PUBLIC

SCOPING DOCUMENT 1

YADKIN HYDROELECTRIC PROJECT
PROJECT NO. 2197-073

YADKIN-PEE DEE RIVER HYDROELECTRIC PROJECT

PROJECT NO. 2206-030

December 2006

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, DC 20426
December 21, 2006

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, we are beginning the public scoping process 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.

We invite your participation in the scoping process, and are circulating the attached Scoping Document 1 (SD1) to provide you with information on the proposed proceedings and to solicit your written and verbal comments and suggestions on our preliminary list of issues and alternatives to be addressed in the EIS.

Commission staff will conduct afternoon scoping meetings that will focus on the resource agency, tribal, and non-governmental organization concerns, and evening scoping meetings primarily seeking public input. All interested individuals,

organizations, Indian tribes, and agencies are invited to attend one or all of the meetings, and to assist the staff in identifying the scope of the environmental issues that should be analyzed in the EIS. More information on the meetings and site visits is available in the attached SD1.

Please review the SD1 and, if you wish to provide written comments, follow the instructions contained in section 3.0. 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 1 for the Yadkin and Yadkin-Pee Dee Projects

cc: Public Files
Mailing List

SCOPING DOCUMENT 1

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

December 2006

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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 Parties[2]). 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 Parties[3]).

[1] 16 U.S.C § 791(a)-825(r).

[2] Parties to the AIP are Alcoa Generating, 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 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). 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. All six developments of the two projects are hydraulically linked and are situated within the same, 90-mile river reach.

2.0 SCOPING

This Scoping Document 1 (SD1) 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 request for comments and information; (5) a draft EIS outline; and (6) 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.

Following the scoping meetings and comment period for this SD1, all issues raised will be reviewed and decisions made as to the level of analysis needed. If preliminary analysis indicates that any issues presented in this SD1 have little potential for causing significant effects, the issue or issues will be identified and the reasons for not providing a more detailed analysis will be given in the EIS.

We will revise SD1, as necessary, to reflect the comments received during the public meetings and comment period, and will then issue a Scoping Document 2 (SD2). If no substantive comments are received and no revisions to SD1 are necessary, we will so notify participants by letter, and SD2 will not be prepared. The EIS will address comments and information received during the scoping process.

2.2 COMMENTS AND SCOPING MEETINGS

During the preparation of a Commission EIS, there are two opportunities for the public and resource agencies to comment on the scope and content of the document:

- during public scoping, prior to the preparation of a draft EIS, so that the Commission staff can receive both written and oral comments regarding scope and content; and
- after issuance of the draft EIS so that the staff can receive comments on the contents of the draft as issued.

In addition to written comments solicited by this SD1, we will hold four public scoping meetings in the project area to solicit comments and viewpoints the public may wish to offer concerning project effects associated with the Yadkin and Yadkin-Pee Dee projects. The evening meetings will focus on input from the public and the afternoon meeting will focus on resource agency concerns. We invite all interested agencies, Indian tribes, non-governmental organizations, and individuals to attend any or all meetings to help us identify the scope of environmental issues that should be analyzed in the EIS. The times and locations of the meetings are as follows:

Yadkin Evening Scoping Meeting #1

Date:	Tuesday, January 23, 2007
Time:	7:00 p.m.–9:00 p.m.
Place:	Edward C. Smith Civic Center (Old Carolina Theatre)
Address:	217 South Main St., Lexington, NC

Yadkin Evening Scoping Meeting #2

Date:	Wednesday, January 24, 2007
Time:	7:00 p.m.–9:00 p.m.
Place:	Stanly County Agri-Civic Center
Address:	26032-b Newt Road, Albemarle, NC.

Yadkin-Pee Dee Evening Scoping Meeting

Date:	Thursday, January 25, 2006
Time:	7:00 p.m.–9:00 p.m.
Place:	Lockhart Taylor Center At South Piedmont Community College
Address:	514 North Washington Street, Wadesboro, NC

Yadkin and Yadkin-Pee Dee Afternoon (Agency) Scoping Meeting

Date:	Wednesday, January 24, 2006
Time:	1:00 p.m.–5:00 p.m.
Place:	Stanly County Agri-Civic Center
Address:	26032-b Newt Road, Albemarle, NC.

The scoping meetings will be recorded by a court reporter, and all statements (verbal and written) will become part of the Commission's public record for the projects. Individuals presenting statements at the meetings will be asked to sign in and to clearly identify themselves for the record before speaking. Interested parties who choose not to speak or who are unable to attend the scoping meetings may provide written comments and information to the Commission as described in section 3.0. These meetings are posted on the Commission's calendar located on the internet at http://www.ferc.gov/EventCalendar/EventsList.aspx along with other related information.

We will also conduct a tour of the project sites over a 4-day period. Those interested are invited to attend all or part of the tours. **Advanced registration is required in order to allow travel logistics to be arranged.** If you would like to participate in the Yadkin site visits, please contact Jody Cason at jjcason@att.net or 804-639-6278 no later than Friday, January 12, 2007. If you would like to participate in the Yadkin-Pee Dee site visits, please contact Sandie Upchurch at 910-439-5211, extension 1201, no later than Friday, January 12, 2007.

