Agreement (FCA) for the Yadkin-Pee Dee Project with the Commission in April 2007, and that SD1 should be modified to use the FCA as the preferred alternative in the EIS.*

Response: *The SD1 stated that the EIS will, at a minimum, include the applicants’ proposed actions, staff alternatives to the proposed actions, and no action. The SD1 further describes that the applicants’ proposed actions including their original (license application) proposals and the proposals associated with the respective Agreements in Principle (AIP). Should the AIP(’s) be finalized and signed by all the parties prior to issuance of the EIS, the final settlement agreement(s) will become the new proposal(s) and the likely alternatives for analysis will include the proposed action, staff alternatives to the proposed action, and no-action.*

Comment: *The city of Rockingham comments that the EIS should include and analyze a reasonable range of alternatives to Progress Energy’s proposal for P-2206 and that these action alternatives should be displayed as discrete action alternatives, not just accepted or rejected elements of whatever the staff’s ultimate preference may*

be. It further requests that the EIS analyze how each action alternative, including alternative minimum flow releases, would affect the baseline condition of each resource.

Response: *The EIS will consider a range of reasonable alternatives to project licensing, including alternative mitigation and enhancement measures for all resources affected by the project. Our analysis will include an assessment of how baseline resources would be affected, to the extent that type of analysis can be completed with a good scientific basis.*

Comment: *Progress Energy comments that section 4.1.1.2 of SD1 incorrectly states that all six units at Blewett Falls Development are the same size and refers the Commission to exhibit A, table A-3, of the license application for information about how units 1–3 and 4–6 differ. Progress Energy also comments that in several places of SD1, the Commission confuses the North American Vertical Datum (NAVD) elevation of the reservoirs and refers the Commission to exhibit B, section 3.4, of the license application for the correct normal full pool elevations (i.e. Lake Tillery at 277.3 feet and Blewett Falls Lake at 177.2 feet). Finally, Progress Energy requests that the description of the Tillery plant be expanded to include information about load-following purposes.*

Response: *The descriptions of the units at the Blewett Falls Development, the normal pool elevations, and the plant operations at the Tillery Development have been corrected in the SD2.*

CUMULATIVE EFFECTS

Comment: *Alcoa Generating comments that, although SD1 states Alcoa Generating operations are based on operating agreements with Duke's Buck Power Station, it has no operating agreements with Duke. The city of Rockingham comments that Commission staff should analyze whether Alcoa and Progress Energy coordinate operations of the projects under written agreements or standard practices; what operating agreements with Duke require; and how any new licenses might enhance existing coordination to benefit developmental and non-developmental uses.*

Response: *We have corrected this statement in SD2, and our analysis will consider the effects of reservoir operations on other resources, including the Buck Power Station.*

Comment: *EPA, South Carolina DNR, and American Rivers recommend including similar geographic scopes for both water quality and water quantity (i.e., from W. Kerr Scott reservoir downstream to the Atlantic Ocean) to ensure an adequate cumulative analysis. Progress Energy, however, states that extending the geographic scope to the Atlantic Ocean is too expansive and recommends that the geographic scope should only extend to the downstream limit of influence.*

Response: *We agree that the geographic scope of the cumulative effects analysis for water quality and quantity should extend from the W. Kerr Scott reservoir downstream to the Atlantic Ocean and have revised the SD2 to clarify this. Staff's cumulative analysis of this geographic scope would not be too expansive and would still include an analysis of the project-specific effects of the Yadkin-Pee Dee project on water quality and quantity within the downstream limits of project influence.*

Comment: *Progress Energy comments that the last sentence in section 4.1 of SD1 should be revised to state that the entire hydroelectric system on the Yadkin and Pee Dee rivers influences the flows release from Blewett Falls Development.*

Response: *This suggested correction has been made to the SD2.*

Comment: *EPA recommends that the EIS evaluate potential environmental impacts for the potential 50-year term of the licenses.*

Response: *The EIS will assess cumulative effects up to 50 years into the future, to the extent that available information allows such an analysis.*

Comment: *The city of Rockingham requests that Commission staff analyze how the cumulative regulation of flow affects recreation.*

Response: *The EIS will assess how flow regulation in the river affects river flows in the various river segments, and the drawdowns that may occur as a result of minimum flow releases. Any associated effects on recreation will also be discussed.*

Comment: *Mr. Podgaysky says he is concerned about the future operation of the Yadkin Project and its flow releases, based on potential and future water withdrawals and transfers of water entering High Rock Lake from the Yadkin River to other cities such as Kannapolis and Concord.*

Response: *This comment hinges on state water rights which are beyond the Commission's jurisdiction and authority. To the extent that we can, we will evaluate the effects of any existing and planned water transfers in the cumulative effects analysis section of the EIS.*

GEOLOGY AND SOILS

Comment: *North Carolina WRC comments that section 4.2.1 should also include the effects of the project on substrate composition in the tailwater areas immediately downstream of Tillery and Blewett Falls Developments, as evaluated by Progress Energy.*

Response: *Progress Energy substrate studies downstream of the two developments will be used to characterize any effects of project operations on substrate composition.*

WATER RESOURCES

Comment: *Alcoa Generating comments that the action alternatives for reservoir levels in High Rock and Narrows reservoirs should be modified. EPA states that the action alternative for High Rock reservoir should allow for exceptions to the reservoir operating guide curve as provided under the Low Inflow Protocol (LIP), similar to what is described for Narrows reservoir. EPA further states that one important element for both projects is the inclusion of a jointly managed LIP to prescribe project operation and water conservation during periods when there is not enough water in the system to meet all needs. Many individuals comment that alternative lake level regimes for both projects should be analyzed in the EIS.*

Response: *The EIS will analyze action alternatives for all project reservoirs, including the effects of implementing any LIP.*

Comment: *Carolina Sand and Janet Morrow are concerned about the effects of rapid and dramatic water level fluctuations on High Rock Lake and the subsequent effects on aquatic and terrestrial resources, water temperature changes, recreation, sedimentation and sediment removal, pollution, and shoreline changes. Save High Rock and many individuals are also concerned about drawdowns at High Rock Lake and request modification of Alcoa Generating's proposed operating guide for High Rock Lake to limit fluctuations to no more than 6 feet below full pool from November 1 to March 1. Save High Rock Lake also requests removal of provisions in the proposed operating guide for P-2197 that would allow discharges from High Rock Lake at a rate that can be as high as 30 percent more than are necessary to meet the downstream minimum flow requirements as measured at the Falls Development.*

Response: *The EIS will assess the effects of Alcoa Generating's proposed reservoir levels and discharges on fisheries, wildlife, recreation, and other resources on the reservoir and will consider alternative reservoir rule curves, including those proposed by Save High Rock.*

Comment: *Stanly County and several individuals request that the Commission expand the preliminary list of issues presented in SD1, and that, as part of the EIS, the Commission require: (1) Alcoa Inc. disclosure of information regarding contamination associated with the Badin Smelting Works, (2) comprehensive screening and site characterization of Alcoa Inc. owned property in Stanly County where informal, off-site smelting waste disposal could have occurred, (3) Alcoa Inc. disclosure of arsenic emission and its impact on land and water resources including contamination of Badin Lake, and (4) detailed studies of contamination of Badin Lake and other reservoirs by Alcoa Inc. Several individuals also express concern about arsenic in wells and clean up of hazardous waste sites on or near Alcoa Inc.-owned land. They would like the Commission to stop the relicensing process for Alcoa Generating so that investigations into these issues can be completed. Further, they question the validity of tests conducted to date by Alcoa Inc. and would like to see*

Alcoa Generating held accountable for documentation regarding testing of Alcoa Inc.'s toxic waste dump sites in Stanly County.

Response: In a hydropower licensing proceeding, the Commission's authority applies to the license applicant and the hydroelectric project. The license application review extends to the effects of the operation of the hydropower facilities and management of land within the hydroelectric project boundary. The license applicant in this proceeding is Alcoa Power Generating, Inc. (or APGI), which we refer to for convenience as "Alcoa Generating." Alcoa Generating's application is for the relicensing of the Yadkin River Hydroelectric Project. Alcoa Inc., which owns the Badin Works, is a distinct company and its facilities are not part of the hydroelectric project or this proceeding.

We have considered and researched the potential contamination issue. Alcoa Generating reports by letter filed on March 22, 2007, that there is one hazardous waste site within the Yadkin Project boundary. The single hazardous waste site was identified within the Narrows development project boundary by North Carolina DENR in 2001. However, North Carolina DENR included this site on its list of inactive hazardous waste sites in 2003. Alcoa Generating is currently developing remediation options for the site with North Carolina DENR. Alcoa Generating reports that no other Alcoa Inc. waste sites, or locations where contamination has been detected, occur within the Yadkin project boundary. Testing at the Narrows development site shows no direct link between the contamination at the site and adjacent surface waters. Therefore, we find that the contamination issue associated with the Badin Works by Alcoa Inc. is not related to the operation of the Yadkin Project by Alcoa Generating and is outside of the scope of the EIS.

Comment: Alcoa Generating, Progress Energy, South Carolina DNR, North Carolina DENR, FWS, and EPA also comment that minimum flows/inflows should be changed from weekly average flows to daily average flows for the Yadkin Project, as described for the Action Alternative in the SD1.

