1.0 PURPOSE AND NEED FOR ACTION

On April 25, 2006, Alcoa Power Generating, Inc. (Alcoa Generating), a subsidiary of Alcoa, Inc., filed an application for new license for the Yadkin Project with the Federal Energy Regulatory Commission (FERC or the Commission) under the Traditional Licensing Process. The project is on the Yadkin River in Davie, Davidson, Montgomery, Rowan, and Stanly counties, North Carolina, about 60 miles northeast of Charlotte (figure 1). The Yadkin Project's four reservoirs are located on a 38-mile stretch of the Yadkin River, and its four powerhouses are capable of generating up to 210 megawatts (MW) of power. There are no federal lands affected by the project.

On April 26, 2006, Carolina Power and Light, now operating as Progress Energy Carolinas (Progress Energy) filed an application for a new license for the Yadkin-Pee Dee River Project under the Traditional Licensing Process. The Yadkin-Pee Dee River Project is on the Yadkin and Pee Dee rivers in Anson, Montgomery, Richmond, and Stanly counties, North Carolina, and it is a 108.6-MW hydroelectric project that encompasses about 28 river miles. There are no federal lands affected by the project, and its facilities are located downstream of the Yadkin Project (figure 1).

The existing licenses for both the Yadkin and Yadkin-Pee Dee River Projects (Projects) expire on April 30, 2008.

1.1 PURPOSE OF ACTION

The Commission must decide whether to relicense the Projects and what conditions should be placed on any licenses issued. In deciding whether to authorize the continued operation of hydroelectric projects and related facilities in compliance with the Federal Power Act (FPA)[8] and other applicable laws, the Commission must give equal consideration to the power and developmental purposes for which licenses are issued (e.g., flood control, irrigation, and water supply), as well as the purposes of energy conservation; the protection of, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat); the protection of recreational opportunities; and the preservation of other aspects of environmental quality.

In this draft environmental impact statement (EIS), we, the Commission staff, assess the environmental and economic effects of (1) continuing to operate the Projects as they are currently operated (No-action Alternative); (2) operating the Projects with proposed environmental measures; and (3) operating the Projects, as proposed by Alcoa Generating and Progress Energy, with additional or modified environmental measures (Staff Alternative).

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[8] 16 U.S.C. §§791(a)-825(r), as amended by the Electric Consumers Protection Act of 1986, Public Law 99-495 (1986) and the Energy Policy Act of 1992, Public Law 102-486.