Yadkin Project Site Visits

Monday, January 22*

9:00–9:30	Badin Boat Access Area
9:45–12:00	Narrows dam (including discussion of water willow, location of RTE species)
12:00–1:00	Lunch
1:15–3:00	Falls dam (including the Falls transmission line location of an ephemeral pool)
3:30–4:00	Old Whitney Access Area (if needed)

Tuesday, January 23*

9:00–10:30	Salisbury pump station
10:45–11:15	Dutch Second Creek Access Area
11:30–12:00	Rowan County Tailrace Access below High Rock reservoir
12:00–1:00	Lunch
1:15–2:30	High Rock dam
2:45–4:00	Tuckertown dam

Yadkin-Pee Dee Project Site Visits

Wednesday, January 24*

9:00–11:00	Meet at Morrow Mountain State Park Tour Tillery Lake shore by van

Thursday, January 25*

9:00–9:30	Meet at Tillery powerhouse, safety orientation
9:30–11:00	Tour Tillery powerhouse and dam
11:00–12:00	Travel to Blewett powerhouse; lunch
12:00–12:15	Blewett orientation
12:15–1:15	Blewett powerhouse and spillway tour
1:15–1:30	Travel to Pee Dee boat ramp (Anson County)
1:30–2:30	Blewett Lake and Grassy Islands
2:30–2:45	Take out and depart

*** Advanced registration is required in order to allow travel logistics to be arranged.**

3.0 REQUEST FOR INFORMATION

We request federal, state, and local resource agencies; Indian tribes; non-governmental organizations; and individuals to forward to the Commission any information that they believe will assist the Commission staff in conducting an accurate and thorough analysis of the site-specific and cumulative effects of the Yadkin and Yadkin-Pee Dee projects. Types of information requested include, but are not limited to:

- information, quantitative data, or professional opinions that may help define the geographical and temporal scope of the cumulative effects analysis and identify significant environmental issues;
- information on, and information from, any other environmental document or similar study (previous, on-going, or planned), relevant to the proposed licensing activity for the two projects;
- existing information and any quantitative data that would help to describe the past and present actions and effects of the projects and other developmental activities on environmental and socioeconomic resources;
- information and quantified data that would help characterize past and existing (baseline) environmental conditions and habitats;
- identification of any federal, state, or local resource plans, and future project proposals in the affected resource area, such as proposals to construct or operate water treatment facilities, recreation areas, water diversions, timber harvest activities, or fish management programs;
- documentation of cumulative effects of basin-wide activities on resources, including the proposed projects; and
- documentation that would support a conclusion that (a) the proposed projects do not contribute to adverse or beneficial effects on resources and, therefore, should be excluded from further study or consideration, or (b) the proposed projects do contribute to adverse or beneficial effects on resources and, therefore, should be included for further consideration of cumulative effects. Documentation should include, but need not be limited to:
  - how the project would interact with other projects in the area and other developmental activities;
  - results from studies;
  - resource management policies; and
  - reports from federal, state, and local agencies.

The requested information and any scoping comments should be submitted in writing, or electronically via the Internet in lieu of paper, to the Commission no later than 30 days from the date of the scoping meetings. All correspondence must clearly identify

the following on the first page: **Yadkin Hydroelectric Project, FERC Project No. P-2197-073**, or **Yadkin-Pee Dee Hydroelectric Project, FERC Project No. P-2206-030**. Address all hard copy communications regarding the EIS to:

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

All hard copy filings sent to the Secretary of the Commission should contain an original and eight copies. Failure to file an original and eight copies may result in appropriate staff not receiving the benefit of your comments in a timely manner. The Commission strongly encourages electronic filings. Comments may be filed electronically via the Internet in lieu of paper. See 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's web site (http://www.ferc.gov) under the "e-Filing" link. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov; call toll-free at (866) 208-3676; or, for TTY, contact (202) 502-8659.

Register online at: http://www.ferc.gov/esubscribenow.htm to be notified via email of new filings and issuances related to these or other pending projects. For assistance, please contact FERC Online Support

Furthermore, intervenors, those on the Commission's service list for this proceeding, are reminded that if they file comments with the Commission, they must also serve a copy of their filing on each person whose name appears on the official service list for each project. The current service list is presented in section 9.0. However, the list is periodically updated. In addition, if a party files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on the resource agency. The official service list can be obtained on the Commission's web site (http://www.ferc.gov), by clicking on the Documents and Filing tab, and then on the Service List tab, or by calling the Office of the Secretary, Dockets Branch at (202) 502-8715.

Any questions concerning scoping or the preparation of the EIS for the proposed actions should be addressed to Stephen Bowler at 202-502-6861 or stephen.bowler@ferc.gov or to Lee Emery at 202-502-8379 or lee.emery@ferc.gov.