Response: This correction has been made in the SD2.

Comment: Rowan County and the towns of Cleveland, Spencer, East Spencer, and Faith request that any new license issued for the Yadkin Project protect the water supply from flooding and sedimentation problems caused by the project. The town of Norwood states its interest in its water supply as it relates to the Yadkin-Pee Dee Project.

Response: We will assess any effects of project operations on water supply and other uses of project waters in the EIS.

Comment: EPA recommends that Commission staff coordinate with EPA and the state of South Carolina to meet requirements of the Clean Water Act and to ensure that any new licenses for the projects comply with applicable water quality requirements in South Carolina. EPA comments that several water bodies in the

project area are not meeting designated uses and are considered impaired, related to turbidity, chlorophyll a, and low DO. EPA notes that, although not included in SD1, both Alcoa Generating and Progress Energy have agreed to participate in the North Carolina Total Maximum Daily Load (TMDL) processes for the projects. The city of Rockingham also comments that Commission staff should analyze whether the minimum flow release proposed by Progress Energy for the Yadkin-Pee Dee Project would result in compliance with applicable state DO standards, including periods of non-generation, and whether the plan includes adaptive management if compliance is not achieved.

Response: *The EIS will assess the effects of project operations on DO levels and other water quality parameters and the measures proposed by the applicants for DO enhancement. Both projects will have to apply for state 401 Water Quality Certificates prior to any licensing decision being made by the Commission.*

Comment: *The city of Rockingham comments that the EIS should include alternative minimum flow release schedules that range from 500 to 1,300 cfs (or more) to benefit the stream reach below the Tillery Development. FWS also suggest an alternative flow regime of between 800 and 1,000 cfs below Tillery dam to benefit fisheries. Likewise, the Richmond County Tourism Development Authority states its concern that, if flows from the Tillery Development are decreased while flows from Blewett Falls Development are increased, the water surface level in Blewett Falls Lake will decrease dramatically, affecting spawning, recreation, and fishing. William Campbell is concerned about the effects of low water levels in Blewett Falls Lake caused by the Yadkin-Pee Dee Project on fish and wildlife, including effects on fish spawning and ducks.*

Response: *The EIS will analyze a range of alternative minimum flows downstream of the Tillery and Blewett Falls Developments, by assessing effects on downstream aquatic habitat for fish and wildlife, on reservoir levels that would result by providing the flows, and on project economics.*

Comment: *The city of Rockingham recommends the following revisions (new text is underlined) to the bulleted list in section 4.2.2, Water Resources (for both projects), for SD2.*

- *Add to the end of the second bullet: “The potential effects of proposed and alternative flow regimes on water use, levels, and availability in the reaches influenced by project operations. For each project and affected reach, the analysis of each alternative will include (a) flow exceedance curve(s) at representative locations, (b) estimation of the frequency and volume of intra-day and intra-week flow fluctuations as a result of power generation, and (c) estimation of flow depth and width at representative transects.”*
- *Revise the fifth bullet to read: “The effects of continued project operation (under each action alternative) on the project’s compliance with each of*

North Carolina’s water quality standards (including designated beneficial uses, narrative and numeric objectives, and the anti-degradation policy) applicable to the affected reach.”

- **Revise the seventh bullet to read: “The effects of project generation (under each action alternative) on point source and non-point source pollution discharges (including existing and scheduled) TMDLs upstream and downstream of the project.”**

Response: We have considered the city’s suggestions for the list of water resource issues for coverage in the EIS and have made modifications where appropriate.

AQUATIC RESOURCES

Comment: NMFS recommends that Commission staff include in the EIS a separate sub-section for essential fish habitat consultation. NMFS notes that it appended information and reports for Commission use during preparation of the EIS. These include Shortnose Sturgeon in the Winyah Bay System, South Carolina; several newspaper articles; and Habitat Suitability Index Models and Instream Flow Suitability Curves: American Shad.

Response: The EIS will include a separate section on essential fish habitat, consistent with Commission staff’s practice. Staff appreciates NMFS filing this information, which will be helpful in our analysis of project-caused effects on fisheries for both projects.

Comment: The city of Rockingham requests that Commission staff analyze whether the restoration plan for diadromous fish includes trackable objectives for the future population or habitat conditions; how these objectives relate to baseline conditions; and whether the plan provides for adaptive management.

Response: The EIS will analyze the diadromous fish restoration plan for the Yadkin-Pee Dee River as it relates to the projects that are the subject of this proceeding, but the actual contents of that plan are the responsibility of the agencies that prepared the plan.

Comment: The city of Rockingham recommends the following revisions (new text is underlined) to the bulleted list in section 4.2.3, Aquatic Resources, for SD2:

- **Revise the second bullet to read: “The effects of project flow releases (under each action alternative) on aquatic habitat in the Yadkin and Pee Dee rivers downstream of the projects. The analysis will include Habitat Duration Analysis (HDA) as well as other metrics which may be monitored as appropriate as conditions of new licenses.”**
- **Revise the third bullet to read: “The effects of project operations on diadromous fish migrations and spawning, and on the overall fish**

restoration efforts in the Yadkin and Pee Dee rivers. The analysis will include HDA as well as other metrics which may be monitored as appropriate as conditions of new licenses.

Response: We have considered the city's suggestions for the list of aquatic resource issues for coverage in the EIS and have made modifications where appropriate.

Comment: Regarding the fish ladder at the Blewett Falls Development, William Campbell would like to know if the existing ladder or a new ladder would allow for passage or will all passage depend on trap and transport. He also would like to know who will be responsible for monitoring such fish passage.

Response: According to information provided by Progress Energy, the existing fishway at the Blewett Falls dam is inoperable, and as part of the restoration plan for diadromous fishes of the Yadkin-Pee Dee River Basin, they propose to implement in the future a fish passage plan that would entail trap and transport methods of passage. Staff will evaluate the need for fish passage at the Yadkin-Pee Dee project, the types of passage measures and structures, and other operational concepts as part of our analysis of the Yadkin-Pee Dee project's effects on aquatic resources. The responsibility for monitoring fish passage, if any, would be determined once staff has evaluated this issue in the EIS.

THREATENED AND ENDANGERED SPECIES

Comment: NMFS comments that, because of the endangered status of the shortnose sturgeon under the Endangered Species Act, it recommends that the Commission prepare a biological assessment and initiate section 7 consultations pursuant to 50 CFR 402.01.

Response: The EIS will include a biological assessment of the potential effects of the projects on the shortnose sturgeon, and if we conclude that the projects would be likely to adversely affect the shortnose sturgeon, we will initiate section 7 consultation with NMFS.

RECREATIONAL RESOURCES

Comment: The Forest Service would like to see Alcoa Generating (1) contribute toward protection and future sustainability of public recreational opportunities at the Narrows and Falls reservoirs; (2) provide accessible, safe, and high-quality camping, hiking, picnicking, watercraft, nature watching, and fishing opportunities; and (3) provide a diversity of high-quality recreational experiences/sites and natural landscape settings.

Response: The EIS will assess the current recreational opportunities at the Yadkin Project, and the need for additional opportunities to be provided as part of any new license for the project.

Comment: *The city of Salisbury supports Alcoa Generating's proposal to close the Rowan County Pump Station Access Area, because of security issues, and believes that the Commission should order the closure of the area.*

Response: *The EIS will assess the need for the boat access area and whether or not it should be closed.*

Comment: *The city of Rockingham comments that, for the proposed access facility at Clarks Creek to the 19-mile reach of the Pee Dee River between the foot of the Tillery Dam and Blewett Reservoir ("Tillery Reach"), the Commission staff should analyze the capacity for parking, ability to launch different types of boats, bank fishing; the adequacy of such recreational capacity under alternative flow releases; and compliance with the Americans with Disabilities Act (ADA). The city further recommends that Commission staff require a field study to test actual conditions for recreational uses of Tillery Development releases under a reasonable range of flow alternatives.*

Response: *The EIS will assess the potential capacity and uses for the proposed Clark Creek access point. Staff has sufficient data to analyze this issue in the EIS. Staff sees no need for additional field studies at this time.*

Comment: *Recreational enhancements were recommended at different locations throughout both projects. These include:*

- *Save High Rock requests that Alcoa Generating provide lighted buoys at bridges and anywhere hazards exist more than 200 feet from the nearest shoreline in High Rock Lake. (Yadkin Project)*

- *The city of Rockingham suggests the Commission staff consider specific locations for the proposed expansion or enhancement of the Yadkin-Pee Dee River Trail. The city would also like to see other improvements, including posting of safety information, an analysis of the capacity of the roads and parking, an appropriate trash removal schedule, and ADA accessible facilities at the Pee Dee Access and Grassy Island (Mountain Creek) Access areas. (Yadkin-Pee Dee project)*

- *William Campbell requests public river access from Richmond County and that Progress Energy be responsible for cutting old tree snags to ensure recreational safety at Blewett Falls Lake. (Yadkin-Pee Dee Project)*

Response: *The EIS will assess the current recreational opportunities at the Yadkin and Yadkin-Pee Dee projects. This analysis will include evaluating the need for increased capacity at current recreation sites and the need for additional recreation facilities, the need for appropriate signage, and the need for other safety measures associated with the recreational uses of project waters at both projects.*

Comment: *Mr. Podgaysky states that the fees assessed for erosion control and stabilization for the Yadkin Project under the current shoreline management plan are too costly and should either be dropped completely or reduced to a modest fee.*

Response: *The licensee is authorized under its license to establish a program for issuing permits for specified types of use and occupancy of project lands and waters to assist the licensee in managing project lands and waters. As part of this program the licensee may charge a reasonable fee to cover the licensee's cost of administering the permit program.*

Comment: *The city of Rockingham recommends the following revisions (new text is underlined) to the bulleted list in section 4.2.7, Recreational Resources, for SD2:*

- *The effects of project operations (under each action alternative), including lake level fluctuations and minimum flows, on recreational resources (including small craft navigation, canoeing, and sportfishing).*
- *The ability of the existing and proposed recreational facilities and enhancements to meet current and future recreational demand. This will include an estimate of the capacity of each affected river reach for recreational uses under each flow alternative.*

Finally, the city of Rockingham requests the analysis of non-developmental benefits of recreational uses under flow alternatives and requests that this be added to the bulleted list.