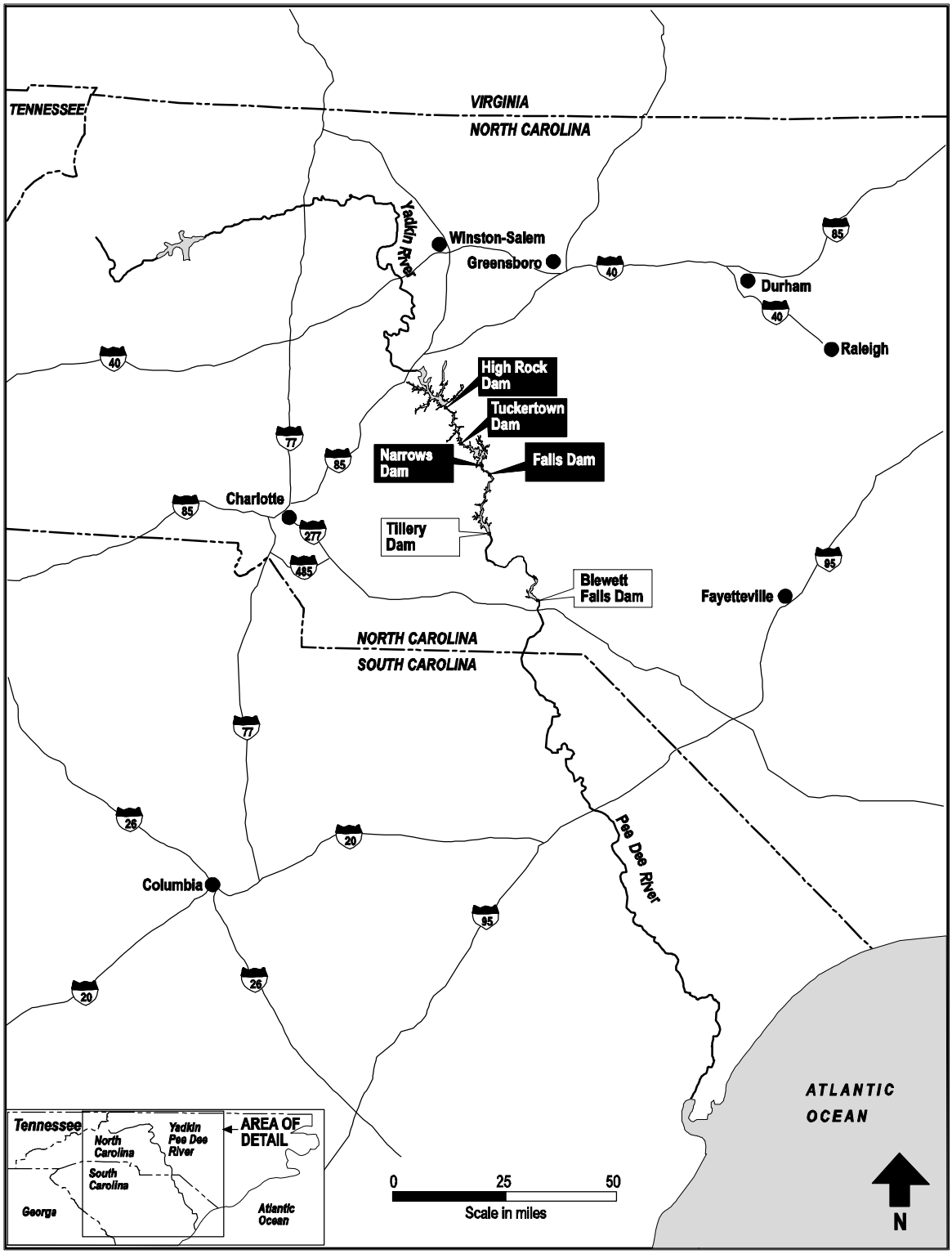

Figure 1. General vicinity of the Yadkin (P-2197) and Yadkin-Pee Dee River (P-2206) Projects. (Source: Alcoa Generating, 2006a; Progress Energy, 2006a; as modified by staff)

Major issues that are addressed in this draft EIS include the potential effects of the proposed actions and alternatives, particularly the effects of project operations including reservoir level fluctuations and minimum flows on sedimentation, flood elevations, river flows, water quality, aquatic resources, terrestrial resources, threatened and endangered species, and recreational resources.

1.2 NEED FOR POWER

The Yadkin and Yadkin-Pee Dee River Projects are located within the Southeastern Electric Reliability Council (SERC) region of the North American Electric Reliability Council (NERC). NERC annually makes public information relative to projected increases in capacity demand and energy demand for ten years out. NERC's most recent reliability report (October 2006) indicates that during summer season, which is the most critical electric generation season for SERC region, the capacity demand will average an annual increase of 2.1 percent. The growth rate for the capacity demand for the previous five years averaged 1.9 percent. The forecast annual growth rate in energy usage for the SERC region over the next ten years is 1.7 percent. The historical SERC growth rate for energy demand for the previous ten years has been 2.1 percent.

The Yadkin Project has an installed capacity of 210 MW and averaged about 814,306 MWh annually. Part of this generation is used for Alcoa's Badin Works for aluminum refining and other operations with the excess project power being sold into the wholesale market to offset the cost of electricity purchases required for Alcoa's other domestic operations.

The Yadkin-Pee Dee River Project has an installed capacity of 108.6 MW and generates about 370,100 MWh annually. Accounting for almost half of Progress Energy's 226 MW of installed hydroelectric capacity, the project is one of Progress Energy's few load-following resources in its control area and a provider of readily available peaking power at a reasonable cost. The project also helps electrical grid stability, black-start capability,[9] and area frequency and voltage control. With more than 3.1 million customers in North and South Carolina and Florida, Progress Energy's forecast shows that its control area load will grow by 15 percent between 2005 and 2014. Progress Energy anticipates adding 2,000 MW of capacity over the same period.

