

BEFORE THE NORTH CAROLINA SECRETARY OF ADMINISTRATION

YADKIN RIVERKEEPER, INC.)	
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)	
Petitioner.)	REQUEST FOR DECLARATORY RULING
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I. Nature of Request

Pursuant to N.C. Gen. Stat. § 150B-4 and 01 N.C. Admin. Code 01B.0602 et seq., the Yadkin Riverkeeper, Inc. ("Yadkin Riverkeeper") submits this Request for Declaratory Ruling to the North Carolina Secretary of Administration ("Secretary") requesting the following rulings: (a) that the Department of Administration has the duty to maintain an accurate inventory of all state-owned lands; (b) that the State of North Carolina owns the bed of the Yadkin River in trust for the People of North Carolina as subject to the doctrine of the Public Trust; (c) that the State of North Carolina has asserted to FERC that the license for the Yadkin Project no longer serves the public interest and the Department of Administration is obligated to assist the State in its efforts to recapture the Yadkin Project; (d) that the Department of Administration is the proper agency of the State of North Carolina to defend the State's real property interests in the bed of the Yadkin River in the Yadkin Project; and (e) that the Department of Administration must investigate whether title has been granted away from the State in the bed of the Yadkin River in the vicinity of the Yadkin Project.

II. Nature of the Requesting Party

Yadkin Riverkeeper, Inc. ("Yadkin Riverkeeper" hereafter) is a nonprofit corporation dedicated to respecting, protecting and improving the Yadkin River Basin

through education, advocacy and action. The Yadkin Riverkeeper's mailing address is 308 Patterson Avenue, Winston-Salem, NC, 27101. Yadkin Riverkeeper works on behalf of its members to protect this public trust resource by: conducting regular patrols of the river; analyzing water quality permits; hosting education programs; and working with regulators and elected officials to enforce compliance with the federal Clean Water Act and NC pollution control laws.

III. Statement of the Facts Stipulated for this Declaratory Ruling

- a. In 1879, the Secretary of War reported to the United States Congress on the results of a survey of the Yadkin River from Wilkesboro to the railroad bridge above the Yadkin Project, finding long stretches of the River navigable for steam ships but identifying many small mill dams obstructing the river. A copy is attached in the Appendix of Exhibits.
- b. In 1885, the North Carolina General Assembly passed an Act declaring the Yadkin River a public highway for commerce, making it illegal to erect dams that impeded the navigation of boats, flats, and rafts on the river. A copy is attached in the Appendix of Exhibits.
- c. In 1895, the Register of Deeds of Stanly County recorded a series of documents that reflect grant by the State of North Carolina of sections of the Riverbed of the Yadkin River under the Entry and Grant laws to W. Smithdeal beginning at Book 21, page 264("Smithdeal Grants" hereafter). A copy is attached in the Appendix of Exhibits.

- d. The Smithdeal Grants reflect the actions of the State of North Carolina in transferring its title to the bed of the Yadkin River in 1895 as submerged lands under navigable waters subject to entry and grant laws.
- e. The Smithdeal Grants further reserve to the State interests: "Yielding and paying to us such sums of money, yearly or otherwise, as our General Assembly may from time to time direct, and promising obedience to all acts of the General Assembly now existing or hereafter to be enacted, concerning the passage of fish in the waters of said premises."
- f. In 1896, the Register of Deeds of Stanly County recorded the conveyance of the Smithdeal Grants to a Powell Evans and a T. Klutz, beginning at Book 21, Page 353. A copy is attached in the Appendix of Exhibits.
- g. In 1899, the Register of Deeds of Stanly County recorded the conveyance of the Smithdeal Grants from Powell Evans and T. Klutz to the Yadkin River Power Company, beginning at Book 23, Page 469. A copy is attached in the Appendix of Exhibits.
- h. That the description of property purported to be conveyed by the Smithdeal Grants' appears to embrace the foundation of some of the dams in the Yadkin Project, but not all of the bed of the Yadkin River in the Yadkin Project
- i. No subsequent conveyance of the Smithdeal Grants appears in the records of the Register of Deeds of Stanly County.
- j. In 1958, the Federal Energy Regulatory Commission ("FERC") granted to Carolina Aluminum Company, a 50-year federal license to operate four dams along the Yadkin River, known as the Yadkin Project.

- k. In April of 2006, a subsidiary of Aluminum Company of America, Alcoa Power Generating Inc. (hereafter referred to as "Alcoa") applied to FERC for a new fifty-year license to operate the Yadkin Project. As part of its application, Alcoa had to fill out an initial statement, which reads as follows, in pertinent part:
- "North Carolina follows the riparian system of water rights, whereby the owner of riparian land possesses the right to use the waters passing over its lands reasonably, including temporarily impounding the water through the erection of a dam. *See, e.g., Dunlap v. Carolina Power & Light Co.*, 212 N.C. 814, 823 (N.C. 1938). APGI owns all of the lands and riparian rights necessary under North Carolina law to operate and maintain the developments of the Yadkin Project. APGI is a Tennessee Corporation, originally incorporated as Knoxville Power Company. It was domesticated in North Carolina in 1954." A copy of the Initial Statement portion of Alcoa's application is attached in the Appendix of Exhibits.
- l. In its application, Alcoa calculated the "Fair Value" for the Yadkin Project, under the Federal Power Act, as \$137,339,555, including the land acquired. A copy of the "Exhibit D" to its application which details this calculation is attached in the Appendix of Exhibits.
- m. Alcoa explained its need for the power generated by the Yadkin Project as follows: "Alcoa Inc. (Alcoa) owns all of the outstanding common stock of APGI and is the nation's largest producer of aluminum and aluminum products. Alcoa has several aluminum smelters and related operations in the United States, including extensive operations in the southeast and Midwest regions, particularly in North Carolina, South Carolina, Indiana, and Tennessee. Aluminum smelting

requires large amounts of low cost, reliable electricity, and energy can comprise more than 30 percent of the cost of producing aluminum. Thus, the competitiveness of Alcoa's primary aluminum business is closely tied to the availability of economical electric power rates. For this reason, Alcoa has located its smelting operations in close proximity to low-cost sources of reliable electric power such as the Yadkin Project hydropower developments, owned and operated by APGI. The Yadkin Project is critical to Alcoa's Primary Metals Operations because it enables Alcoa to maintain its competitiveness in the domestic aluminum market. For many years, the power from the Yadkin Project was a source of power for Alcoa's Badin Works, an aluminum smelter and processing plant. More recently, the smelting operations at Badin were curtailed, but the hydropower developments have continued to supply some power directly to Badin Works, with the remaining power sold to help offset the cost of electricity purchases required for Alcoa's other domestic smelting operations. Currently, the Yadkin Project provides 3 to 5 megawatts (MW) of electricity directly to Badin Works for aluminum refining and other operations that still occur at the plant, with the balance being sold into the wholesale market. Whether the energy from the Yadkin Project is sold into the wholesale market or used to directly supply Alcoa's smelting facilities, access to that source of low cost power is important to Alcoa's Primary Metals Business." A copy of Exhibit H to Alcoa's License Application is attached in the Appendix of Exhibits.

- n. The N.C. Department of Environment and Natural Resources was allowed to intervene in Alcoa's FERC Relicensing proceeding upon Motion citing the nature

of the State's ownership interests in the submerged land and in protecting public trust resources. A copy is attached in the Appendix of Exhibits.

- o. In May of 2008, Alcoa filed a 401 Certification Form requesting DWQ to certify that the activities covered by the proposed relicensing of the Yadkin Project would not violate state water quality standards. A copy is attached in the Appendix of Exhibits.
- p. On September 18, 2009, the State of North Carolina filed a Motion to Present Evidence before FERC in the Relicensing Proceeding("Motion to Present Evidence" hereafter). A copy of the Motion is attached in the Appendix of Exhibits.
- q. In the Motion to Present Evidence, the State argued: "The State's opposition to Alcoa's relicensing application and its request for a recapture recommendation arise out of: (A) Alcoa's failure to keep its promise to the State that, in exchange for the State's support of Alcoa's initial license application, it would create, maintain and provide North Carolina's people with significant socioeconomic benefits; (B) Alcoa's failure as a trustee and steward of the Yadkin River, Badin Lake and the health and safety of the people who live nearby; and (C) significant changes which have occurred since 1958 and which the State believes require a completely new analysis of how best to use the flows of the Yadkin River as a public resource - in particular, the need for clean, accessible water supplies has become critical to the State's continued growth, development and prosperity." See Motion at page 5 attached in the Appendix of Exhibits.

- r. Dean Naujoks, employee of the Yadkin Riverkeeper, regularly patrols the river by boat.
- s. In April 2011, Naujoks, undertook the "Tour de Yadkin" during which he paddled 185 miles down the length of the Yadkin River. The details of Mr. Naujoks' observations regarding the navigability of the river are outlined in his Affidavit. A copy is attached in the Appendix of Exhibits.

IV. Statutes and Rules to Which the Request Relates

- a. In 1758, the Colonial Government of North Carolina enacted a law to encourage the development of public mills as regulated monopolies providing public service under controlled prices. A copy of that statute is attached in the appendix of Exhibits.
- b. In December of 1776, North Carolina enacted its first Constitution as a State with an accompanying Declaration of Rights. The third provision of the North Carolina Declaration of Rights read: "III. That no man or set of men are entitled to exclusive or separate emoluments or privileges from the community, but in consideration of public services."
- c. In 1777, the State of North Carolina enacted a law to encourage the development of public mills as regulated monopolies providing public service under controlled prices.
- d. The North Carolina Constitution declares that the State must "protect and conserve its lands and waters for the benefit of all citizenry." N.C. Const. art. XIV, § 5.