Response: *We have considered the city's suggestions for the list of recreational resource issues for coverage in the EIS and have made modifications where appropriate, including clarifying that we will analyze the benefits of flow alternatives on boating and fishing.*

Comment: *Ron and Nancy Bryant want Progress Energy to implement a better notification/warning system for their water releases from the Blewett Falls development to ensure safety for recreational users of the river below the development.*

Response: *Staff will evaluate proposed project operations at the Yadkin and Yadkin-Pee Dee projects and measures proposed or needed to ensure the safety of recreational users at each project.*

Comment: *Kenneth Robinette of the Richmond County Board of Supervisors indicated he is concerned about fluctuating water levels in Blewett Falls reservoir and how these water level changes can adversely affect fish, wildlife, and recreational activities on the reservoir. He states the EIS should evaluate the development of an additional boating access site on the Richmond county side of the Blewett Falls reservoir as the current boating access site (Mountain Creek) is sometime unusable because of fluctuating reservoir water levels.*

Response: *Staff will be evaluating concerns raised about the Yadkin-Pee Dee project's potential effects on fish, wildlife, and recreational opportunities, including whether there is a need for additional recreational boating access sites on the Blewett Falls reservoir.*

Comment: *Several stakeholders addressed their needs for additional access including:*

- *The town of Norwood requesting an ADA accessible site on Lake Tillery constructed within their nearly 2-mile long shoreline.*
- *The city of Rockingham, Anson County, and the Richmond County Tourism Development Authority commenting that additional access is needed for the Yadkin-Pee Dee Project's Blewett Falls Lake.*
- *William Campbell requesting that Progress Energy provide a public access to the Pee Dee River on property it owns between U.S. Highway 74 and the South Carolina state line.*

Response: *The EIS will assess the current recreational opportunities at the Yadkin-Pee Dee Project, and the need for new and additional facilities associated with recreational uses of project waters.*

LAND USE

Comment: *EPA and FWS recommend inclusion of a shoreline management plan for both the Yadkin and Yadkin-Pee Dee Projects to protect sensitive wetlands and riparian and terrestrial habitat along the reservoir shorelines. EPA also notes that the Progress Energy AIP identified a shoreline management strategy for Blewett Falls Lake that would focus on natural resource protection, which EPA supports as a condition of the new license. William Campbell feels that any new license for the project should ensure that the property surrounding Blewett Falls Lake remains undeveloped.*

Response: *The EIS will assess the adequacy of any existing or proposed shoreline management plans for both projects and will recommend appropriate shoreline management measures based on this analysis.*

Comment: *Maynard Stickney is concerned about the effects the construction of a proposed 1,186-unit housing development on Lake Tillery would have on Lake Tillery, downstream areas, and land use around the reservoir. Specifically he is concerned the new housing and land development could: (1) increase watercraft usage of the lake and cause additional safety concerns; (2) cause increased shoreline erosion; (3) increase ambient noise levels; (4) cause additional damage to seawalls, boathouses, and other shoreline structures; and (5) generally adversely affect fish, wildlife, water quality and the overall Lake Tillery environment.*

Response: *Private development and other activities not associated with the Yadkin-Pee Dee Project relicensing would be taken into account in our cumulative effects analysis.*

SOCIOECONOMIC RESOURCES

Comment: *Stanly County and several individuals request that the EIS analyze the socioeconomic impacts of discontinuing the use of low-cost Yadkin Project power for manufacturing activities in Badin, and address mitigation of Stanly County's infrastructure costs and impacts on county residents who were encouraged to move to the area because of Alcoa Inc.'s need for workers.*

Response: *Our analysis will look at socioeconomic effects of relicensing the Yadkin Project on surrounding communities.*

Comment: *Several individuals would like the Commission to reject Project No. 2197 because there is little or no provision for the creation of jobs or economic benefits to the region.*

Response: *The EIS will estimate the amount and value of power produced at the Yadkin Project and the effect on project economics of measures recommended as license conditions. In addition, the EIS will include an analysis of the socioeconomic conditions of surrounding communities.*

CULTURAL RESOURCES

Comment: *Trading Ford Historic District Preservation states that there is an error in footnote 2 of staff's letter dated December 28, 2006, which indicates that four sites within the Trading Ford letter were determined to be "not eligible for inclusion in the National Register." Trading Ford Historic District Preservation states that, in fact, other than those elements determined eligible as part of the Yadkin River Crossings Historic District, all National Register eligibility questions regarding the Trading Ford Historic District remain undetermined. It points out that the Yadkin Crossing Historic District should include the Big Island. It further states that the National Register Eligibility Study in the Trading Ford area, as well as the entire project area, is incomplete.*

Response: *The EIS will include in its analysis any new or updated information that is filed with the Commission, and we request that any such information be filed as soon as practicable.*

COMPREHENSIVE PLANS

Comment: *The Forest Service comments that it submitted the Croatan and Uwharrie Land and Resource Management Plan (Uwharrie Plan) for consideration as a comprehensive plan, although it does not anticipate that the relicensing of the Yadkin Project will conflict with that plan.*

Response: *We have received the plan for consideration and have accepted it as a comprehensive plan under section 10(a)(2)(A) of the FPA. The EIS will assess whether relicensing of the project is consistent with the Uwharrie Plan.*

Comment: *The city of Rockingham also requests that Commission staff consider information in the following plans in addition to those already listed in the SDI:*

- *North Carolina Wildlife Resources Commission. 2005. Fisheries and wildlife plan for the Yadkin River basin. Raleigh, NC.*
- *North Carolina Wildlife Resources Commission. 2005. North Carolina Wildlife action plan. Raleigh, NC.*
- *U.S. Fish and Wildlife Service, National Marine Fisheries Service, North Carolina Wildlife Resources Commission, and South Carolina Department of Natural Resources. 2006. Restoration plan for the diadromous fishes of the Yadkin-Pee Dee River basin, North Carolina and South Carolina.*

Response: *The EIS will assess these plans that were inadvertently omitted from SDI. These three plans have been approved by the Commission as comprehensive plans and therefore the two proposed projects would be evaluated for their consistency with these plans.*

3.0 PROPOSED ACTIONS

3.1 APPLICANTS' PROPOSED ACTION

Alcoa Generating and Progress Energy propose to continue to operate and maintain the Yadkin and Yadkin-Pee Dee projects, respectively on the Yadkin River and Pee Dee River, in North Carolina. The Commission is considering whether and under what, if any, conditions to issue new licenses for these projects. The current licenses for both projects expire on *April 30, 2008*.

For the Yadkin-Pee Dee Project, proposed structural changes are limited to methodologies for aeration following the completion of studies at the Tillery and Blewett developments. Alcoa Generating proposes to make structural changes at each of its four developments that include upgrading generating units over time to include aeration technology in some cases. Operational changes are proposed for both projects.

3.1.1 Project Facilities and Operations

3.1.1.1 Yadkin Project

The existing Yadkin Project consists of four developments on the Yadkin River: High Rock, Tuckertown, Narrows, and Falls. The High Rock development is the uppermost development (river mile [RM] 253) and includes the following constructed facilities: (1) a 101-foot-high, 936-foot-long, concrete gravity dam, with a 550-foot-long, gate-controlled spillway; (2) 10, 45-foot-wide (Stoney) floodgates; (3) a 14,400-acre reservoir, with a normal pool elevation of 623.9 feet U.S. Geological Survey (USGS) datum and a usable storage capacity of 217,400 acre-feet; (4) a powerhouse, integral to

the dam, containing three vertical Francis turbine-generator units with a total installed capacity of 32 megawatts (MW); and (5) appurtenant facilities.

The Tuckertown development (RM 244.3) includes the following constructed facilities: (1) a 76-foot-high, 1,370-foot-long, concrete gravity dam with sections of rock fill and earth fill embankment; (2) a 480-foot-long spillway with 11 Taintor gates 35-feet-wide and 38-feet-high; (3) a 2,560-acre reservoir, with a normal pool elevation of 564.7 feet USGS and a usable storage capacity of 6,700 acre-feet; (4) a powerhouse, integral to the dam, containing three Kaplan turbine-generator units with a total installed capacity of 38 MW; and (5) appurtenant facilities.