4.0 PROPOSED ACTION AND ALTERNATIVES

In accordance with NEPA guidelines, the environmental analysis will consider the following alternatives, at a minimum: (1) the applicants' proposed actions, (2) staff alternative(s) to the proposed actions, and (3) no action.

4.1 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 license expires on May 19, 2008 for both projects.

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.

4.1.1 Project Facilities and Operations

4.1.1.1 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.

4.1.1.2 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 structure including a spillway with abutments; (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 powerhouse, integral to the dam, containing six pairs of identical S. Morgan Smith turbine-generators, each pair with its own penstock and headgate, for a total installed capacity of 24.6 MW; (5) a 900-foot-long tailrace channel; and (6) appurtenant facilities.

The Tillery development is operated as a peaking facility. 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.

4.1.2 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.

4.1.2.1 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
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 $\pm$ 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.

YADKIN	
PROPOSED ACTION	**ACTION ALTERNATIVE (DRAFT AIP)**
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 weekly 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
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.	

YADKIN	
PROPOSED ACTION	**ACTION ALTERNATIVE (DRAFT AIP)**
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.	SAME
Within 1 year of license issuance, develop a Rare, Threatened, and Endangered (RTE) Species Management Plan.	Within 2 years of license issuance, develop a RTE Species Management Plan.
	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.
Monitor mussel populations and reproduction in the project tailraces in cooperation with the North Carolina WRC.	Provide up to $10,000 annually to work with North Carolina WRC to periodically monitor freshwater mussel populations in the Falls tailwater.
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.	SAME
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).	
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.

4.1.2.2 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-feet fluctuation and generally up to 1.5-feet 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	
Operate year round up to 6 feet of fluctuation between elevations 172.1 feet NAVD 88 and 178.1 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 172.1 feet NAVD 88 and 178.1 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 170.1 feet NAVD 88 and 178.1 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)**
	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. 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.
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	SAME
Minimum Flow—Blewett Falls Development	
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.	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.

YADKIN-PEE DEE	
PROPOSED ACTION	**ACTION ALTERNATIVE (DRAFT AIP)**
	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. Participate in a LIP to conserve basin water resources during periods of low flow.
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.	SAME
Water Quality	
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, Altantic 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 prohibit private access to the lake across project lands 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	SAME
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.	
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.	Expand or enhance the Yadkin-Pee Dee Trail.
Other	SAME
	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.
	Conduct a lake sediment survey of Blewett Falls reservoir 5 years following new license issuance.
	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.
	Prohibit development on the lands needed for canoe portage at the Blewett Falls development.

4.2 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.

4.3 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.

4.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

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

4.4.1 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 party has suggested that federal takeover would be appropriate, and no federal agency has expressed interest in operating the projects.

4.4.2 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.

4.4.3 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.

5.0 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 5.2, 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.

5.1 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 operating agreements with Duke Power's Buck Power Station (a nearby fossil fuel electrical generating facility) and other entities. The flow released from Blewett Falls dam, the farthest downstream dam, influences the water level, water quality, and aquatic resources of the Pee Dee River downstream of the projects extending into South Carolina.

5.1.1 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 water quality and 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 water quality (e.g., DO concentrations, acidity, and nutrient loads) in the Yadkin and Pee Dee River basins. For water quantity, we include 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 quantity as well as water quality.

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.

5.1.2 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.

5.2 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.

5.2.1 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.

5.2.2 Water Resources

- The effects of the projects on flood elevations.
- The potential effects of proposed and alternative flow regimes on water use, levels, 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 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 on point source and non-point source pollution discharges upstream and downstream of the project.
- The effects of the projects on the chemical composition of sediments that may be flushed or removed from the project.*

5.2.3 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 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.

5.2.4 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*).

5.2.5 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*).

5.2.6 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 development on land use practices and aesthetics within the Yadkin-Pee Dee Project boundary.

5.2.7 Recreational Resources

- The effects of project operations, including lake level fluctuations and minimum flows, on recreational resources.
- The ability of the existing and proposed recreational facilities and enhancements to meet current and future recreational demand.

5.2.8 Socioeconomic Resources

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

5.2.9 Cultural Resources

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

6.0 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:

Milestone	Target Date
Issue Acceptance Letter	December 2006
Issue Scoping Document 1 for Comments	December 2006
Hold Scoping Meetings	January 2007
Request Additional Information (if necessary)	January 2007
Issue Scoping Document 2	February 2007
Notice of Ready for Environmental Analysis	February 2007
Filing of recommendations, preliminary terms and conditions, and fishway prescriptions	April 2007
Issue Draft EIS	September 2007
Comments on Draft EIS and Modified Terms and Conditions	November 2007
Issue Final EIS	March 2008

This schedule is subject to change.

7.0 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
    - 2.1.1.1Yadkin 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
    - 2.1.3.1Yadkin 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

6.0 LITERATURE CITED

7.0 LIST OF PREPARERS

8.0 LIST OF RECEPIENTS

8.0 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

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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.

9.0 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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