- e. It is the public policy of the State of North Carolina “to provide for the conservation of its water and air resources.” N.C. Gen. Stat. § 143-211(a)
- f. The General Assembly recognizes “that the water and air resources of the State belong to the people” and “affirms the State's ultimate responsibility for the preservation and development of these resources in the best interest of all its citizens . . .” N.C. Gen. Stat. § 143-211(a).
- g. The North Carolina Administrative Procedure Act states that “an agency shall issue a declaratory ruling . . . as to the applicability to a given state of facts of a statute administered by the agency or of a rule or order of the agency” when requested by a person aggrieved. N.C. Gen. Stat. § 150B-4(a).
- h. Upon request for a declaratory ruling, the agency has 30 days to “make a written to grant or deny the request.” N.C. Gen. Stat. § 150B-4(a)(1).
- i. The North Carolina Department of Administration has the duty “[t]o prepare and keep current a complete and accurate inventory of all land owned or leased by the State or by any State agency.” N.C. Gen. Stat. § 143-341(4)(a).
- j. Through the Division of State Property, the Department of Administration “is the administering agency in state government for the acquisition and disposition of all state owned land or any interest therein by deed, lease, easement, or allocation.” N.C. Admin. Code 6N.0101.
- k. It is the duty of the Department of Administration “to provide for such ancillary services as the other departments of State government might need to insure efficient and effective operations.” N.C. Gen. Stat. § 143B-367.

- l. The North Carolina Department of Environment and Natural resources has the duty to “secure for the people of North Carolina, now and in the future, the beneficial uses of these great natural resources.” N.C. Gen. Stat. § 143-211(c).
- m. For the purposes of defining state lands, “ ‘[n]avigable waters’ means all water which are navigable in fact.” N.C. Gen. Stat. § 146-64(4).
- n. The General Assembly has declared and found as legislative fact that the Yadkin and Pee Dee Rivers from Davidson County’s northern boundary to the South Carolina state line are to be public highways and mandated “the free passage of boats, flats, rafts and other means of transportation.” 1885 N.C. Sess. Laws 389-91.
- o. Title to real property held by the State and subject to public trust rights may not be acquired by adverse possession. N.C. Gen. Stat. § 1-45.1.
- p. All conveyances heretofore made by the Governor, attested by the Secretary of State, and authorized by the Council of State, in the manner provided by G.S. 146-74 and 146-75 of any lands are validated by statute. See N.C. Gen. Stat. § 146-78.
- q. Public trust rights are “rights held in trust by the State for the use and benefit of the people of the State in common . . . They include, but are not limited to, the right to navigate, swim, hunt, fish, and enjoy all recreational activities in the watercourses of the State . . .” N.C. Gen. Stat. § 1-45.1.
- r. The North Carolina Department of Administration has enacted rules recognizing its roles and responsibilities, codified in Title 1 of the North Carolina Administrative Code.

- s. Rule 01 NCAC 06B.101 sets forth these responsibilities as follows: "The Division of State Property is the administering agency in state government for the acquisition and disposition of all state owned land or any interest therein by deed, lease, easement, or allocation."

V. Concise Statement of the Manner in Which the Petitioner is Aggrieved by the Application of the Laws and Rules Cited to the Facts

(A) STATE OF NC HAS ARGUED TO FERC THAT ALCOA'S LICENSE IS NO LONGER SERVING THE PUBLIC INTEREST, MAKING GRANTS OF PRIVILEGE TO IT UNLAWFUL

North Carolina filed a Motion to Intervene in the FERC relicensing proceeding for the Yadkin Project. On September 18, 2009, the State filed a Motion to Present Evidence before FERC. In the body of the Motion and in the attached evidence, the State argued compellingly as to why Alcoa's proposed relicensing does not serve the public interest. The State's Motion is still pending before FERC. If the State's Motion is granted, a critical question to be resolved would be the value of the project including the ownership of land necessary to operate the Yadkin Project. The Department of Administration is the state agency responsible for maintaining the inventory of state lands and acquiring and defending title to same.

In its Motion to Present Evidence before FERC, the State argued that the 1958 FERC license was in consideration of public service through significant employment. Other FERC licenses in the State of North Carolina have gone to entities subject to public service requirements, such as utilities regulated by the Utilities Commission. The State said this was primarily due to "Alcoa's failure to keep its promise to the State that, in exchange for the State's support of Alcoa's initial license application, it would create,

maintain and provide North Carolina's people with significant socioeconomic benefits”
See Motion at page 5.

Alcoa very forthrightly explained its use of the Yadkin Project as a source of revenue to support its smelting operations in other locations. See Initial Statement in Appendix. Alcoa made no pretense to FERC that the Yadkin Project is about North Carolina jobs. Rather the Yadkin Project provides a small amount of electricity for use (estimated at 3-5 megawatts) at the plant, with the bulk going to the wholesale market. See Alcoa Exhibit H in the Appendix of Exhibits. Alcoa explained the Need for the Yadkin Project, in part, as follows: “the smelting operations at Badin were curtailed, but the hydropower developments have continued to supply some power directly to Badin Works, with the remaining power sold to help offset the cost of electricity purchases required for Alcoa’s other domestic smelting operations.”

(B) THE NORTH CAROLINA CONSTITUTION PROHIBITS MONOPOLIES AND THE GRANTING OF EXCLUSIVE PRIVILEGES, EXCEPT IN CONSIDERATION OF PUBLIC SERVICE

The North Carolina Constitution from early times has prohibited monopolies and the granting of exclusive privileges, except in consideration of public service. See N.C. Constitution, Art. I, § 32, 33 and 34. The colonial government of North Carolina enacted a statute allowing persons to build grist mills on rivers and streams, but only public grist mills. See Public Mill Act of 1758 in the Appendix of Exhibits. These mills were required to choose customers according to a turn system, charge no more than a maximum toll for grinding grain, and required to grind the grain well. In exchange for this public benefit, the grist mill operators were given a monopoly and an exclusive privilege: no other mill could be within two miles along the stream or river. At common

law, mill impoundments were generally unlawful as a violation of the natural flow doctrine. The colonial government created an exception to benefit the public's need to get flour and corn meal at a reasonable price.

Constructions of mill dams were allowed under the common law of North Carolina as regulated public monopolies in late colonial times. The Public Mill Act of 1753 regulated the amount that could be charged, how customers were served and the quality of product. Any miller was subject to a fine if they: took more than the prescribed toll; did not grind the grain well; or who took loads of grain out of turn had to pay to the injured party a fee.

After the American Revolution, the General Assembly enacted a similar law to the 1753 statute allowing the construction of public grist mills. For public grist mills, the owner was required to grind corn for anyone who came asking for the service. The toll charged on the corn was subject to a statutory maximum charge: "All millers of public mills shall grind according to turn, and shall well and sufficiently grind the grain brought to their mills, if the water will permit, and shall take no more toll for grinding than one-eighth part of the Indian corn and wheat, and one-fourteenth part for chopping grain of any kind." See N.C. Gen. Stat. § 73-2.

As grain harvest increased in the area, the need for the grist mill dams increased. By the end of the 1800s many great rivers in North Carolina and nearly all large streams in the Piedmont were clogged with mill dams. While the Colony and then the State had regulated public mills as a regulated monopoly, it did not restrict the number of them. Thus, the State found itself with many mill dams that no longer served a public purpose.

At the time of the survey done by the Secretary of War in 1879, many on the Yadkin were no longer operable or had fallen to disuse.

The North Carolina Constitution forbids the State from assigning any person “exclusive or separate emoluments or privileges from the community but in consideration of public services.” N.C. Const. art. I, § 32. Furthermore, “[p]erpetuities and monopolies are contrary to the genius of a free state and shall not be allowed.” *Id.* § 34. The granting of “special privileges to private corporations” would violate Article I, section 32. *See State v. Felton*, 239 N.C. 575, 585, 80 S.E.2d 625, 633 (1954) (stating that such acts have consistently been found unconstitutional).

The Constitution’s prohibition of exclusive emoluments does not extend to those grants “in consideration of public services.” N.C. Const. art. I, § 32. Entities regulated as public utilities may receive exclusive emoluments in return for providing critical services to the public such as electricity and telecommunications. *Felton*, 239 N.C. at 585. An entity qualifies as a public utility when it generates or delivers electricity to the public for compensation, but those entities that generate electricity for wholesale distribution or self-use are not public utilities. N.C. Gen. Stat. § 62-3(23)(a). The Utilities Commission possesses the “authority to supervise and control” public utilities, including the ability to make rules and regulations, set rates, order the construction of improvements, and investigate financial records. *Id.* § 62-30 –54.

A governmental grant to a private entity is an unconstitutional monopoly or perpetuity when the grant assigns away the “exclusive privilege to construct and maintain waterworks . . . and the exclusive use of . . . public grounds [and] streams.” *Thrift v. Bd. of Comm’rs of Town of Elizabeth City*, 30 S.E. 349, 351 (N.C. 1898) (invalidating a

town's contract that assigned exclusive rights to a water supplier). "A monopoly need not be a perpetuity, nor is a perpetuity necessarily a monopoly," but both are condemned under the Constitution. *Id.* A government may not "deliberately surrender to a private individual its highest attributes of . . . sovereignty." *See id.*

An exemption from certain laws for particular parties is not an exclusive emolument if: "(1) the exemption is intended to promote the general welfare rather than the benefit of the individual, and (2) there is a reasonable basis for the legislature to conclude the granting of the exemption serves the public interest." *Town of Emerald Isle By and Through Smith v. State*, 320 N.C. 640, 654, 360 S.E.2d 756, 764 (1987). For example, providing tax incentives to a manufacturer who relocates to a community would not be an exclusive emolument because the new employment benefits the public generally, not merely the specific corporate recipient. *See Blinson v. State*, 186 N.C. App. 328, 342, 651 S.E.2d 268, 278 (N.C. Ct. App. 2007).