If relicensed, the power from both projects would continue to be useful in meeting part of the local and regional need for power and continue to displace the operation of fossil-fueled facilities thus avoiding significant fossil-fueled power plant emissions and creating an environmental benefit. If the electric output of the projects (1,310,300 MWh) were replaced with coal-fired generation, greenhouse gas emissions would increase by 348,500 metric tons of carbon annually.

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[9]Generators with black-start capabilities are capable of being started without an outside electrical supply.

Staff concludes that present and future use of the two projects' low cost power, system support, contribution to a diversified generation mix and their displacement of nonrenewable fossil-fueled generation, shore up a finding that the power from the Yadkin and Yadkin-Pee Dee River Projects will help meet a need for power in the SERC region for the short and long terms.

1.3 SCOPING

The National Environmental Policy Act scoping process was completed as part of the Traditional Licensing Processes. To support and assist the environmental review, the Commission formally initiated the public scoping process for the Projects on December 21, 2006, with the release of Scoping Document 1. The Commission held four public scoping meetings in Lexington, Albemarle, and Wadesboro, North Carolina, on January 23 through 25, 2007, to receive oral comments on the Projects. Any person who was unable to attend a public scoping meeting, or desired to provide further comment, was encouraged to submit written comments and information to the Commission within 30 days from the date of public scoping meetings.

In addition to the comments received at the scoping meetings, the following entities filed written comments on Scoping Document 1:

Commenting Entity	Date of Filing
Yadkin and Yadkin-Pee Dee River Projects	
South Carolina Department of Natural Resources	February 21, 2007
South Carolina Department of Health and Environmental Control	February 23, 2007
North Carolina Department of Environment and Natural Resources	February 23, 2007
City of Rockingham	February 26, 2007
Progress Energy	February 26, 2007
Pee Dee River Coalition	February 27, 2007
North Carolina Wildlife Resources Commission	February 26, 2007
U.S Department of the Interior, Fish and Wildlife Service	February 26, 2007
National Marine Fisheries Service	March 2, 2007
U.S. Environmental Protection Agency	March 5, 2007
American Rivers and Coastal Conservation League	March 6, 2007
Yadkin Project	
Trading Ford Historic District Preservation Authority	December 28, 2006
Rowan County	January 16, 2007
Town of Faith	January 16, 2007
Town of East Spencer	January 18, 2007
Town of Cleveland	January 22, 2007
Janet Morrow	January 24, 2007

Commenting Entity	Date of Filing
Rick Lipe	January 30, 2007
Ron Qualkenbush	January 31, 2007
Linda Flounders Bell	February 5, 2007
Bridget Huckabee	February 7, 2007
Robert Podgaysky	February 8, 2007
Herbert Osman	February 12, 2007
Tony Garitta	February 21, 2007
State Representative David Almond	February 22, 2007
State Senator William Purcell	February 22, 2007
Duke Energy Carolinas, LLC	February 22, 2007
U.S. Department of Agriculture, Forest Service	February 23, 2007
David and Hazel Frick	February 23, 2007
Alcoa Power Generating Inc.	February 26, 2007
Progress Energy	February 26, 2007
Frances E. Francis	February 26, 2007
Land Trust for Central North Carolina	February 26, 2007
City of Salisbury	February 26, 2007
Joseph Korzelius	February 26, 2007
Storm Technologies	February 26, 2007
Karen Korzelius	February 26, 2007
Maynard Stickney	February 26, 2007
Stanly County	February 26, 2007
SaveHighRockLake.org	February 26, 2007
Tony Dennis	February 27, 2007
Ann Brownlee	February 27, 2007
April B. Underwood	February 27, 2007
Carolina Sand, Inc.	February 27, 2007
Gary S. Lowder	February 27, 2007
Jerry D. Meyers	February 27, 2007
Patricia B. Shaver	February 27, 2007
Robert M. Van Geons	February 27, 2007
Alex Cousins	March 1, 2007
Jennifer and James Farmer	March 1, 2007
Ashley Hightower	March 1, 2007
Cody Myrick	March 1, 2007
Daniel Barringer	March 1, 2007
Martha Hughes	March 1, 2007
David Beaver	March 1, 2007