The Narrows development (RM 236.5) includes the following constructed facilities: (1) a 201-foot-high, 1,144-foot-long, concrete gravity dam with a 640-foot-long main spillway; (2) 22, 25-foot-wide by 12-foot-high (Taintor) flood gates and a trash gate; (3) a 128-foot-long intake structure with four 20-foot by 20-foot openings each with two vertical lift gates; (4) four 15-foot-diameter steel-lined penstocks; (5) a powerhouse located 280 feet downstream of the dam; (6) a 520-foot-long bypass spillway with 10 Stoney gates (35-feet-wide by 28-feet-high) a trash gate, and a 90-foot-long non-overflow gravity section; (7) a 5,355-acre reservoir, with a normal pool elevation of 509.8 feet USGS and a usable storage capacity of 129,100 acre-feet; (8) four vertical Francis turbine generators with a total installed capacity of 108 MW; and (9) appurtenant facilities.

The Falls Development (RM 234) includes the following constructed facilities: (1) a 112-foot-high, 750-foot-long, concrete gravity dam; (2) a 526-foot-long spillway with a 441-foot section with 10 Stoney gates (33-feet-wide by 34-feet-high), a 71-foot section with two Taintor gates (25-feet-wide by 19-feet- and 14-feet-high, respectively), and a 14-foot-long trash gate section; (3) a 204-acre reservoir, with a normal pool elevation of 332.8 feet USGS and a usable storage capacity of 940 acre-feet; (4) a powerhouse, integral to the dam, and containing one S. Morgan Smith vertical Francis turbine-generator and two Allis Chalmers propeller type turbine-generators with a total installed capacity of 31 MW; and (5) appurtenant facilities.

Alcoa Generating operates the High Rock development in a store-and-release mode (peaking operation), and the Tuckertown, Narrows, and Falls Developments in a daily run-of-river mode. The High Rock development provides storage for the three downstream developments, and the Narrows development provides some storage during low flow conditions and emergencies. The maximum annual drawdown for High Rock is 13 feet, with drawdowns of 5 feet or less typical during the summer months. At the other developments, the maximum annual drawdown is 3 to 4 feet, with an average daily drawdown of up to 1 to 2 feet.

According to a 1968 Headwaters Benefits Settlement, Alcoa Generating is to operate High Rock reservoir such that regulated weekly average stream flow would be reduced to a flow not less than 1,500 cubic feet per second (cfs) during the 10-week period preceding May 15; 1,610 cfs during the period May 15 through July 1; and 1,400

cfs during the period July 1 through September 15. During the 2002 drought, Alcoa Generating and Progress Energy agreed, in a regional Emergency Drought Management Protocol (now expired), to operate the projects so as to achieve a daily average flow of 900 cfs as measured at the Rockingham, North Carolina, U.S. Geological Survey gage, which is located about 3.6 miles downstream from the Blewett Falls Development at the U.S. Highway 74 bridge.

3.1.1.2 Yadkin-Pee Dee Project

The existing Yadkin-Pee Dee Project consists of the Tillery development on the Yadkin River and the Blewett Falls Development on the Pee Dee River. The Tillery development (RM 218) includes the following constructed facilities: (1) a 1,200-foot-long earthen embankment and 1,550-foot-long, concrete gravity structure including a 758-foot-long, 62-foot-high spillway; (2) 18, 34-foot-wide by 24-foot-high radial spillway gates; (3) a 14-foot-wide bottom-drop trash sluice gate; (4) a 5,697-acre reservoir, with a normal pool elevation of 277.3 feet North American Vertical Datum of 1988 (NAVD 88) and a usable storage capacity of 84,150 acre-feet; (5) a concrete, indoor-outdoor powerhouse, integral to the dam, containing three Francis turbine-generators and one fixed-blade propeller turbine-generator with a total installed capacity of 84 MW; (6) a small Francis turbine powering a “house generator” with an installed capacity of 360 kW; and (7) appurtenant facilities.

The Blewett Falls Development (RM 188.2) includes the following constructed facilities: (1) a 1,700-foot-long earthen embankment and 1,468-foot-long, concrete gravity *ungated* spillway *dam*; (2) 4-foot-high, wooden flashboards; (3) a 2,866-acre reservoir, with a normal pool elevation of 177.2 feet NAVD 88 and a usable storage capacity of 30,893 acre-feet; (4) a *separate* powerhouse *located on a 300-foot-long forebay channel west of* the dam, containing six S. Morgan Smith turbine-generators, *three 3,200-kW units and three 5,000-kW units*, each with its own penstock and headgate, for a total installed capacity of 24.6 MW; (5) a 900-foot-long tailrace channel *that joins the main river about 1,750 feet downstream of the dam*; and (6) appurtenant facilities.

The Tillery development is operated as a peaking facility, *and also serves as Progress Energy’s only load-following hydro project, which provides for load transfers, electrical grid stability, area frequency, and voltage control*. It is licensed for a 22-foot drawdown, but managed for drawdowns of not more than 4 feet under normal conditions and voluntarily limits drawdowns to 1 foot from April 15 to May 15 to protect largemouth bass spawning. The Blewett Falls Development is operated as a re-regulating facility, smoothing out flows released from the upstream developments. The Blewett Falls Development is licensed for a drawdown of 17 feet, but generally operates with drawdowns of 2 to 4 feet. The existing license for the Yadkin-Pee Dee Project requires the release of a continuous minimum flow of 40 cfs from the Tillery development and 150 cfs from the Blewett Falls Development.

3.1.2 Alcoa Generating and Progress Energy's Proposed Environmental Measures

Alcoa Generating and Progress Energy propose to continue operating the projects with the following proposed protection and enhancement measures.

Alcoa Generating filed an Agreement in Principle (AIP) for the Yadkin Project that was dated June 23, 2006, and filed with the Commission on August 28, 2006. The AIP was signed by 27 parties. Progress Energy filed an AIP for the Yadkin-Pee Dee Project on October 16, 2006 that was signed by 15 parties. We treat the AIPs as action alternatives for the purposes of scoping. In section 4.1.2.1 we present a table that compares the measures proposed by Alcoa Generating in its license application with the measures included in the AIP for the Yadkin Project. In section 4.1.2.2 we present a similar table that compares the measures proposed by Progress Energy in its license application with the measures included in the AIP for the Yadkin-Pee Dee Project.

3.1.2.1 Yadkin Project (Alcoa Generating)

YADKIN	
PROPOSED ACTION	ACTION ALTERNATIVE (DRAFT AIP)
Water Quantity: Reservoir Levels	
Operate High Rock reservoir in accordance with a revised guide curve to maintain the water level within 6 feet of full pool between April 1 and October 31 and within 12 feet of full pool between November 1 and March 31. The proposed guide curve would extend the season of higher water levels by 3 months and reduce the winter drawdown of the reservoir from the current average maximum of 12 to 15 feet, to an average maximum of 12 feet, and in general produce a somewhat narrower band of elevations within which the reservoir would fluctuate over the year.	Operate High Rock reservoir in accordance with a guide curve to maintain the water level within 4 foot of full pool (not below elevation 619.9 feet USGS) from April 1 to October 31, within 10 feet of full pool (not below 613.9 feet) between November 1 to March 31 except for maintenance or under emergency conditions, or as outlined in the Hydro Project Maintenance and Emergency Protocol (HPMEP).
Operate Narrows reservoir as a daily run-of-river (ROR) project within 3.0 feet of full pool (not below elevation 561.7 feet USGS) year round with the ability to reduce the impoundment level 6.6 feet as needed to meet minimum flow requirements proposed under the Low Flow Protocol (LIP) and HPMEP.	SAME

YADKIN

PROPOSED ACTION	ACTION ALTERNATIVE (DRAFT AIP)
Continue to operate Tuckertown and Falls reservoirs as daily ROR projects. Limit drawdown of Tuckertown to within 3.0 feet of full pool and drawdown of Falls to within 4.0 feet of full pool except for maintenance or under emergency conditions, or as outlined in the HPMEP.	SAME
Continue voluntary operation in the four reservoirs during the fish spawning season (April 15 to May 15 to try to maintain water levels within ± 1 foot of the elevation of the reservoirs on April 15.	Stabilize reservoir elevation during spring spawning season April 15 to May 15 by maintaining water levels no lower than -1.0 foot of the reservoir level on April 15.

Minimum Flow/Inflows

Operate the project with a year-round, weekly average minimum flow of 900 cubic feet per second (cfs) as measured at the Falls development.	Operate the project with a <i>daily</i> average minimum flow of 1,000 cfs from June 1 to January 31, 2,000 cfs from February 1 to May 15, and 1,500 cfs from May 16 to May 31 as measured at the Falls Development.
Operate the project in accordance with an LIP	SAME
Develop and implement a Flow Monitoring Plan.	SAME
	Install flow gages downstream of Falls or Narrows and High Rock Developments.
	Develop a procedure where Progress Energy can provide two flow shaping periods (1- to 14-day and 1- and 10-day period), between February 1 to May 15 to enhance downstream spawning conditions in the lower river below the Blewett Falls Development.