Alcoa, as a wholesale producer of electricity, is not a public utility under the law and has not been recognized as such by the Utilities Commission. While its use of the river once supported the local community by providing jobs at the company's aluminum smelting plant, Alcoa currently sells all the electricity generated by the Yadkin on the wholesale market; this benefits only Alcoa, not the general welfare. In contrast to the manufacturer in *Blinson*, who had specific plans to relocate to North Carolina, Alcoa has offered nothing in the public interest beside a vague offer of jobs. *Blinson*, 186 N.C. App. at 330. A legislature may more reasonably determine that an exemption serves the general welfare when there is a concrete promise of employment opportunities, not a mere possibility.

(C) MANMADE OBSTRUCTIONS TO NAVIGATION ALONG THE YADKIN RIVER ARE UNLAWFUL IF THEY DO NOT PROVIDE A PUBLIC SERVICE

North Carolina's First Constitution prohibited emoluments and privileges except in consideration of public services. This prohibition has continued in force of law through today. The Colonial statute recognized that regulation was necessary to prevent "evil-minded, covetous and exacting millers or owners of mills" from gouging their customers or otherwise abusing the privilege of a public monopoly. The obstructions to navigation on the Yadkin River in the late 1800s were primarily attributable to the State's policy of encouraging the development of mills for the public benefit.

The Survey of the Secretary of War as reported to Congress in 1879 looked to see whether the Yadkin River could be made navigable for steamboats to pass from Wilkesboro to the Railroad Bridge near Salisbury. Surveyors found primary obstacles to navigation to consist of dams, many of which were no longer being used. They also catalogued a number of shoals associated with these dams. When the General Assembly enacted the law declaring the Yadkin River to be public highways, they recognized that the removal of dams from the river was a key public purpose and they sought specifically to protect "the free passage of boats, flats, rafts and other means of transportation." 1885 N.C. Sess. Laws 389-91.

(D) THE YADKIN RIVER WAS NAVIGABLE HISTORICALLY AND IS NAVIGABLE TODAY

The General Assembly passed legislation in 1885 declaring the Yadkin and Pee Dee Rivers from Davidson County's northern boundary to the South Carolina state line to be public highways and mandating "the free passage of boats, flats, rafts and other means

of transportation.” 1885 N.C. Sess. Laws 389-91. A Department of War Survey of 1879 found that a multitude of mill dams and associated man-made obstacle, blocked passage of boats for stretches on the Yadkin River. The Yadkin River is a navigable river in fact, both historically and in its present state.

In 1859, the state Supreme Court noted that “flats and canoes” had crossed the Yadkin and used it for transporting flour and lime. *State v. Tyre Glen*, 52 N.C. 321, 323 (1859). While the Court ultimately determined that a stretch of the Yadkin in was non-navigable, it did so under an archaic rule under which navigable in fact meant navigable by sea-going vessels. *Id.* The *Tyre Glen* Court thus concluded that since the Yadkin River was not wide or deep enough for navigation by steam boats. The Court reasoned that since the owner had a grant from the State of North Carolina to the portion of the riverbed dated before 1794, that the owner was entitled to erect a mill and dam the river. If legislation declared a river to be a navigable stream, the Court noted, it would be so in law. *Id.* at 333. Subsequent to the *Tyre Glen* case decision, such legislation was enacted declaring the Yadkin River to be a public highway.

The *Tyre Glen* case arose in Yadkin County, which is located upstream of the Yadkin Project and above the area delineated as a public highway by the General Assembly’s Act of 1885. The North Carolina Supreme Court has since held that navigable waters include those waters which can be navigated by recreational craft such as canoes as well as those which would have met the old “sea vessel” test. *See Gwathmey v. State*, 342 N.C 287, 300, 464 S.E.2d 674, 682 (1995). *Tyre Glen*’s description of the Yadkin reveals that the river as it flowed through Yadkin county in 1859 was navigable under the modern definition. Title to land is presumed to be in the

State of North Carolina in any dispute between any party and the State. See N.C. Gen. Stat. § 146-79. This would include the relicensing proceeding at FERC.

(E) STATE OF NC OWNS THE BED OF THE YADKIN RIVER

State title to the bed of navigable rivers was an incident of state sovereignty, long recognized at law. After the American Revolution, the original states became sovereign. As sovereign states, instead of colonies, each held “absolute right to all their navigable waters *and the soils under them* for their own common use, subject only to the rights since surrendered by the Constitution to the general government.” *Martin v. Waddell*, 41 U.S. (16 Pet.) 367, 410 (1842) (emphasis added). Title to beds of navigable rivers allowed the sovereign states to protect the public interests in using waters and beds, such as the public grist mills allowed under North Carolina law.

At their inception, states “succeeded to the rights, both of the crown and of the proprietors, in the navigable waters and the soil under them.” *Shively v. Bowlby*, 152 U.S. 1, 23 (1894). The *Shively* court reviewed a long history of cases establishing state sovereign title to beds of navigable waters. States received such title to protect and defend the interests of the people, as the ultimate sovereign, for use of these lands for navigation, commerce, and fishing. *Shively*, 152 U.S. at 11-12. See also *Montana v. United States*, 450 U.S. 544, 552 (1981) and *United States v. Alaska*, 521 U.S. 1, 5 (1997). Lands under river beds were “infused with a public trust the State itself is bound to respect.” *Idaho v. Coeur d’Alene Tribe*, 521 U.S. 261, 283 (1987) (Kennedy, J., plurality opinion). The Supreme Court of the United States recognized this public trust in the *Illinois Central* case. *Illinois Central Railroad Co. v. Illinois* 146 U.S. 387, 453-54 (1892). The *Illinois Central* Court held that the Illinois legislature lacked power to grant

submerged lands along Lake Michigan. While states may sell, lease, and allow private use of lands under navigable waters, a state cannot "abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them, so as to leave them entirely under the use and control of private parties[.]" *Illinois Central*, 146 U.S. at 453.

North Carolina courts have also recognized that State ownership of submerged lands is subject to the public trust doctrine. The State of North Carolina recognizes the common law doctrine of public trust over navigable waters. *State ex rel. Rohrer v. Credle*, 322 N.C. 522, 527, 369 S.E. 825, 828 (1988). The lands submerged beneath the state's navigable waters are held "in trust by the State for the benefit of the public." *Id.* As trustee, the state has a fiduciary duty of loyalty to the beneficiaries of our natural resources: the public. *Cf.* N.C. Gen. Stat. § 36C-8-802 ("A trustee shall administer the trust solely in the interests of the beneficiaries."). Furthermore, the State Constitution enshrined the principle that the State must "protect and conserve its lands and waters for the benefit of all its citizenry." N.C. Const. art. XIV, § 5. State law recognizes that "the water and air resources of the State belong to the people" and must be preserved and developed "in the best interest of all its citizens." N.C. Gen. Stat. § 143-211(a). The public trust doctrine is a rule of construction "creating a presumption that the General Assembly did not intend to convey lands in a matter that would impair public trust rights." *Gwathmey v. State*, 342 N.C. 287, 304, 464 S.E.2d 674, 684 (1995).

The definition of navigability has evolved from the common law of England which labeled as navigable only those rivers affected by the "ebbing and flowing of the tides." North Carolina rejected that narrow conception in 1828. *See Wilson v. Forbes*,

13 N.C. 30, 34-35 (1828). Today, legal navigability depends on the waters' navigability "in fact." N.C. Gen. Stat. § 146-64(4). A stream's navigability in fact does not depend on its historical use for trade, but instead on whether it could be navigated by watercraft in its natural state. *Gwathmey*, 342 N.C. at 301. The watercraft may simply be recreational boats, including canoes and kayaks, and is not limited to craft used for trade. *Id.* at 300. The question is one of capacity to be used, not purpose of use. *See id.* at 301.

In *Gwathmey*, the owners of marshlands conveyed by the State argued that the submerged lands were not navigable in fact. *Id.* at 292. The trial court agreed, but the Supreme Court overturned the ruling because the lower court based its inquiry on the historical use of the waters. *Id.* at 310-11. The Court ruled that the proper test is whether navigation is possible. *Id.* at 311. While evidence of past or present navigation "tends to support a finding that the waters are navigable in fact," it is not essential to reach a conclusion of navigability. *Id.*

(F) NAVIGABILITY CANNOT BE DEFEATED BY SHOWING THAT OBSTRUCTIONS TO NAVIGATION EXIST ON A RIVER

The long-standing test used by the United States Supreme Court upholds state title to land under rivers even if there are interruptions or obstructions on the river to navigation. In 1870, the United States Supreme Court held that rivers in the states were navigable for hundreds of miles above tidewater, and for these rivers a navigability-in-fact test applied. The test was articulated as follows:

"A different test must, therefore, be applied to determine the navigability of our rivers, and that is found in their navigable capacity. Those rivers must be regarded as public navigable rivers in law which are navigable-in-fact. And *they are navigable-in-fact*

when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water."

The *Daniel Ball*, 77 U.S. 557, 563 (1870) (emphasis added).