Commenting Entity	Date of Filing
Donna L. Pleasant	March 1, 2007
Donnie Swaringen	March 1, 2007
Dustin Poplin	March 1, 2007
Elizabeth M. Hill	March 1, 2007
Kristen B. Laton	March 1, 2007
Lindsay Smith	March 1, 2007
Martha Sullivan	March 1, 2007
Michael P. Laton, Sr.	March 1, 2007
Michael P. Laton, Jr.	March 1, 2007
Natalie Almond	March 1, 2007
Richmond County Tourism Authority	March 1, 2007
Robbie Walters	March 1, 2007
Sarah G. Bivins	March 1, 2007
Brooke Laton	March 5, 2007
Town of Spencer	March 5, 2007
Michael Benham	March 5, 2007
Jon Reynolds	March 19, 2007
Yadkin-Pee Dee River Project	
Jane Watson	January 31, 2007
Terry Sharpe	January 31, 2007
William Campbell	January 31, 2007
Maynard Stickney	February 5, 2007
Jerry Meacham	February 9, 2007
Gene McLaren	February 9, 2007
John Mullis	February 21,2007
John and Martha Hough	February 21, 2007
JMG Land and Timber Inc. (Jay B. Hildreth)	February 21, 2007
Ron and Nancy Bryant	February 22, 2007
Richmond County Bd. of Commissioners	February 23, 2007
Town of Norwood	February 26, 2007
Dr. and Mrs. James L. Marshall	February 26, 2007
Joyce Bissonette	February 26, 2007
Richmond County Tourism Authority	March 1, 2007
Anson County	March 2, 2007
Raymond Miller	March 5, 2007

In Scoping Document 1, we requested clarification of preliminary issues concerning the Projects and identification of any new issues to be addressed in the EIS. Based on the verbal comments received during scoping meetings and written comments received throughout the scoping process, the Commission issued Scoping Document 2 on May 4, 2007. Scoping Document 2 serves as the current guide to the issues and alternatives considered in this draft EIS.

1.4 INTERVENTIONS

On December 28, 2006, the Commission issued a notice accepting the Alcoa Generating and Progress Energy license applications and setting a deadline of February 26, 2007, for filing protests and motions to intervene. The following entities filed motions to intervene (none opposed issuance of a license):

Intervenor	Date of Filing
Yadkin Project	
City of Salisbury	June 23, 2006
Stanly County	September 18, 2006
Concerned Property Owners High Rock Lake	September 21, 2006, and October 4, 2006
Davidson County	September 21, 2006
American River and Coastal Conservation League	September 29, 2006
SaveHighRockLake.org	October 12, 2006
The Nature Conservancy	January 2, 2007
High Rock Lake Association	January 10, 2007
South Carolina Department of Natural Resources	January 11, 2007
U.S. Department of the Interior	February 2, 2007
The Yadkin Pee Dee Lakes Project	February 15, 2007
Duke Energy Carolinas	February 16, 2007
North Carolina Wildlife Resources Commission	February 21, 2007
South Carolina Department of Health and Environmental Control	February 21, 2007
U.S. Department of Agriculture, Forest Service	February 22, 2007
Anson County	February 26, 2007
City of Rockingham	February 26, 2007
Land Trust of Central North Carolina	February 26, 2007
Trading Ford Historic District Preservation Association	February 27, 2007
National Marine Fisheries Service	July 25, 2007
Yadkin-Pee Dee River Project	
Alcoa Power Generating, Inc.	June 6, 2006
American Rivers and Coastal Conservation League	September 29, 2006
The Nature Conservancy	January 2, 2007
South Carolina Department of Natural Resources	January 11, 2007
U.S. Department of the Interior	February 2, 2007

Intervenor	Date of Filing
Richmond County	February 15, 2007
Duke Energy Carolinas	February 16, 2007
Carolina Forest Association	February 17, 2007
North Carolina Wildlife Resources Commission	February 21, 2007
North Carolina Department of Environment and Natural Resources	February 22, 2007
South Carolina Department of Health and Environmental Control	February 23, 2007
Anson County	February 26, 2007
City of Rockingham	February 26, 2007
Sandhill Rod and Gun Club	February 26, 2007
National Marine Fisheries Service	July 25, 2007