Water Quality

Increase dissolved oxygen (DO) concentrations below Narrows and High Rock dams. Monitor resulting DO concentrations to determine what DO enhancements might still be needed at Tuckertown and Falls dams.	SAME
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YADKIN

PROPOSED ACTION	ACTION ALTERNATIVE (DRAFT AIP)
Refurbish and upgrade the generating units at each of the four developments.	SAME
Install aeration technology at the dams when upgrading takes place to improve water quality in the project tailraces.	SAME
Prepare a DO monitoring study/plan.	SAME
Participate in the North Carolina DWQ High Rock Total Maximum Daily Load (TMDL) process.	
Fish, Wildlife, and Botanical Resources	
Within 3 years of license issuance, implement a Diadromous Fish Passage Plan to restore American shad and American eel and to provide appropriate passage, <i>when needed</i> .	SAME
Within 1 year of license issuance, develop a Rare, Threatened, and Endangered (RTE) Species Management Plan.	<p>Within 2 years of license issuance, develop a RTE Species Management Plan.</p> <p>Cooperate with FWS and North Carolina Rare Plant Program to monitor the status of the Yadkin River goldenrod populations downstream of the Narrows and Falls dams and pursue the establishment of protected areas downstream of these two dams.</p>

YADKIN

PROPOSED ACTION	ACTION ALTERNATIVE (DRAFT AIP)
Monitor mussel populations and reproduction in the project tailraces in cooperation with the North Carolina WRC.	<i>Provide up to \$50,000 to work with North Carolina WRC to monitor freshwater mussel populations in the Falls tailwater, within 10 years of license issuance. If at the completion of the 10-year mussel monitoring period, the licensee and North Carolina WRC agree that recruitment of the freshwater mussel species occurring in the Falls tailwater area is not sufficient to justify continued management efforts in this location, within 1 year of such a finding, the licensee will make a one-time contribution of \$50,000 to North Carolina WRC to assist with freshwater mussel management efforts elsewhere in the watershed.</i>
Within 1 year of license issuance, work in cooperation with the North Carolina DWR and North Carolina WRC to monitor invasive exotic species of concern and to undertake control activities, as needed.	<i>Work cooperatively with North Carolina DWR and North Carolina WRC to monitor invasive exotic species of concern at the project and make up to \$25,000 available to the North Carolina agencies, on a 50 percent cost share basis, to undertake appropriate control actions, as needed.</i>
Develop a transmission line corridor management plan to be filed with the Commission within 3 years of license issuance.	SAME
Continue to work cooperatively with resource agencies to provide habitat enhancements for fish and wildlife at project reservoirs.	
Continue to monitor bald eagle and great blue heron nesting at the project by conducting annual nesting surveys in the spring of each year, and providing the results to state and federal resource agencies.	Continue to monitor the status of bald eagles at the project by conducting annual nesting surveys until the bald eagle is removed from the endangered species list and provide the results to state and federal resource agencies.

YADKIN

PROPOSED ACTION**ACTION ALTERNATIVE (DRAFT AIP)****Cultural Resources**

Develop a Historic Properties Management Plan (HPMP) for the project, which would include the details of any specific survey or salvage measures recommended by the North Carolina State Historic Preservation Officer (SHPO) or other agencies or tribes.

SAME

Update the Cultural Probability Zone maps, to reflect new information on significant or potentially significant historic sites and cultural landscapes and incorporate the information into the Yadkin Shoreline Management Plan (SMP).

*SAME***Recreation Resources**

Develop a Recreation Plan in consultation with resource agencies and surrounding counties within 2 years of the effective date of a new license. The Recreation Plan would include details of proposed recreation facility improvements, schedule for implementation, and maintenance activities to be undertaken by Alcoa Generating at the public recreation sites.

SAME

Provide accessible improvements to comply with Americans with Disabilities Act (ADA) standards to several of the existing public recreation sites at locations to be determined in consultation with North Carolina WRC, the Forest Service, the surrounding counties, and other agencies.

Provide accessible improvements at up to 10 existing recreation sites.

Provide and maintain new portable toilet facilities at several existing recreation sites at locations to be determined through consultation with North Carolina WRC, the Forest Service, surrounding counties, and other appropriate agencies.

SAME

YADKIN

PROPOSED ACTION**ACTION ALTERNATIVE (DRAFT AIP)**

Install two ADA-compliant public fishing piers at existing public access areas (one on High Rock reservoir and one on Tuckertown reservoir).

SAME

Modify existing tailwater fishing areas at the High Rock and Tuckertown tailwaters to allow for improved fishing access.

SAME

Donate a parcel of non-project land immediately adjacent to High Rock reservoir to Rowan County or other appropriate entity, based on the condition that the party would assume responsibility for the development, maintenance, and operation of a new public recreation site with a swimming facility.

Develop and operate a new public recreation site with a swim beach on the Rowan County Side of High Rock reservoir.

Install and maintain up to ten campsites at locations determined by Alcoa Generating in consultation with resource agencies.

SAME

Continue to discourage use of the following informal shoreline fishing areas, including the bridge on Highway 8 at Abbotts Creek and Pump Station Boat Access (High Rock), the Crane Creek Fishing Access Pull-off (High Rock), and Lick Creek Fishing Pull-off (Tuckertown).

Improve portage trails to meet state standards at High Rock, Tuckertown, and Narrows within 20 years and at Falls dam within 10 years of effective date of any new license issued.

Replace Highway 49 Boat Access Area when needed.

Operate and maintain 26 existing recreation sites located throughout the project plus the proposed recreation site on the Rowan County side of High Rock reservoir, as well as the ten new campsites.

YADKIN

PROPOSED ACTION**ACTION ALTERNATIVE (DRAFT AIP)**

Close Pump Station Boat access area by removing part 8 and safety signage.

Other

Undertake a process to update the SMP within 1 year of the date of license issuance, and file the proposed revisions to the SMP with the Commission within 2 years license issuance.

Modify the existing SMP within 2 years of license issuance.

3.1.2.2 Yadkin-Pee Dee Project (Progress Energy)

YADKIN-PEE DEE**PROPOSED ACTION****ACTION ALTERNATIVE (DRAFT AIP)****Water Quantity: Reservoir Levels—Lake Tillery**

Operate, in response to winter peaking needs (December 15 through March 1), the pool with a maximum fluctuation of 5 feet between elevations 272.3 and 277.3 feet NAVD 88, except (1) during periods of electrical system emergencies when an 8-ft fluctuation would be permitted, and (2) during drought periods if a low inflow protocol is established. These two exceptions apply to all periods of the year, but are not repeated below.

Operate, in response to winter peaking needs (December 15 through March 1), the pool with a maximum fluctuation of 3 feet between elevations 274.3 and 277.3 feet NAVD 88, unless needed to meet demand for electricity. If needed, use storage available between elevations 272.3 feet NAVD 88 and 277.3 feet NAVD 88 resulting in a maximum fluctuation of 5 feet. Water fluctuations of up to 8 feet may occur and potentially be greater during LIP periods.

Limit reservoir fluctuation, from April 15-May 15, to no greater than 1.0-foot below the elevation of the reservoir on April 15 to facilitate largemouth bass spawning.

Limit reservoir fluctuation, from April 15 to May 15, to no greater than 1.5-foot below the elevation of the reservoir on April 15 to facilitate largemouth bass spawning.

All other time periods: Up to 3.0-foot fluctuation and generally up to 1.5-foot fluctuation on weekends and holidays. Note that these operating lake levels are proposed targets and not hard limits. Meeting minimum flow requirements will take precedence over lake levels.

All other periods: Up to 2.5-foot fluctuation and generally 1.5-foot fluctuation on weekends and holidays.

YADKIN-PEE DEE

PROPOSED ACTION**ACTION ALTERNATIVE (DRAFT AIP)**

A maintenance drawdown of 10 to 12 feet from the normal operating level of 277.3 feet NAVD 88 to occur within the September 15 to December 15 timeframe once every 5 years.

A maintenance drawdown of up to 15 feet to occur on Lake Tillery within the September 15 to December 15 timeframe, once every 5 years. This will allow routine periodic maintenance and gate testing that cannot be accomplished when the lake level is higher.

Reservoir Levels—Blewett Falls Lake

Operate year round up to 6 feet of fluctuation between elevations *171.2* feet NAVD 88 and *177.2* feet NAVD 88, except for (1) system electrical emergencies, and (2) during drought periods if a low inflow protocol is established.

When flows are greater than 7,400 cfs operate run-of-river; when flows are less than 7,400 cfs operate year round up to 6 feet of fluctuation between elevations *171.2* feet NAVD 88 and *177.2* feet NAVD 88, except for (1) system electrical emergencies, and (2) during drought periods if a low inflow protocol is established.

Operate year round when flashboards are down, up to 8 feet of fluctuation between *169.2* feet NAVD 88 and *177.2* feet NAVD 88.

SAME

Limit fluctuation to no greater than 2.0 feet to enhance largemouth bass spawning from April 15 to May 15.

SAME

Minimum Flows—Tillery Development

Release a continuous year-round minimum flow at Tillery dam of 200 cfs and seasonally release a 750-cfs minimum flow from April 1 through May 15 for American shad spawning. The 750-cfs seasonal flow would commence once upstream passage of American shad at Blewett Falls dam begins

Release a continuous year-round minimum flow below Tillery dam of 330 cfs, except for a period of eight continuous weeks, commencing as early as March 15, but no later than March 22, when a minimum release of 725 cfs would be needed for American shad spawning. This release of 725 cfs would start in 2010, or at the first passage of American shad above Blewett Falls dam, whichever is later.