Four years later the Supreme Court established that navigability-in-fact was not defeated and did not disappear at the segments of a river posing common obstructions to navigation. See *United States v. The Steamer Montello*, 87 U.S. 430, 432 (1874). The *Montello* Court considered the Fox River in Wisconsin, which included chutes, falls, and rapids that made navigation difficult: "All these embarrassed the navigation of early days, but they did not destroy or even much arrest it." *Id.* Explorers and fur traders had traveled the Fox River before the Revolution, despite obstructions. They would unload their boats and portage the cargo, loading it into another boat or the same boat to continue the journey up to the source of the Fox River. After this, the traders portaged to the Grand River, which connected to the Mississippi. *Id.*

Navigability is proven when a river can be used as a highway for commerce, interruptions on that highway do not defeat navigability. *Tyre Glen* was decided before both the *Daniel Ball* and the *Montello* cases and did not analyze the facts using those tests either. The *Montello* Court held:

"[T]he true test of the navigability of a stream does not depend on the mode by which commerce is, or may be conducted, *nor the difficulties attending navigation*. If this were so, the public would be deprived of the use of many of the large rivers of the country over which rafts of lumber of great value are constantly taken to market. * * *

Indeed, there are but few of our fresh water rivers which did not originally present serious obstructions to an uninterrupted navigation. “

United States v. The Steamer Montello, 87 U.S. 430, 441 (1874) (emphasis added).

The Secretary of War's efforts and the enactment of the General Assembly also show that the Yadkin River is navigable under the test as articulated by the United States Supreme Court in *Montello*. Just as in the Yadkin River, the Fox River had obstacles to navigation. Like the Fox River, the Yadkin River had both natural and manmade obstacles to uninterrupted navigation. To hold that such obstructions defeat title would allow private parties erecting mill dams to defeat state title and claim public land thereby. Such can only happen by explicit grant from the state to a private owner and then only if for a public benefit and subject to the public trust doctrine.

In 2009, the Court of Appeals held that plaintiffs had failed to meet their burden of proof to show navigability of a stream. *See Bauman v. Woodlake Partners, LLC*, 681 S.E.2d 819, 826 (N.C. Ct. App. 2009). The *Bauman* court held that the plaintiff boaters did not establish that the river was navigable beyond several isolated stretches and failed to offer evidence of its navigability in fact prior to the dam's construction. *Id.* at 826-27. The Court noted that the dam itself now posed an obstacle to navigation, but that this physical obstacle would not render the stream non-navigable at law. In explaining its reasoning, the court said: “Were we to adopt such a rule, many of the major rivers in North Carolina, such as the Catawba and the Yadkin, would become non-navigable, which would be a troubling result.” *Id.* at 826. The *Bauman* court, thus noted the navigability of the Yadkin River as established in fact and law. Interruptions in its

navigability caused by dams and other obstructions do not defeat state title. The result in *Bauman* is consistent with precedent from the United States Supreme Court in the *Montello* and *Daniel Ball* cases.

The navigability in fact test does not distinguish between natural and artificial waterways. In *Fish House, Inc. v. Clarke*, the owner of a private canal connecting to a navigable river brought a trespass action against a boater. 693 S.E.2d 208, 210 (N.C. Ct. App. 2010). The defendant argued that she could not be excluded from the canal because the lands submerged beneath it were protected by the public trust doctrine because the canal was navigable. *Id.* at 210. The Court of Appeals agreed, and noted that the South Carolina Supreme Court had reached the same conclusion based on the same definition of navigability applied in North Carolina. *Id.* at 211-12 (citing *Hughes v. Nelson*, 303 S.C. 102, 399 S.E.2d 24 (1990)).

The North Carolina Department of Environment and Natural Resources based its intervention in FERC's relicensing process in part on the State's title to the beds of navigable waters, strongly suggesting that the Yadkin riverbed is held by the State. *See* Notice of Intervention at 4. The Superior Court of Forsyth County ruled that the Yadkin was navigable in 2002 based on the fact that it "historically was navigated by ferries, flatboats, and pleasure craft." *Carolina Sand, Inc. v. Northbrook Carolina Hydro, LLC*, 2002 WL 34146903 (N.C. Super. 2002). The construction of Alcoa's dams did not render the Yadkin legally non-navigable. *See Bauman*, 681 S.E.2d at 826. N.C. Gen. Stat. § 76-40 excludes reservoirs related to hydropower from the definition of navigable waters, but only for the purposes of one section of Chapter 76, the section which prescribes procedures for filling of navigable waterways. *See* N.C. Gen. Stat. § 76-40.

For all other purposes, a hydropower reservoir is subject to the same rules and laws as any other navigable waters.

The Yadkin River's navigability is supported by concrete evidence of recent navigation. Dean Naujoks of the Yadkin Riverkeeper paddled 185 contiguous miles of the Yadkin in 2010 and 2011. *See* Naujoks Aff. On his tour, he discovered that the only portage required is at dams on the River and no other obstacles to navigation exist on the river. *Id.* With the exception of the dams, the Yadkin is physically navigable by canoe and kayak from at least the W. Kerr Reservoir to Morrow Mountain State Park. *Id.* Naujoks' excursion demonstrates that the Yadkin remains a navigable river with the only obstacles to navigation being dams.

FERC has jurisdiction over hydropower projects on the navigable waters of the United States. 16 U.S.C. § 797(e). Were the Yadkin to fall outside of that category, FERC could not regulate hydroelectric projects on it. FERC officially recognized the Yadkin's navigability in hearings on the Idols project, upstream of the Yadkin Project. *See In re Duke Power Co.*, 12 F.E.R.C. 62,052, 63,101-02 (1980). The federal definition of navigability, moreover, is narrower than the North Carolina definition. Because federal navigability depends on the Commerce Clause, its navigability in fact inquiry examines a water body's potential *commercial* use. *The Daniel Ball*, 77 U.S. 557, 563 (1870). In contrast, purely recreational boating alone can indicate navigability in fact according to state law. *Gwathmey*, 342 N.C. at 301.

FERC's involvement confirms that the Yadkin River is navigable under federal law, and Alcoa's application to FERC for licensing constitutes an admission as to its

navigability under the federal test. Because it is navigable under the narrower federal definition, the Yadkin is clearly navigable under the less stringent state test.

As it runs today, the Yadkin is far easier to navigate than other rivers held navigable for purposes of FERC jurisdiction. The Yadkin is far easier to navigate by canoe than the New River, a flashy whitewater stream as it courses through Virginia and West Virginia, which the Supreme Court held was navigable. *United States v. Appalachian Electric Power*, 311 U.S. 371 (1940). The size of the vessels used does not determine navigability in any respect, nor do interrupting rapids or falls. *Id.* Moreover, the expansion of the Yadkin River's boundaries through damming may have brought additional submerged lands into the public trust. *Fish House* shows that a private party can expand the reach of navigable waters when it builds a canal connecting to a navigable stream. *Fish House*, 693 S.E.2d at 211. Alcoa's dams flooded many acres of shoreline, turning previously dry land into navigable waters.

(G) THE DEPARTMENT OF ADMINISTRATION IS THE PROPER AGENCY OF THE STATE OF NORTH CAROLINA TO DEFEND THE STATE'S TITLE TO THE BED OF THE YADKIN RIVER

The State of North Carolina has divided its public trust responsibilities between DOA and DENR. DOA has a statutory duty to "provide for such ancillary services as the other departments of State government might need to insure efficient and effective operations." N.C. Gen. Stat. § 143B-367. One such service is keeping an inventory of all state-owned lands. *See id.* § 143-341(4)(a). Any sale, lease, or gift of state land must be made by DOA and approved by the governor and Council of State. *Id.* § 146-27. Moreover, sales of lands worth more than \$25,000 may only occur upon consultation with the Joint Legislative Commission on Government Operations. *Id.* Finally, sales of

public trust lands can only occur with the express approval of the General Assembly. *Gwathmey v. State*, 342 N.C. 287, 304, 464 S.E.2d 674, 684 (1995).

To fulfill its duty to assist other agencies, DOA must investigate whether Alcoa is entitled to use the submerged lands on which the dam was built. *See* N.C. Gen. Stat. § 143B-367. The Motion to Present Evidence, if successful, will require that the State prepare and produce evidence regarding ownership of lands under the Yadkin Project, including the flooded riverbed. If DOA refuses to identify state-owned resources, it effectively creates a presumption that Alcoa may use the public land and then charge the State to buy it back if recapture is effectuated. The General Assembly gave DOA the role of assisting any state agency to perform its duties. DOA has the responsibility to maintain the inventory of state lands, and effective administration begins there. *See* N.C. Gen. Stat. § 143B-367.

Following passage of the 1885 law, the General Assembly chartered a number of public utilities which sought to create regulated public power systems. In 1897, the State of North Carolina executed grants under the entry and grant system to sections of the bed of the Yadkin River to a person identified as W. Smithdeal. These grants can only have been properly made if the State of North Carolina had title to the bed of the Yadkin River to begin with. Thus, the grants themselves are evidence that the State had title to the bed of the Yadkin River and attempted to convey some of its interests therein to Mr. Smithdeal. In turn, these grants were transferred to the Yadkin River Power Company and do not appear to have transferred further according to the records of the Stanly County Register of Deeds.

DOA must now investigate whether the Yadkin riverbed was state-owned or is currently so. The Smithdeal Deeds were only discovered by the undersigned two weeks ago, but they raise critical issues about the Motion that the State of North Carolina has filed in the FERC case. Should the Department of Administration fail to investigate the state of Alcoa's title vitiates its statutory duty to maintain the inventory of public lands. This omission yields a situation where Alcoa's mere claim of ownership amounts to a *de facto* determination by the State of such a right, despite the lack of evidence indicating Alcoa's title, easement, or other instrument allowing exclusive use of a public trust resource.