1.5 CONSULTATION AND COMPLIANCE

1.5.1 Ready for Environmental Analysis Notice

On March 13, 2007, the Commission issued a notice that the Projects were ready for environmental analysis and soliciting comments, recommendations, terms and conditions, and prescriptions to be filed within 60 days of the date of the notice. The following entities filed terms and conditions:

Commenting Entity	Date of Filing
Yadkin and Yadkin-Pee Dee River Projects	
American Rivers	May 14, 2007
Coastal Conservation League	May 14, 2007
City of Rockingham	May 14, 2007
Yadkin Project	
David Evans	April 23, 2007
Davidson County	May 8, 2007
U.S. Department of the Interior	May 11, 2007
Larry Jones	May 11, 2007
North Carolina Wildlife Resources Commission	May 11, 2007
National Marine Fisheries Service	May 11, 2007
SaveHighRockLake.org	May 11, 2007
South Carolina Department of Health and Environmental Control	May 11, 2007
South Carolina Department of Natural Resources	May 11, 2007
City of Salisbury	May 14, 2007
Mary Stickney	May 14, 2007
The Nature Conservancy	May 14, 2007
North Carolina Department of Environment and Natural	May 14, 2007

Commenting Entity	Date of Filing
Resources	
Richard Martin	May 14, 2007
Rowan County	May 14, 2007
Stanly County	May 14, 2007
Town of Spencer	May 14, 2007
Stanly County	May 14, 2007
Town of Spencer	May 14, 2007
Yadkin-Pee Dee River Project	
U.S. Department of the Interior	May 9, 2007
U.S. Fish and Wildlife Service	May 11, 2007
North Carolina Department of Environment and Natural Resources	May 11, 2007
North Carolina Wildlife Resources Commission	May 11, 2007
South Carolina Department of Health and Environmental Control	May 11, 2007
South Carolina Department of Natural Resources	May 11, 2007
National Marine Fisheries Service	May 12, 2007
The Nature Conservancy	May 14, 2007

Alcoa Generating filed reply comments on June 25, 2007. Progress Energy filed reply comments on June 14, 2007, and on June 29, 2007, in response to conditions recommended by the city of Rockingham and U.S. Fish and Wildlife Service (FWS) 10(j) recommendations, respectively.

1.5.2 Settlement Agreements

1.5.2.1 Yadkin Project

On May 17, 2007, Alcoa Generating filed the Yadkin Relicensing Settlement Agreement (Yadkin Settlement), which was executed by a majority of participants in the three-stage licensing process (Alcoa Generating, 2007a). The Yadkin Settlement was signed by representatives of the federal and state agencies, nongovernmental organizations, and individuals listed below.

Signatories to the Yadkin Settlement
Agencies
U.S. Department of Agriculture, Forest Service
North Carolina Division of Parks and Recreation
North Carolina Division of Water Resources
North Carolina Division of Water Quality
North Carolina Wildlife Resources Commission
South Carolina Coastal Conservation League
South Carolina Department of Health and Environmental Control

Signatories to the Yadkin Settlement
South Carolina Department of Natural Resources
Indian Tribes
Catawba Indian Nation
Other Governmental Entities
City of Albemarle
Montgomery County
Rowan County
Town of Badin
Nongovernmental Entities
Alcoa Power Generating, Inc., Yadkin Division
High Rock Business Owners Group
Piedmont Boat Club
Salisbury/Rowan Association of Realtors
Uwharrie Point Community Association
Conservation Groups
American Rivers
Badin Historic Museum, Inc.
Badin Lake Association
High Rock Lake Association
Pee Dee River Coalition
The Land Trust for Central North Carolina
The Nature Conservancy

The Yadkin Settlement replaces an Agreement in Principle filed August 28, 2006, and resolves outstanding issues associated with the relicensing of the Yadkin Project. Major issues covered in the settlement agreement include (1) revising the operating rule curve for High Rock reservoir; (2) stabilizing water levels at all four project reservoirs to enhance fish spawning; (3) increasing minimum flow releases from the project; (4) implementing a dissolved oxygen (DO) monitoring plan; (5) improving recreational facilities; and (6) developing a flow and reservoir monitoring and compliance plan. We consider the settlement agreement to represent the Proposed Action for this project.