YADKIN-PEE DEE

PROPOSED ACTION	ACTION ALTERNATIVE (DRAFT AIP)
<p>Install a continuous instream flow monitoring gage, approximately one-half mile below Tillery dam at the North Carolina Highway 731 Bridge to document minimum flow compliance at the Tillery development</p>	<p>Release a minimum flow of 375 cfs during the summer recreation period for recreational boating below Tillery dam. These recreational boating flows would be provided during daylight hours on weekends and holidays (Memorial Day, Independence Day, and Labor Day) each year, from May 16 to September 15.</p> <p>Flows released at Tillery dam for the purpose of meeting minimum flow requirements would be done in such a way so as to avoid skimming high temperature surface water from the uppermost surface of Lake Tillery if high temperature gradients are found to occur in the upper 6 inches of the lake.</p> <p>SAME</p>
<hr/> Minimum Flow—Blewett Falls Development	
<p>Release a continuous year-round minimum flow at the Blewett Falls dam of 950 cfs instantaneous and 1,200 cfs minimum average daily flow from May 16 through January 31 each year, and a minimum flow of 2,050 cfs instantaneous and 2,400 cfs minimum average daily flow during February 1 through May 15 of each year.</p>	<p>Release a continuous minimum flow below the Blewett Falls dam of 2,400 cfs from February 1 through May 15 each year to enhance spring spawning habitat conditions. Maintain a continuous minimum flow release of 1,800 cfs from May 16 through May 31 of each year as a transition flow. Release a continuous minimum flow of 1,200 cfs below the Blewett Falls dam from June 1 through January 31.</p>

YADKIN-PEE DEE

PROPOSED ACTION	ACTION ALTERNATIVE (DRAFT AIP)
Continue monitoring flows for instream compliance at the USGS gage at Rockingham, North Carolina, located approximately 3.6 miles downstream of the Blewett Falls dam at the U.S. Highway 74 Bridge.	<p>Provide periods of “flow shaping” between February 1 and May 15 during the fish spawning season during which Progress Energy would endeavor to release flows at the Blewett Falls Development in a manner to significantly reduce the differential flow rates between on-peak and off-peak periods of the day and to control the rate-of-change of flow from the Blewett Falls powerhouse.</p> <p>Participate in a LIP to conserve basin water resources during periods of low flow.</p>
Water Quality	SAME
Continue continuous DO monitoring program, implement DO Enhancement Operation Plan, and install permanent monitoring and enhancement equipment.	SAME

YADKIN-PEE DEE

PROPOSED ACTION**ACTION ALTERNATIVE (DRAFT AIP)****Fish and Aquatic Resources**

Implement the restoration plan for Diadromous fishes of the Yadkin-Pee Dee River Basin for American shad, hickory shad, blueback herring, striped bass, Atlantic sturgeon, shortnose sturgeon, and American eel. The implementation plan includes:

- Population monitoring of spawning adult American shad
- Enhancement of lower river flows and water quality for the American Shad population
- Habitat evaluation above Blewett Falls dam
- Adult American Shad spawning and reproductive success assessments above Blewett Falls dam
- Trap and transport of pre-spawning American shad above Blewett Falls dam
- Downstream passage and monitoring of juvenile American shad
- Upstream passage of American eel.

SAME

Botanical and Wildlife Resources

Adopt a protective shoreline management policy for the Blewett Falls reservoir that would preserve the natural resource values (including botanical and wildlife communities) of the lake. This shoreline policy *would limit access across project lands to foot traffic* except at the designated public access areas and would focus on resource protection.

SAME

Historical/Cultural Resources

Integrate Archeological Sensitivity Model into the SMP to evaluate project facilities and consult with North Carolina SHPO, the Catawba Indian Nation, and the Eastern Band of Cherokee Indians.

Develop an HPMP for the project.

SAME

YADKIN-PEE DEE

PROPOSED ACTION**ACTION ALTERNATIVE (DRAFT AIP)****Recreation Resources**

Develop an Implementation Plan within 6 months of the license issuance.

Complete implementation of recreation facility enhancements within 4 years.

Recreation Resources—Tillery Development

Provide accessible, public vault-type sanitary facilities, trash receptacles, improved structured parking areas, additional public information signage, and update the project public information kiosks at Lilly's Bridge, Swift Island, Norwood, and Stony Mountain Recreation Access areas.

SAME

Provide an accessible picnic shelter with tables at the Swift Island and Norwood Access areas

SAME, with enhancement of the existing dock at Norwood Access.

Provide a new accessible trail and fishing pier at the Stony Mountain Access.

Assist in updating the Morrow Mountain State Park public information kiosk in coordination with state park personnel.

Close the existing informal public boating access area located in the tailrace immediately below the Tillery powerhouse because of safety concerns and relocate to Clarks Creek.

Develop and construct, in partnership with North Carolina WRC, a new public boating access area located at the mouth of Clarks Creek, approximately one-half mile below the powerhouse and one-quarter mile from the current access area. This proposed access area will provide improved launching and retrieving of boats and greater bank fishing.

SAME

Provide trash receptacles, install the appropriate signage directing the public to the boating access area, and install a new project public information kiosk at the proposed Clarks Creek boating access area.

SAME

YADKIN-PEE DEE

PROPOSED ACTION	ACTION ALTERNATIVE (DRAFT AIP)
Co-fund the construction of a boat house and access ramp for use by enforcement personnel on Lake Tillery.	SAME
Provide project lands and a one-time contribution of up to \$25,000 for a shoreline public fishing area in the Steel Bridge Area (Stanly County), including an accessible fishing pier and gravel parking area. Discourage public use of the informal public access area at State Routes 1740 and 1745, locally known as the Steel Bridge Area, after consulting with North Carolina WRC.	SAME
Recreation Resources—Blewett Falls Development	
Provide vault-type public sanitary facilities, trash receptacles, accessible picnic shelter, public information signage, new project information kiosk, and improve parking facilities at the Pee Dee (Anson County) Access.	SAME
Provide trash receptacles, updated signage, and improved parking management at the Grassy Island (Mountain Creek) Access.	SAME, without providing trash receptacles
Improve the boat ramps to permit effective boating accessibility over the range of lake levels proposed for the new license term. These improvements may include extending the existing ramps or limited dredging at the end of the ramps at the Pee Dee Access (Anson County) and Grassy Island (Mountain Creek) Access.	SAME

YADKIN-PEE DEE

PROPOSED ACTION	ACTION ALTERNATIVE (DRAFT AIP)
Construct a new public boating access area on the Richmond County (east) side of Blewett Falls Lake within 5 years of issuance of the new license, including a picnic shelter with tables for public use, vault-type sanitary facilities and trash receptacles, structured parking, a project public information kiosk, and accessible-designated parking area adjacent to the launch ramps.	SAME
Upgrade the canoe portage facility located on the east shoreline of Blewett Falls dam in consultation with North Carolina DPR.	SAME
Provide real-time Pee Dee River stream flow data from the USGS Rockingham gage station (USGS Gage No. 02129000) to the public via Progress Energy's website.	SAME
Other	<p data-bbox="829 1066 1398 1241">Work with the Pee Dee National Wildlife Refuge staff for the purpose of coordinating flow releases with the refuge water pumping activities from the Pee Dee River at the Tillery development.</p> <p data-bbox="829 1276 1398 1375">Conduct a lake sediment survey of Blewett Falls reservoir 5 years following new license issuance.</p> <p data-bbox="829 1411 1398 1547">Prohibit development of Grassy Island Area lands and restrict the allowable uses to low density recreation uses and non-consumptive use of the forest at Blewett Falls.</p> <p data-bbox="829 1583 1398 1688">Prohibit development on the lands needed for canoe portage at the Blewett Falls development.</p>

3.2 STAFF MODIFICATION OF THE PROPOSED ACTIONS

Staff will consider and assess proposed and potential operational or facility modifications and other environmental measures identified by staff, the agencies, and the general public. Modifications could include recommendations by the agencies, non-governmental organizations, Indian tribes, individuals, and Commission staff. To the extent that modifications would reduce power production from the projects, we will evaluate the costs and contributions to air-borne pollution related to generation of replacement power by fossil-fueled stations. No additional staff-recommended measures have been identified at this time.

3.3 NO-ACTION

Under the No-action Alternative, the two projects would continue to operate under the terms and conditions of their existing licenses and there would be no change to the existing environment. Under this scenario, there would be continued energy production and no enhancement of existing natural resources. We use the No-action Alternative to establish baseline environmental conditions for comparison with other alternatives.

3.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

At present, we propose to eliminate the following alternatives from detailed study in the EIS.

3.4.1 Federal Government Takeover

We do not consider federal takeover to be a reasonable alternative for the Yadkin and Yadkin-Pee Dee projects. Federal takeover of the projects would require congressional approval. While that fact alone would not preclude further consideration of this alternative, there is currently no evidence showing that a federal takeover should be recommended to Congress. No federal agency has suggested that federal takeover would be appropriate, and no federal agency has expressed interest in operating the projects.