(H) THE STATE MAY HAVE CONVEYED PORTIONS OF THE BED OF THE YADKIN RIVER TO PREDECESSORS OF THE YADKIN RIVER POWER COMPANY AND THE DOA HAS DUTY TO INVESTIGATE WHETHER THE STATE DID SO

Public trust lands owned by the State cannot be sold or otherwise conveyed to a private party unless the General Assembly authorizes the sale "in the clearest and most express terms." Gwathmey v. State, 342 N.C. 287, 304, 464 S.E.2d 674, 684 (1995). Absent that express authorization, a presumption exists that no conveyance ever occurred. *Id.* Additionally, in disputes over land that may be potentially owned by the State, it is presumed that the State is the true owner unless the other party shows "good and valid title." N.C. Gen. Stat. § 146-79. Given that the Yadkin River is navigable and therefore its bed is held by the State in trust for the public, title for the riverbed belongs to the State barring evidence that the General Assembly expressly conveyed title to Alcoa. The Smithdeal Deeds do provide evidence that some portions of the bed of the Yadkin

River were conveyed away to the Yadkin River Power Company. There is no record evidence that these deeds were conveyed to Alcoa or its predecessors.

The General Assembly gave DOA responsibility to manage submerged lands in 1959. N.C. Gen. Stat. § 146-1. In 1995, The General Assembly prescribed a method for obtaining easements for these lands in exempted FERC-licensed hydroelectric reservoirs. 1995 N.C. Sess. Laws 529. The exemption, however, does not mean that FERC licensees may simply use state land as it wishes without permission. Nothing in the General Statutes suggests that the General Assembly intended to assign such a blanket right to occupy public trust resources. *Gwathmey* would strongly hold against such a conclusion. *Gwathmey*, 342 N.C. at 304.

Prior to 1995's amendments, easements in lands covered by navigable waters had to be approved by the Governor and Council of State. 1995 N.C. Sess. Laws 529. Alcoa's Tuckertown dam was not built until 1962 and therefore needed to obtain an easement; there is no record of such an easement. Before Section 146-1's enactment in 1959, a dam operator would still need to obtain a legal right to use public lands, just not through the exact procedures later codified in Chapter 146.

Alcoa cannot claim an implied easement by necessity. To be eligible for an easement by necessity, the claimant must prove that the claimed dominant and subservient tracts were once commonly owned and that the necessity for the easement stemmed from their separation. *Jernigan v. McLamb*, 192 N.C. App. 523, 526, 665 S.E.2d 589, 592 (N.C. Ct. App. 2008). Alcoa acquired many parcels of shoreline from various private landowners, but never did or could own the public trust riverbed. The

riverbed cannot be a claimed dominant tract because it was never of a common ownership with the shoreline.

Alcoa cannot credibly claim that it acquired the right to the riverbed through adverse possession. Property held in trust for the public cannot be adversely possessed. N.C. Gen. Stat. § 1-45.1. The General Assembly's declaration that the Yadkin was navigable passed in 1885, decades before Alcoa built any dams. 1885 N.C. Sess. Laws 389-91. Furthermore, while Alcoa claimed that the Yadkin River was non-navigable, its acceptance of FERC jurisdiction manifests a belief that it was navigable. *See* Application for License at 2, Feb. 1, 1956. Without navigability, FERC could not be involved with the approval of the Yadkin Project.

North Carolina courts have never held that public trust resources could be adversely possessed. *Walker v. Parker* suggested that adverse possession of some state lands was at least once accepted practice. *See* 85 S.E. 306, 308 (N.C. 1915). Not all state lands, however, are public trust resources, and courts in the early twentieth century routinely held that public trust resources were not treated like ordinary real property held by the state. *See, e.g., State v. Twiford*, 136 N.C. 603, 609, 48 S.E. at 586, 588 (1904); *Shepard's Point Land Co. v. Atlantic Hotel*, 132 N.C. 517, 527, 44 S.E. 39, 42 (1903). At the time of the construction of the first dam, no party could reasonably have been under the misapprehension that public trust resources could be adversely possessed.

(I) THE YADKIN RIVER BED OWNERSHIP ISSUE HAS IMPLICATIONS FOR DENR'S EXERCISE OF ITS ROLES AS PROTECTOR OF PUBLIC TRUST

Referring to the Public Trust Resources, the General Assembly has stated that DENR has the responsibility to "secure for the people of North Carolina, now and in the

future, the beneficial uses of these great natural resources.” N.C. Gen. Stat. § 143-211(c).

The General Assembly authorizes DENR and the Wildlife Resources Commission to:

- (1) Comment on and object to permit applications submitted to State agencies which may affect the public trust resources in the land and water areas subject to their respective management duties so as to conserve and protect the public trust rights in such land and water areas;
- (2) Investigate alleged encroachments upon, usurpations of, or other actions in violation of the public trust rights of the people of the State; and
- (3) Initiate contested case proceedings under Chapter 150B for review of permit decisions by State agencies which will adversely affect the public trust rights of the people of the State or initiate civil actions to remove or restrain any unlawful or unauthorized encroachment upon, usurpation of, or any other violation of the public trust rights of the people of the State or legal rights of access to such public trust areas.

Id. § 113-131(b).

Public trust rights “include, but are not limited to, the right to navigate, swim, hunt, fish, and enjoy all recreational activities in the watercourses of the State.” *Id.* § 1-45.1. DENR may bring civil actions against any legal entity that has “unlawfully encroached upon, usurped, or otherwise violated the public trust rights of the people of the State or legal rights of access to such

public trust areas.” *Id.* § 113-131(c). In addition, the General Assembly directed DENR “to administer a complete program of water and air conservation [and] pollution abatement and control.” *Id.* § 143-211(c). This includes the power to review, approve, and reject Clean Water Act 401 certifications. *Id.* § 143B-282(a)(1)(u).

Since DENR has the power by statute to initiate investigations of and litigation against public trust violations, its failure to do so in this case clearly contradicts the State’s overarching duties as trustee of the public’s natural resources.¹ The Constitution demands that the air and water resources of North Carolina be “protect[ed] and conserv[ed] . . . for the benefit of all its citizenry.” N.C. Const. art. XIV, § 5. DENR must work with DOA to fulfill its statutory duties to guard the Public Trust

(J) YADKIN RIVERKEEPER IS A PERSON AGGRIEVED BY THE STATE’S FAILURE TO INVENTORY THE SUBMERGED LANDS OF THE YADKIN RIVER IN THE YADKIN PROJECT

Since 1958, Alcoa has been allowed by FERC license to monopolize the bed of the Yadkin. The failure to inventory the state owned submerged lands in The Yadkin River directly harms the ability of the State to pursue recapture of Alcoa’s license at FERC. The Yadkin Project dams infringe the Yadkin Riverkeeper’s members’ rights of navigation. Their dams impede the movement of fish up and down the Yadkin River. The Yadkin Riverkeeper’s members live, work, and recreate in the vicinity of the Yadkin River Project. Thus, the failure to protect the waters of the Yadkin for the public trust impairs the Yadkin Riverkeeper’s organizational efforts to maintain a healthy Yadkin

¹ While the Yadkin Riverkeeper has challenged DENR’s decision to grant Alcoa a 401 certification in the Office of Administrative Hearings, those particular claims were based on DENR’s failure to comply with the North Carolina Environmental Policy Act (SEPA). The Riverkeeper raises no such issues here, nor any claims directly related to SEPA. The stay issued in that case therefore has no application to this petition and its subject matter.

River Basin. In addition, the State's failure to assert public trust rights on the Yadkin River harms the rights of residents of North Carolina, many of whom are members of the Yadkin Riverkeeper. Any failure to protect its member's interests harms the organization.

The Department of Administration's duty is to protect as a public trust resource the riverbed of the Yadkin obstructs the Yadkin Riverkeeper's organizational purpose of protecting and maintaining public use of the Yadkin. Further, it deprives the organization's members of their public trust rights to full use of the riverbed of the Yadkin. A favorable determination by the Secretary of Administration on this request for declaratory ruling would redress these harms. The Yadkin Riverkeeper is a "person aggrieved" pursuant to N.C. Gen. Stat. § 150B-2(6).

The FERC license for the Yadkin Project allows the applicant to act as though it has a monopoly on the Yadkin River, but this cannot pass constitutional muster when for private gain. *See Thrift*, 30 S.E. at 351. Alcoa has been receiving an exclusive emolument without providing a public service. An inventory of the submerged lands on the Yadkin River would allow the State the information it needs to defend the rights of the public. This emolument is injuring the Yadkin River, a public trust resource. The State violates its duty to the public as trustee by failing to assert its ownership; to inventory these lands; to research these deeds and thereby to protect the Yadkin. In researching these deeds, the State may discover that they are part owners of the dams themselves as fixtures attached to State Land. If the reservation of rights calling for rent has not been collected, the State may be owed monies for the use of these lands by the Yadkin Project for dam construction. Without an inventory of the Yadkin River's state-

owned submerged lands, the State cannot carry out its duties to defend the Public Trust resources of the River.

VI. Conclusion

By law, DOA must keep an inventory of lands held by the State in trust for the public. The bed of the Yadkin River is a public trust resource held by the State because the river is navigable in fact, was declared navigable by the General Assembly, and was never expressly conveyed to Alcoa or its predecessors in title by the General Assembly. DOA must recognize the public ownership of the Yadkin riverbed because no other conclusion can be supported by fact or law and must investigate the Smithdeal Deeds and any other original records of grants in its files to conduct such an inventory.