In the Notice of Settlement Agreement and Soliciting Comments issued May 17, 2007, the Commission set a deadline of June 6, 2007, for filing comments. The following entities filed comments on the Yadkin Settlement:

Commenting Entities on Yadkin Settlement Agreement	Date of Filing
South Carolina Department of Natural Resources	May 29, 2007
Pee Dee River Coalition	May 30, 2007
U.S. Department of Agriculture, Forest Service	May 31, 2007
North Carolina Wildlife Resources Commission	June 1, 2007
City of Albemarle	June 6, 2007
Stanly County	June 6, 2007

Commenting Entities on Yadkin Settlement Agreement	Date of Filing
North Carolina Department of Environment and Natural Resources	June 6, 2007
City of Salisbury	June 6, 2007
American Rivers and Coastal Conservation League	June 6, 2007
South Carolina Department of Health and Environmental Control	June 6, 2007
Alcoa Generating	June 18, 2007
155 individual High Rock reservoir users	June 19 – 26, 2007

In letters filed by 155 individuals in North Carolina, request limiting the High Rock reservoir's maximum drawdown to 6 feet, limiting withdrawals to no more than 10 percent above project discharge at normal minimum elevation, improving navigation and hazard markings of bridges and hazards more than 200 feet from shore, and a license term of no more than 30 years.

1.5.2.2 Yadkin-Pee Dee River Project

On July 30, 2007, Progress Energy filed a Comprehensive Settlement Agreement (Yadkin-Pee Dee Settlement) (Progress Energy, 2007a). The Yadkin-Pee Dee Settlement was signed by representatives of the federal and state agencies, nongovernmental organizations, and individuals listed below.

Signatories to the Yadkin-Pee Dee Settlement
Agencies
North Carolina Department of Environment and Natural Resources
North Carolina Wildlife Resources Committee
South Carolina Department of Health and Environmental Control
South Carolina Department of Natural Resources
Other Governmental Entities
Montgomery County
Non-governmental Entities
Fairway Shores Homeowners' Association
Pee Dee River Coalition
Progress Energy
Conservation Groups
Carolina Forest Association
Coastal Conservation League
Jordan Timberlands
The Land Trust for Central North Carolina
The Nature Conservancy—South Carolina Chapter

The Yadkin-Pee Dee Settlement replaces an Agreement in Principle filed in September 2006 and resolves outstanding issues associated with the relicensing of the Yadkin-Pee Dee River Project, with the exception of fish passage, which is being negotiated separately. Major issues covered in the Yadkin-Pee Dee Settlement include (1) increasing minimum flows downstream of Tillery and Blewett Falls dams; (2) stabilizing water levels at both project reservoirs to enhance fish spawning; (3) implementing a DO monitoring plan; (4) improving recreational facilities; and (5) protecting stream and riparian habitats along the Pee Dee River. We consider the Yadkin-Pee Dee Settlement to represent the Proposed Action for this project.

In the Notice of Settlement Agreement and Soliciting Comments issued July 31, 2007, the Commission set a deadline of August 20, 2007, for filing comments. The following entities filed comments on the Yadkin-Pee Dee Settlement:

Commenting Entities on Yadkin-Pee Dee Settlement	**Date of Filing**
Coastal Conservation League	August 17, 2007
City of Rockingham and American Rivers	August 20, 2007
Anson County	August 20, 2007

Anson County asks the Commission to conduct a socioeconomic study to address the opportunities for recreation and development lost to the adjacent counties as a result of the re-regulating function of the Blewett Falls reservoir. We do not intend to revisit the economic conditions at the time of the original license to determine what economic opportunities were lost to the adjacent counties because such an analysis would be highly speculative. We do, however, include in the draft EIS a socioeconomic analysis of proposed operations based on the existing conditions consistent with the Commission's well-established definition of the baseline in its NEPA documents. Nor do we intend to revisit the reregulating function of the Blewett Falls development, as no reasonable alternative has been recommended for analysis in this EIS.

Both Anson County and the city of Rockingham recommend additional public access for recreation on Blewett Falls reservoir, and we address this recommendation in section 3.3.7.2. The city of Rockingham reiterates the recommendations made in its terms and conditions filed on February 26, 2007, which we address in section 3 of this draft EIS. The Coastal Conservation League's filing is in support of the Yadkin-Pee Dee Settlement.