The Commission's regulations at 18 C.F.R. section 16.14 require that any recommendation for federal takeover be filed no later than the comment due date of June 25, 2006 that was specified in the May 10, 2006 Notice of Application for the Yadkin project and by June 26, 2006 as specified in the May 10, 2006 Notice of Application for the Yadkin-Pee Dee project. No federal agency recommended a federal takeover in response to the Notice of Application issued for both projects.

3.4.2 Non-power License for Yadkin and Yadkin-Pee Dee Projects

A non-power license is a temporary license that the Commission would terminate whenever it determines that another governmental agency will assume regulatory authority and supervision over the lands and facilities covered by the non-power license.

At this point, no agency has suggested a willingness or ability to do so. No party has recommended non-power licenses for the Yadkin and Yadkin-Pee Dee projects, and we have no basis for concluding that they should no longer be used to produce power. Thus, we do not consider non-power licenses a realistic alternative to relicensing in this circumstance.

3.4.3 Project Retirement

Project retirement could be accomplished with or without dam removal. Either alternative would require denying the relicense applications and surrender or termination of the existing licenses with appropriate conditions. The projects provide viable, safe, and clean renewable sources of power to the region. Project retirement would foreclose these sources of power. No party has suggested project retirement, and we have no basis for recommending it. Therefore, project retirement is not a reasonable alternative to relicensing the projects with appropriate enhancement measures.

4.0 SCOPE OF CUMULATIVE ANALYSIS AND RESOURCE ISSUES

During the preparation of the license applications for the Yadkin and Yadkin-Pee Dee projects, a number of issues and concerns were raised by resource agencies, intervenors, interest groups, organizations, and individuals. In section 4.2, we summarize the key issues identified, including those added by staff. These issues will define the content of the EIS, including the identification of potential cumulative effects to specific resources.

We will review the issues again upon completion of scoping, and will make a final determination as to the level of analysis needed for each issue, including cumulative effects.

4.1 CUMULATIVE EFFECTS

According to the Council on Environmental Quality's regulations for implementing NEPA (50 CFR §1508.7), an action may cause cumulative impacts on the environment if its impacts overlap in space or time with the impacts of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time, including hydropower and other land and water development activities.

Based on information in the license applications, agency comments, other filings related to the project, and preliminary staff analysis, we preliminarily identified the following resources that have the potential to be cumulatively affected by the continued operation of the Yadkin and Yadkin-Pee Dee projects, in combination with other activities: water quality and quantity, geology and soils, and aquatic resources.

The Yadkin and Yadkin Pee Dee projects are located one after another on the Yadkin and the Pee Dee rivers. Alcoa Generating and Progress Energy coordinate

operations of the Yadkin and Yadkin-Pee Dee hydroelectric projects. Operations are primarily based on prevailing water conditions, license requirements, and **regional power needs**. **Flows** released from Blewett Falls dam, **which are influenced by hydropower operations in the basin upstream of Blewett Falls, in turn** influence the water level, water quality, and aquatic resources of the Pee Dee River downstream of the projects extending into South Carolina.

4.1.1 Geographic Scope

The geographic scope of the analysis defines the physical limits or boundaries of the proposed action's effects on the resources. Because the proposed action would affect resources differently, the geographic scope for each resource may vary.

For geology, we include the Yadkin River upstream to the limit of the influence of the U.S. Army Corps of Engineer's W. Kerr Scott reservoir on the Yadkin River to downstream of Blewett Falls dam on the Pee Dee River (within the limit of influence caused by operating the Yadkin-Pee Dee Project). We chose this geographic scope to evaluate the cumulative effects of operating the projects, along with other activities, that may influence **erosion and sediment loads** in the Yadkin and Pee Dee River basins. For water **quality and** quantity, we include **the Yadkin River from** W. Kerr Scott reservoir downstream to the Atlantic Ocean. We chose this geographic scope because other activities such as water use, in combination with the operation of the projects, may influence **water quality (e.g., DO concentrations, acidity, and nutrient loads) as well as** water quantity.

For aquatic resources, we include the Pee Dee River basin, the Yadkin River and other tributaries that are affected by project operations, from the W. Kerr Scott reservoir downstream to the Atlantic Ocean. We chose this geographic scope because the projects, in combination with other activities in the basin, may influence upstream and downstream diadromous fish migration and spawning, and the spawning and rearing of resident fish species in affected reaches of the Yadkin and Pee Dee rivers.

4.1.2 Temporal Scope

The temporal scope of our cumulative analysis in the EIS will include a discussion of past, present, and future actions and their effects on each resource that could be cumulatively affected. Based on the terms of the new licenses, the temporal scope will look 30 to 50 years into the future, concentrating on the effects on the resources from reasonably foreseeable future actions. The historical discussion will, by necessity, be limited by the amount of available information for each resource.

4.2 RESOURCE ISSUES

We present a preliminary list of environmental issues and concerns identified by staff for coverage in the EIS in this section. Those issues identified by an asterisk (*) likely will be analyzed for both cumulative and site-specific effects. This list is not

intended to be exhaustive or final, but is an initial listing of issues that have been identified and could be potentially significant. For convenience, we list the issues in categories related to technical disciplines.

4.2.1 Geology and Soils

- The effects of continued project operations, including lake level fluctuations and minimum flows, on shoreline erosion.*
- The effects of sediment entering the projects and related sediment accumulation *and substrate compositions below the dams*.

4.2.2 Water Resources

- The effects of the projects on flood elevations.
- The potential effects of proposed and alternative flow regimes on *river flows, flow periodicity*, water use, and availability in the reaches influenced by project operations.*
- The effects of project operations on temperature and dissolved oxygen.*
- The effects of project operations on salinity in the lower Pee Dee River estuary and inter-coastal waterway.
- The effects of continued project operations *under each action alternative* on the project's compliance with North Carolina's water quality standards.
- The effects of project operations (lake level fluctuations, length of hydraulic retention time, and minimum flows) on overall water quality within and downstream of the reservoirs.
- The effects of project generation *under each action alternative* on point source and non-point source pollution discharges upstream and downstream of the project, *including existing and proposed TMDLs*.
- The effects of the projects on the chemical composition of sediments that may be flushed or removed from the project.*

4.2.3 Aquatic Resources

- The effects of lake level fluctuations on aquatic resources, including fish and aquatic macroinvertebrate habitats, in the project reservoirs and along the reservoir shorelines.
- The effects of project flow releases *associated with each action alternative* on aquatic habitat in the Yadkin and Pee Dee rivers downstream of the projects.*
- The effects of project operations on diadromous fish migrations and spawning, and on the overall fish restoration efforts in the Yadkin and Pee Dee rivers.*

- Effects of project operations on diadromous and resident fish entrainment and survival through the multiple hydro developments on the Yadkin and Pee Dee rivers.*
- Effects of project operations on RTE aquatic species, including the Carolina redhorse (*Moxostoma* sp.) and robust redhorse (*Moxostoma robustum*), other fish, and mussel species.

4.2.4 Terrestrial Resources

- The short-term and long-term effects of project operations, including minimum flows and reservoir levels, on wetlands within the project area.
- The effects of shoreline development associated with project lands and waters on wetlands.
- The effects of project operations on the proliferation of aquatic invasive species.
- The effects of transmission line maintenance on wetlands, RTE species, and invasive species.
- The effects of reservoir level fluctuations on wildlife and wildlife habitats.
- The effects of project operations and maintenance on RTE plant species, including Yadkin River goldenrod (*Solidago plumosa*), Piedmont indigo-bush (*Amorpha schwerinii*), and thick-pod white wild indigo (*Baptisia alba*).

4.2.5 Threatened and Endangered Species

- The effects of project operations and maintenance on federally listed threatened and endangered species (aquatic and terrestrial) in the project area, such as the shortnose sturgeon (*Acipenser brevirostrum*), bald eagle (*Haliaeetus leucocephalus*) and Schweinitz's sunflower (*Helianthus schweinitzii*).

4.2.6 Land Use and Aesthetic Resources

- The effects of project operations, including lake level fluctuations and minimum flows, on land use practices within the project boundaries.
- The potential effects of project operations and proposed recreation enhancements on the aesthetic resources within the project areas.
- The effects of proposed changes to the SMP on land use practices and aesthetics within the Yadkin Project boundary.
- The effects of the proposed shoreline management policy for the Blewett Falls Development on land use practices and aesthetics within the Yadkin-Pee Dee Project boundary.

- *The effects of a potential proposed bridge expansion on current and future recreational facilities downstream of the Tillery Development dam (i.e. the new boat launch near the NC Highway 731 bridge) and on land use.**

4.2.7 Recreational Resources

- The effects of project operations *under each action alternative*, including lake level fluctuations and minimum flows, on recreational resources, *including boating and fishing*.
- The ability of the existing and proposed recreational facilities and enhancements to meet current and future recreational demand *under a full range of project operations*.

4.2.8 Socioeconomic Resources

- Effects of the project operations and proposed environmental measures on socioeconomic resources in counties in the vicinity of the projects.

4.2.9 Cultural Resources

- Effects of the proposed action and alternatives on properties included in, or eligible for inclusion in, the National Register of Historic Places.