VII. Proposed Ruling

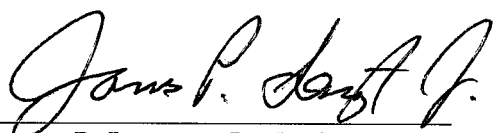
Pursuant to N.C. Gen. Stat. §§ 143-341(4)(a) and 143B-367, the Yadkin Riverkeeper respectfully requests that the Secretary issue a ruling declaring that: (a) that the Department of Administration has the duty to maintain an accurate inventory of all state-owned lands; (b) that the State of North Carolina owns the bed of the Yadkin River in trust for the People of North Carolina as subject to the doctrine of the Public Trust; (c) that the State of North Carolina has asserted to FERC that the license for the Yadkin Project no longer serves the public interest and the Department of Administration is obligated to assist the State in its efforts to recapture the Yadkin Project; (d) that the Department of Administration is the proper agency of the State of North Carolina to defend the State's real property interests in the bed of the Yadkin River in the Yadkin Project; and (e) that the Department of Administration must investigate whether title has

been granted away from the State in the bed of the Yadkin River in the vicinity of the Yadkin Project.

VIII. Request for Oral Argument

Petitioners request the opportunity for oral argument before the Secretary. The interplay between DOA's duties, the public trust doctrine, and common-law and constitutional prohibitions is complex and the issue warrants a hearing.

Respectfully submitted this 13th day of December 2011.



James P. Longest, Jr. "Ryke"

State Bar No. 18297

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Counsel for Petitioner Yadkin Riverkeeper

CERTIFICATE OF SERVICE

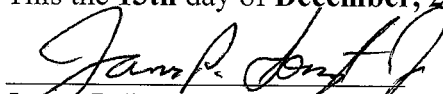
The undersigned hereby certifies that a copy of the foregoing Request for Declaratory Ruling have been be served by being mailed via U.S.P.S. to the following addressees:

Secretary of Administration,
116 West Jones Street
Raleigh, North Carolina 27611
(per rule 01 NCAC 01B.0602)

Moses Carey, Jr.
Secretary of Administration
1301 Mail Service Center
Raleigh, NC 27699-1301

Roy Cooper
Attorney General of North Carolina
9001 Mail Service Center
Raleigh, N.C. 27699-9001

This the **13th** day of **December, 2011**


James P. Longest, Jr. "Ryke"
State Bar No. 18297

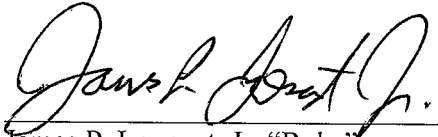
BEFORE THE NORTH CAROLINA SECRETARY OF ADMINISTRATION

YADKIN RIVERKEEPER, INC.)	
)	
)	
)	
Petitioner.	)	APPENDIX OF EXHIBITS
)	

**I. APPENDIX OF DOCUMENTS SUPPORTING THE FACTS PRESENTED IN THE
YADKIN RIVERKEEPER'S REQUEST FOR DECLARATORY RULING**

Pursuant to N.C. Gen. Stat. § 150B-4 and 01 N.C. Admin. Code 01B.0602 et seq., the Yadkin Riverkeeper, Inc. ("Yadkin Riverkeeper") submits this Appendix of Exhibits in support of the facts set forth in its Request for Declaratory Ruling to the North Carolina Secretary of Administration ("Secretary") requesting the following rulings: (a) that the Department of Administration has the duty to maintain an accurate inventory of all state-owned lands; (b) that the State of North Carolina owns the bed of the Yadkin River in trust for the People of North Carolina as subject to the doctrine of the Public Trust; (c) that the State of North Carolina has asserted to FERC that the license for the Yadkin Project no longer serves the public interest and the Department of Administration is obligated to assist the State in its efforts to recapture the Yadkin Project; (d) that the Department of Administration is the proper agency of the State of North Carolina to defend the State's real property interests in the bed of the Yadkin River in the Yadkin Project; and (e) that the Department of Administration must investigate whether title has been granted away from the State in the bed of the Yadkin River in the vicinity of the Yadkin Project.

Respectfully submitted this 13th day of December 2011.

A handwritten signature in black ink, reading "James P. Longest, Jr. 'Ryke'". The signature is fluid and cursive, with a horizontal line drawn underneath it.

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Counsel for Petitioner Yadkin Riverkeeper

LETTER
FROM
THE SECRETARY OF WAR,
COMMUNICATING

In obedience to law a copy of the report of S. T. Abert, United States civil engineer, upon the survey of the Yadkin River, North Carolina, "between the bridge on the North Carolina Railroad and Wilkesborough."

JUNE 9, 1879.—Referred to the Committee on Commerce.
JUNE 28, 1879.—Ordered to be printed.

WAR DEPARTMENT,
Washington City, June 5, 1879.

The Secretary of War has the honor to transmit to the United States Senate, in compliance with section 2 of the river and harbor act of June 18, 1878, copy of report from Mr. S. T. Abert, United States civil engineer, upon the survey of Yadkin River, North Carolina, "between the bridge on the North Carolina Railroad and Wilkesborough."

G. W. MCCRARY,
Secretary of War.

The PRESIDENT *pro tempore* United States Senate.

OFFICE OF THE CHIEF OF ENGINEERS,
Washington, D. C., June 5, 1879.

SIR: In compliance with the requirements of section 2 of the river and harbor act of June 18, 1878, I have the honor to submit herewith a copy of the report to this office of Mr. S. T. Abert, United States civil engineer, upon the results of a survey of Yadkin River, North Carolina, "between the bridge on the North Carolina Railroad and Wilkesborough," with estimates of cost of improvements suggested.

Very respectfully, your obedient servant,

H. G. WRIGHT,
Acting Chief of Engineers.

Hon. GEO. W. MCCRARY,
Secretary of War.

SURVEY OF YADKIN RIVER, NORTH CAROLINA, BETWEEN THE BRIDGE
ON THE NORTH CAROLINA RAILROAD AND WILKESBOROUGH.

UNITED STATES ENGINEER OFFICE,
Washington, D. C., May 12, 1879.

GENERAL: I have the honor to submit the following report upon a survey of the Yadkin River, North Carolina, "below the bridge on the

North Carolina Railroad and Wilkesborough," provided for by the act of appropriation for rivers and harbors approved June 18, 1878, and assigned to me by your letter of July 8, 1878.

The Yadkin River rises in Caldwell County, North Carolina, at the foot of the Blue Ridge, between Watauga Gap and Blowing Rock. Its general course is southeast, flowing through fine alluvial bottom-lands, and through remarkably picturesque rapids called the Narrows; it empties into the Atlantic at Georgetown, S. C. In the last State it takes the name of the Great Pee Dee, and is navigable for steamers 120 miles from its mouth.

The part of the river to which the following report is limited extends from Wilkesborough, in Wilkes County, N. C., to within 5 miles of Salisbury, in Rowan County, N. C.

FLOODS.

The stage of the river at the time of commencing the survey was 4 inches above low-water, and no floods occurred until November 26, when the survey had proceeded as far as Clouse's Shoal, 84 miles from Wilkesborough. At this point, November 27, the river rose 10.1 feet above low-water. The next flood, December 2, rose at Bailey's Ferry 12.4 feet above low-water.

The third flood occurred December 11, when the river at Motley's plantation, 3 miles above the mouth of the South Yadkin, was 9.7 feet above low-water. The flood of September, 1878, was the highest ever experienced at Wilkesborough, rising 23 feet above low-water.

The high-water mark at Langenhone & Neason's mill is 22.9 feet above low-water. Ordinary floods subside in from 36 to 48 hours. Twenty-five years ago high floods rarely occurred. Their frequent occurrence at the present day is probably due to the clearing of the hillsides and the removal of obstructions from the river and its numerous tributaries.

AGRICULTURE.

From the slopes of the Blue Ridge on the north, the Brushy Mountains on the south, and the valley between, nearly everything compassed by the wants of man may be produced. The Blue Ridge country is especially adapted to grazing. In cereals, grasses, and garden vegetables the broad bottom-lands of the valley are exceedingly productive. Lands which have been cultivated for one hundred consecutive years, producing corn and wheat, are more productive to-day than ever, and that, too, with no fertilizers except the deposits of floods. The flood of September, 1878, covered the bottom-lands of Wilkes County with a rich sediment 2 to 10 inches in depth. The yield of bottom-land per acre is: of corn, 40 to 70 bushels; of wheat, 15 to 30 bushels. Tobacco is grown quite extensively on the high ground adjoining the bottom-lands above the flood limits. The quality is fine and the yield per acre is good. The Brushy Mountain region is especially noted for its fruits. Apples, pears, peaches, plums, quinces, grapes, berries, &c., are produced. Early fruits are raised here, and some varieties of apples produce two crops annually. Cotton is raised to some extent, and some good fields were noticed. Davidson County land is well adapted to cotton-culture.

The following, compiled from statistics furnished by the department of agriculture at Raleigh, and information obtained from prominent

citizens and large land owners, is a fair estimate of the annual products of the more important crops in the several counties bordering on the Yadkin where the survey was made:

Wheat.	Corn.	Sweet potatoes.	Irish potatoes.	Oats.	Sorghum.	Tobacco.	Green fruit.	Dried fruit.	Butter.
<i>Bushels.</i> 535,000	<i>Bushels.</i> 2,073,000	<i>Bushels.</i> 94,000	<i>Bushels.</i> 70,000	<i>Bushels.</i> 387,000	<i>Gallons.</i> 133,000	<i>Pounds.</i> 2,046,000	<i>Bushels.</i> 695,000	<i>Pounds.</i> 1,498,000	<i>Pounds.</i> 575,700

The quantities, however, are largely in excess of the amount which would become tributary to the trade of the river in its improved condition, which, assuming that the river will drain an area of 10 miles upon each side, would be as follows:

Wheat.	Corn.	Oats.	Sweet potatoes.	Irish potatoes.	Sorghum.	Tobacco.	Green fruit.	Dried fruit.	Butter.
<i>Bushels.</i> 165,000	<i>Bushels.</i> 962,000	<i>Bushels.</i> 109,000	<i>Bushels.</i> 30,000	<i>Bushels.</i> 24,000	<i>Gallons.</i> 51,000	<i>Pounds.</i> 731,000	<i>Bushels.</i> 215,000	<i>Pounds.</i> 487,000	<i>Pounds.</i> 269,000

MANUFACTURES.

The manufacturing interests of that part of the valley where the survey was made are chiefly at Elkin, Surry County, on the Elkin River. The cotton mill of the Elkin Manufacturing Company employs about 40 hands, has a capacity of 1,000 spindles, and consumes 250 to 300 bales of cotton annually, producing cotton yarns and sheetings.

The Elkin Valley woolen mill employs 12 hands and manufactures woolen yarns, jeans, and cassimeres. There are flour mills in connection with the cotton and woolen mills. The Elkin River furnishes an abundant and never-failing water supply. Labor is cheap, and the locality healthy.

At Siloam, Surry County, one-half mile from the river, on Hogan's Creek, are the tobacco factory, saw and grist mills of the R. E. and M. C. Reeves, employing 20 hands.

There are a large number of saw and grist mills scattered throughout the valley, and on the Yadkin, or in the immediate vicinity on streams emptying into the Yadkin; between Wilkesborough and Salisbury are 18 saw and grist mills. On the left, below Huntsville, Yadkin County is the celebrated whisky distillery of Joseph Williams, and at Elbaville, Davie County, near Bailey's Ferry, is the distillery of Alexander Bailey. A great many creeks and small rivers rising in the northern part of North Carolina or Virginia take their courses southerly to the Yadkin, forming most excellent water-powers.

The forests abound in such timbers as ash, several varieties of oak, cedar, cherry, chestnut, hickory, locust, several varieties of pine, poplar, white and black walnut in great abundance, and many other varieties,

offering great attractions to furniture manufacturers and workers of wood generally.

The following description is from the journal of Mr. S. W. Evans, assistant engineer:

MEMORANDA OF A SURVEY OF THE YADKIN RIVER FROM WILKESBOROUGH, WILKES COUNTY, TO SALISBURY, ROWAN COUNTY, NORTH CAROLINA.

Wilkesborough is the county town of Wilkes County, and is one of the oldest towns in the State. Population, 300. It is pleasantly situated on a high bluff overlooking the valley. Besides the county buildings, it contains 3 churches, 6 stores, 1 hotel, blacksmith-shop, 2 carriage-shops, shoe and harness shops, &c.

The initial point of the survey was taken on the right bank of the river, directly back of the court-house, from which transit and level lines were run to the river. Here we crossed to the left bank. The river is 150 feet wide. The channel is on the right side and is 3 feet deep.

Reddie's River.—At 1,700 feet Reddie's River enters from the north. One mile from the Yadkin on Reddie's River is Dr. Hackett's saw-mill.

Gordon's Ford Shoal.—At 2,210 feet is Gordon's Ford Shoal. The ford is not in use. The shoal consists of gravel, small bowlders, and submerged logs. Length, 300 feet; fall, 0.44 foot; depth, 1.2 feet. Thence there is good navigation 620 feet to Finley's Ford Shoal. An open bridge for carriages and foot passengers was located here, but was washed away by the flood of September, 1878.

Finley's Ford Shoal.—This shoal, like the preceding one, is composed of gravel, loose stones, and drift. Length, 440 feet; fall, 1.72 feet; depth, 0.6 foot. In low-water a bar shows near the middle of the river. Thence 1,900 feet to Blair's Island the depth is sufficient.

Blair's Island Shoal.—The island is high and cultivated. The best channel is on the left. The bottom is gravel. At the head of the island the depth is 1.8 to 2 feet for 400 feet. Near the foot is an old fish-dam and a deposit of sand and gravel below, shoaling the water to 0.6 of a foot for 130 feet. At 580 feet from the head on the left bank, a large overhanging birch should be removed. The water runs swiftly to the foot of the island. Length of shoal, 1,700 feet; fall, 3.44 feet. Thence 820 feet the depth is sufficient. Here a high point of rock is 0.6 of a foot below the surface. Thence there is good water 1,740 feet to High Rock and Buckeye Shoals.

High Rock and Buckeye Shoals.—Length of shoals, 4,722 feet; fall, 3.63 feet. Rock and gravel bottom. Depth, 1.4 to 3.7 feet. Sixteen hundred feet below is a sand bar, recently formed and probably temporary. Length, 150 feet; depth, 2 feet. Twenty-two hundred feet further on is another short bar below a branch on the right. Depth, 2 feet. Thence 1,200 feet is a bar at the mouth of Mulberry Creek. Length, 700 feet; depth, 1.5 to 2.8 feet.

Mulberry Creek rises in the northern part of Wilkes County, and forms a magnificent water-power in its course to the Yadkin. One and one-half miles from the Yadkin, on Mulberry Creek, is the saw-mill of Charles Hunt. The natural fall at the mill is 9.1 feet in a distance of 200 feet, and it is capable of being made 30 feet. On either side a rocky bluff comes to the water. From Mulberry Creek to Hunt's Islands Shoal, 570 feet, there is good water. Fall from Wilkesborough to this point, 14.55 feet.

Hunt's Islands' Shoal.—At the upper island, the channel is on the right. The bottom is gravel until the foot of the island is reached; here a ridge of rock about 6 feet wide runs from the right bank to the island. The current is very swift. Soundings were obtained on the rock by shooting the passage (50 feet wide) several times in succession, drawing the boat up by means of a rope from the bank. Just below the rock, the water is deep. From this point the best channel is along the left bank, that to the right of the second and third islands being shallow and swift. At the time of the examination of this shoal the water was 0.8 foot high, and muddy. Length of shoal, 2,600 feet; fall, 2.75 feet; depth, 1.6 to 8 feet. Thence to Reynolds' Island, 1.11 miles, the depth ranges from 2.9 to 16 feet, and the fall is 2.01 feet.

Reynolds' Island.—The natural channel is on the right; two hundred feet below the head of the island is a snag with drift. The water is shallow in several places, ranging from 1.7 to 4.5 feet. Twenty-one hundred feet below the head of the island is an old fish-dam, which should be removed. Length of shoal, 1,880 feet; fall, 2.16 feet. Thence 1,100 feet, a sand bar shoals the water to 2.2 feet for 150 feet. Thence there is good navigation 4,900 feet, to Staylor's Ford Shoal.

Staylor's Ford Shoal.—Length of shoal, 540 feet; fall, 1.7 feet; depth, 1.7 to 4 feet. Rock bottom, covered with gravel. Thence for 5,800 feet there are several gravel bars shoaling the water to 1.5 to 2.2 feet, and at 1,300 feet below Staylor's Ford Shoal appearing above the surface in the middle of the river. The channel is along the right bank. Fall in this 5,800 feet is 3.15 feet. Thence 750 feet, to Parke's Ledge, good navigation is found.

Parke's Ledge. Here the rock appears above the surface in several places. The best location for a channel is toward the right bank. The depth ranges from 1.8 to 4.2 feet; length, 400 feet; fall, 0.43 foot. Thence good water 520 feet to Parke's Ford Shoal is found.

Parke's Ford Shoal.—The bottom is composed of rock and bowlders. Length of shoal, 150 feet; fall, 0.4 foot; depth, 1.8 to 2.8 feet. Thence 900 feet the depth is sufficient. Here a gravel bar shoals the water to 2.4 feet for about 100 feet. Thence there is good navigation 2,070 feet to Fish Trap Shoal.

Fish Trap Shoal.—An old fish-dam obstructs navigation. The bottom is rock and gravel. Length of shoal, 1,480 feet; fall, 1.36 feet; depth, 1.4 to 6 feet. Thence there is good navigation 2,020 feet. Here a gravel bar 75 feet in length shoals the depth to 2.4 feet. At 800 feet below this point another bar 50 feet in length occurs; depth, 2.3 feet. Thence 3,770 feet to Reeves' Island at Roaring River the depth ranges from 3 to 5 feet, and the width 150 to 180 feet.

Roaring River.—From Wilkesborough to Roaring River is 10.94 miles, and the fall is 34.23 feet. Half a mile north of the Yadkin on Roaring River is the saw and grist mill of Richard Reeves. The mail-route from Elkin to Roaring River and Dellaplane crosses the Yadkin at this point.

Reeves' Island and Fish-Dam.—At Reeves' Island nearly all the water runs in the right channel, giving a depth of 2.5 to 5 feet; 1,600 feet below the head of the island is an old fish-dam belonging to Messrs. Foot & Reeves. The fall here is .76 foot in 86 feet. From the head to the foot of the island is 2,700 feet and the fall is 3.86 feet. The water runs swiftly the whole distance. Thence good navigation exists for 2,240 feet to a rocky shoal with fish-dam and bowlders. Length of shoal, 600 feet; fall, .89 foot; depth, 2 feet and upwards. Thence there is good navigation 1,780 feet to Greenwood's Island.

Greenwood's Island.—The channel is on the right and the depth is sufficient except near the foot, where gravel and detached rock, are within 2 feet of the surface for 150 feet. From the head to the foot of the island is 1,900 feet; fall, 1.18 feet. At a point 1,000 feet below the island a gravel bar 50 feet in length shoals the water to 2.3 feet. Thence 4,020 feet to Adams' Island there are no obstructions to navigation. Distance from Wilkesborough to Adams' Island, 13.7 miles; fall, 44.33 feet.