5.0 EIS PREPARATION SCHEDULE

Staff will prepare a draft EIS, which will be sent to all persons and entities on the Commission's mailing list (which includes the service list) for the two projects. The comment period for a draft EIS is 60 days from the date of the notice in the Federal Register. All comments on the draft EIS, filed with the Commission, will be considered in the preparation of the final EIS. The final EIS will include our final recommendations for operating procedures and environmental measures that would be considered by the Commission for any licenses issued for the two projects. The preliminary schedule for preparing the EIS is as follows:

<u>Milestone</u>	<u>Target Date</u>
Issue Acceptance Letter	December 2006
Issue Scoping Document 1 for Comments	December 2006
Hold Scoping Meetings	January 2007
Request Additional Information (if necessary)	March 2007
Issue Scoping Document 2	April 2007
Notice of Ready for Environmental Analysis	March 2007
Filing of recommendations, preliminary terms and conditions, and fishway prescriptions	May 2007

Milestone

Target Date

Issue Draft EIS

September 2007

Comments on Draft EIS and Modified Terms and Conditions

November 2007

Issue Final EIS

January 2008

This schedule is subject to change.

6.0 PROPOSED EIS OUTLINE

- 1.0 PURPOSE AND NEED FOR ACTION
 - 1.1 Purpose of Action
 - 1.2 Need for Power
 - 1.2.1 Alcoa Generating Operations
 - 1.2.2 Progress Energy's Operations
 - 1.2.3 Regional Demand
 - 1.3 Interventions
 - 1.4 Scoping
 - 1.5 Consultation
- 2.0 PROPOSED ACTION AND ALTERNATIVES
 - 2.1 No-action Alternatives
 - 2.1.1 Existing Project Facilities
 - 2.1.1.1 Yadkin Project
 - 2.1.1.2 Yadkin-Pee Dee Project
 - 2.1.2 Current Project Operations
 - 2.1.2.1 Yadkin Project
 - 2.1.2.2 Yadkin-Pee Dee Project
 - 2.1.3 Current Environmental Measures
 - 2.1.3.1 Yadkin Project
 - 2.1.3.2 Yadkin-Pee Dee Project
 - 2.1.4 Current Project Boundaries
 - 2.1.4.1 Yadkin Project
 - 2.1.4.2 Yadkin-Pee Dee Project
 - 2.2 Applicants' Proposals
 - 2.2.1 Proposed Project Facilities
 - 2.2.1.1 Yadkin Project
 - 2.2.2.1 Yadkin-Pee Project
 - 2.2.2 Proposed Operations
 - 2.2.2.1 Yadkin Project
 - 2.2.2.2 Yadkin-Pee Project
 - 2.2.3 Proposed Environmental Measures
 - 2.2.3.1 Yadkin Project
 - 2.2.3.2 Yadkin-Pee Project
 - 2.2.4 Proposed Project Boundaries
 - 2.2.4.1 Yadkin Project
 - 2.2.4.2 Yadkin-Pee Project
 - 2.2.5 Project Safety
 - 2.2.5.1 Yadkin Project
 - 2.2.5.2 Yadkin-Pee Project
 - 2.3 Modifications to the Applicants' Proposals
 - 2.3.1 Statutory Requirements

- 2.3.1.1 Water Quality Certification
 - 2.3.1.2 Section 18 Fishway Prescription
 - 2.3.1.3 Coastal Zone Management Act
 - 2.3.2 Other Recommendations by Agencies and Interested Parties
 - 2.3.2.1 Yadkin Project
 - 2.3.2.2 Yadkin-Pee Dee Project
 - 2.3.3 Staff Identified Measures
 - 2.3.3.1 Yadkin Project
 - 2.3.3.2 Yadkin-Pee Dee Project
 - 2.4 Other Alternatives Considered but Eliminated from Detailed Study
- 3.0 ENVIRONMENTAL ANALYSIS
- 3.1 General Description of the Project Area
 - 3.2. Scope of Cumulative Effects
 - 3.3. Geological and Soil Resources
 - 3.4 Water Resources
 - 3.5 Aquatic Resources
 - 3.6 Terrestrial Resources
 - 3.7 Threatened and Endangered Species
 - 3.8 Cultural Resources
 - 3.9 Recreation Resources
 - 3.10 Land Use and Aesthetics
 - 3.11 Socioeconomic Resources
 - 3.12. Irreversible and Irrecoverable Commitment of Resources
 - 3.13. Relationship between Short-Term Uses and Long-Term Productivity
- 4.0 DEVELOPMENTAL ANALYSIS
- 4.1 Basis for Power, Costs, and Economic Benefits of the Projects
 - 4.2 Cost of Environmental Measures
 - 4.2.1 Reduced Benefits Associated With Operational Changes
 - 4.2.2 Cost of Environmental Measures to the Applicant's Proposals and Staff Alternatives
- 5.0. STAFF'S CONCLUSIONS
- 5.1 Summary Comparison of Applicants' Proposals and Staff Alternatives
 - 5.2 Comprehensive Development and Recommended Alternative
 - 5.3 Fish and Wildlife Agency Recommendations
 - 5.4 Consistency with Comprehensive Plans
 - 5.5 Relationship of License Process to Laws and Policies
 - 5.5.1 Endangered Species Act of 1973
 - 5.5.2 Water Quality Certification
 - 5.5.3 Coastal Zone Consistency Certification
 - 5.5.4 Section 18 Fishway Prescriptions
 - 5.5.5 National Historic Preservation Act of 1966

- 6.0 LITERATURE CITED
- 7.0 LIST OF PREPARERS
- 8.0 LIST OF RECIPIENTS

7.0 LIST OF COMPREHENSIVE PLANS

Section 10(a)(2) of the Federal Power Act requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, and conserving waterways affected by a project. Under this section, federal and state agencies filed a total of 44 qualifying comprehensive plans, of which we have identified 7 North Carolina and 9 federal that are applicable to the two projects.

North Carolina

- North Carolina Department of Environment, Health & Natural Resources. 2002. Basinwide assessment report: Yadkin River Basin. Raleigh, NC. June 2002.
- North Carolina Department of Environment & Natural Resources. 2000. Sub-chapter 2B-Surface water and wetland standards. Raleigh, NC. August 1. 107 pp.
- North Carolina Department of Environment, Health & Natural Resources. 2003. Yadkin-Pee Dee River Basinwide water quality management plan. Raleigh, NC. February.
- North Carolina Department of Environment, Health & Natural Resources. 2004. Yadkin-Pee Dee River Basin (Classifications and Water Quality Standards). Raleigh, NC. August 1.
- North Carolina Department of Environment, Health & Natural Resources. 2000. Water Quality Progress in North Carolina 1998-1999 305(b) Report. Raleigh, NC. April.
- North Carolina Department of Environment and Natural Resources. 1995. North Carolina Outdoor Recreation Plan, 1995 - 2000. Raleigh, North Carolina. September.
- Southern Appalachian Forest Coalition and Pacific Rivers Council. No date. Protection of aquatic biodiversity in the Southern Appalachian National Forests and their watersheds. 27 pp.

United States

- Atlantic States Marine Fisheries Commission. 1998. Interstate fishery management plan for Atlantic striped bass. (Report No. 34). January.
- Bureau of Land Management. Forest Service. 1994. Standards and guidelines for management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl. Washington, DC. April 13. 144 pp.

- Forest Service. No date. Cherokee National Forest land and resource management plan. Department of Agriculture, Cleveland, TN. 193 pp. and appendices.
- National Marine Fisheries Service. 2000. Fishery Management Report No. 36 of the Atlantic States Marine Fisheries Commission: Interstate Fishery Management Plan for American eel (*Anguilla rostrata*). Prepared by the American Eel Plan Development Team. April. 78 pages.
- National Marine Fisheries Service. 1999. Fishery Management Report No. 35 of the Atlantic States Marine Fisheries Commission: Shad and river herring [includes alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), Alabama shad (*Alosa alabamae*), American shad (*Alosa sapidissima*), and Hickory shad (*Alosa mediocris*)] - Amendment 1 to the Interstate Fishery Management Plan for shad and river herring. April. 77 pages.
- National Marine Fisheries Service. 2000. Technical Addendum 1 to Amendment 1 of the Interstate Fishery Management Plan for shad and river herring. February 9. 6 pages.
- National Park Service. 1982. The nationwide rivers inventory. Department of the Interior, Washington, DC. January.
- U.S. Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American waterfowl management plan. Department of the Interior. Environment Canada. May.
- U.S. Fish and Wildlife Service. No date. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, DC. 11 pp.
- We will also consider other relevant plans including:***
- North Carolina Wildlife Resources Commission. 2005. Fisheries and wildlife plan for the Yadkin River basin. Raleigh, NC.***
- North Carolina Wildlife Resources Commission. 2005. North Carolina Wildlife action plan. Raleigh, NC.***
- U.S. Fish and Wildlife Service, National Marine Fisheries Service, North Carolina Wildlife Resources Commission, and South Carolina Department of Natural Resources. 2006. Restoration plan for the diadromous fishes of the Yadkin-Pee Dee River basin, North Carolina and South Carolina.***
- U.S. Forest Service. 1986-2000. Croatan and Uwharrie National Forests Land and Resource Management Plan. Department of Agriculture, Montgomery County, North Carolina. May 1986.***

8.0 MAILING LIST

This mailing list combines the lists for the Yadkin and Yadkin-Pee Dee Projects. The individual mailing lists can be found at ferc.gov by following the links for “Documents and Filings,” “eService,” and “Mailing Lists/LOR.”

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