Adam's Island.—Both channels were examined. In the right, which is the better one, the depth ranges from 2.4 to 3.7 feet. The bottom is gravel. From the head to the foot of the island is 1,600 feet and the fall is 1.6 feet. Thence good navigation is found for 4,800 feet to Hickerson's Island.

Hickerson's Island, No. 1.—The main channel is on the right, and is sufficiently wide and deep. An overhanging willow tree near the head of the island on the right bank should be removed. From the head to the foot of the island is 1,200 feet, and the fall is .86 foot. Thence good water is found for 800 feet to Harrell's Island.

Harrell's Island and Fish-Dam.—The water runs swiftly in both channels, but the left has the better depth and is wider than the right; 600 feet below the head of the island is a fish-dam. The depth immediately above the dam is 2.8 feet, and below 3.8 feet. Fall from the head of the rapid to a point just below the dam is 1.86 feet. Two snags at the left bank above the dam should be removed. Thence for 4,880 feet to Hickerson's Island, No. 2, the only obstructions to navigation are 3 snags.

Hickerson's Island, No. 2.—Both channels well examined. The left is the better for improvement. At the head of the island is an old fish-dam which must be removed. Toward the foot is a gravel shoal 350 feet long. Depth on the shoal 0.9 to 2.7 feet. From the head of the island to the foot of the shoal is 1,400 feet; fall, 1.36 feet. The fall at the fish-dam is .65 in 300 feet. Thence 1.33 miles to Gwynn's Island there is good navigation, the depth ranging from 3 to 12 feet, and the width 160 to 200 feet.

Gwynn's Island.—Gwynn's Island is low and sandy, supporting a few willow bushes. The left channel is crooked and shallow and receives the wash from the island in high-water. The depth in the right channel and to the foot of the shoal, below the island, is 2 to 3.6 feet. Length, 800 feet; fall, 0.90 foot. A short distance below the island are two snags to be removed. Thence there is good navigation 1 mile to the residence of Mr. James Gwynn. Here is an old fish-dam which should be removed. A large rock shows at this point in the middle of the river; the channel on either side is sufficiently wide and deep. Thence there are no obstructions for 1.3 miles to

Sayles' Ford.—Here a gravel bar 150 feet in length shoals the water to 2.3 feet. Thence 1,000 feet to Swan Creek Shoal good navigation exists.

Swan Creek Shoal.—On this shoal a dam extends the full width of the river, originally built (it is stated) for boats to pass through, but now used by Messrs. Greenwood & Harris for a fish-dam. The best channel is on the left. Depth on the shoal, 1.7 to 5.5 feet; length, 3,160 feet; fall, 5.40 feet; rock bottom. Thence 1.01 miles to

Little Elkin Shoal.—The depth ranges from 2.6 to 6.9 feet. There are two old fish-dams in this shoal, one below the other. The best channel is about on a line with the traps. Length of shoal, 800 feet; fall, 2.16 feet; depth, 2 to 3 feet. Gravel bottom

was found by the sounder, but the contour of the bottom indicates rock; 900 feet below is a gravel bar at

Wilcox's Ford.—Length, 100 feet; depth, 1.7 to 2.4 feet. Thence 2,800 feet the depth is sufficient. Here the depth is 2.4 feet, and from this point, 1.57 miles to Elkin and Jonesville Bridge, the depth is 2.2 to 5 feet and the fall 5.44 feet. The bottom is gravel and detached rock. At 2,800 feet above the bridge an old fish-dam obstructs navigation. Just above the bridge the current is rapid. A fish-dam extends nearly the full width of the river. Gravel has accumulated below the dam on the right. The fall in 550 feet is 1.86 feet.

Elkin Toll Bridge.—This bridge is an inclosed wooden structure, single span, 235 feet long, 18 feet wide, and 25 feet in the clear above low-water. The Elkin River, which enters a few rods above the bridge, rises in the Blue Ridge, and forms a very excellent water-power.

Elkin.—Elkin is a busy manufacturing town, containing 1 cotton-mill, woolen-mill, several flour-mills, saw-mill, stores, carriage-shop, blacksmith-shop, post-office, church, and private residences. Quite an extensive trade centers here. The town is finely located, one-fourth of a mile from the river, on the southern slope of the high ground overlooking the valley.

Jonesville.—Jonesville is a farm village on the right bank of the river, immediately opposite Elkin. From Elkin bridge there is good navigation 4,600 feet to

Town Creek Shoal.—Length of shoal, 1,000 feet; depth, 2 to 2.8 feet; fall, 0.81 foot; gravel bottom. Thence 4,600 feet to

Greenwood's Creek Shoal.—The depth is sufficient. Rock bottom. The best location for an improved channel is through the right wing of the old fish-dam, near the right bank. Length of shoal, 470 feet; fall, 1.28 feet; depth, 1.8 to 3 feet. Thence 1,840 feet to

Morrison Shoal.—The least depth is 2.8 feet. The bottom is covered with detached rocks. Rock bottom. The ledge appears above the surface in the middle of the river. Depth, 1.8 to 4 feet; length, 280 foot; fall, 0.18 foot. Thence there is good navigation 1,800 feet to

Tumbling Falls.—Rock bottom; depth, 0.6 to 4.3 feet. In 200 feet the fall is 1.61 feet; there deep water is found for 700 feet with fall of 0.55 to Tumbling Shoal.

Tumbling Shoal.—Length, 1,770 feet; fall, 1.87 feet; depth, 1 to 87 feet. Toward the foot is a fish-dam; best water on the left. Thence 1.24 miles good navigation is found. Here are remains of an old fish-dam. The only improvement needed is the removal of a few detached rocks on the right, parts of the old dam. Thence 1.12 miles to Hurt's Ledge there is good navigation; 2,000 feet above Hurt's Ledge is Reeve's Ferry.

Hurt's Ledge.—This is a rough, rocky place, the rocks coming above the surface in the middle of the river for one-third its width. Probably the best channel for improvement would be on the left of the rocks. Length, 360 feet; fall, 0.89; depth 1.3 to 4 feet. Thence there is good navigation to Mitchell's Island Shoal, 2,180 feet.

Mitchell's Island Shoal.—In the upper part of the shoal the best water is on the left, bearing to the right when half way down, and on the right at the foot of the island and below. At the foot of the shoal are two old fish-dams. Length of shoal, 2,740, feet; fall, 4 feet; depth, 1 to 5 feet. The bottom is gravel and bowlders. Thence 5,500 feet, to Woodruff's Fish-Trap Shoal, there is fair navigation; the bottom for part of the distance is irregular, and it may be necessary to remove some high points.

Woodruff's Fish-Trap Shoal.—In the upper part of the shoal the fall is rapid; the best water is toward the right bank; near the foot is a fish-dam extending nearly across the river; here the best channel is toward the left. Length of shoal, 1,800 feet; fall, 4.55 feet; depth in the best channel, 2 to 4 feet, rock bottom. Thence there is good navigation 1.01 miles to a point 1,000 feet below Birch and Jones' Ferry. Here a row of rocks extends from the left bank to within 70 feet of the right bank. The water above and below is deep, and 3.8 feet and upwards in the channel to the right of the rocks. The fall is slight, and no improvement is required. Thence 2,000 feet, to the Devil's Staircase there is good navigation. For 1.61 miles the descent is rapid, with short stretches of deep water between the high points of rock. There are two old fish-dams on the shoal; irregular rock bottom; depth ranging from 1 to 13 feet; fall, 11.18 feet.

Thence there is good navigation 1,940 feet. Here two fish-dams extend the full width of the river, obstructing navigation.

Thence 4,300 feet there is a large rock in the middle of the river, about half a foot below the surface. Thence 1,200 feet, to the shoal at Fish River, the depth is sufficient.

Fish River Shoal.—Bottom very irregular, stratified rock; depth in best channel, 2.3 to 5.8 feet; length, 300 feet; fall, 0.08. For 600 feet below Fish River there is good water; thence the bottom is very irregular, the depth ranging from 2 to 5 feet; 1,700 feet below Fish River is an old fish-dam, and, on the left, rocks appear above the surface; 1,200 feet further on are the remains of more fish-dams and many projecting

points of rock. From this point to the "Seven Islands," so called, the depth in the best channel ranges from 2.1 to 7 feet; the bottom is rock and very irregular. From Fish River to the Seven Islands the distance is 2.11 miles, and the fall is 6.16 feet. In the small channels to the left the bottom is gravel, and the depth is 0.6 to 1.5 feet. In the main channel many rocks show above the surface; depth between the rocks, 1.8 to 4.8 feet. The water runs swiftly 2,630 feet; fall, 4.02 feet. Thence 3,450 feet, to Bohannon's grist-mill, the irregular bottom continues, but there are no rocks above the surface and the best channel ranges from 2 to 5 feet in depth; fall, 2.44 feet.

Bohannon's Mill.—The mill is on the right and receives its water-power from Fall Creek. At this point the river descends rapidly, and a great number of rocks show above the surface. To Bohannon's Island is 1,500 feet, and the fall is 3.25 feet.

Bohannon's Island.—Both channels are very rough, rocky, and swift. The right is the wider and probably better for improvement. At the head of the island the fall is 0.61 feet in 100 feet. From the head of the island to Oresfield's Ferry, at Rockford, is 1,600 feet, and the fall is 3.07 feet. Width at ferry, 420 feet.

Rockford.—Rockford, on the left bank of the river, is the old county-town of Surry County. The village contains 3 stores, post-office, hotel, school-house, and a few private residences. Previous to the removal of the county-seat to Dobson, this was a flourishing village; now the signs of decay are apparent on every hand, and the old court-house stands silent and deserted, a grim reminder of the busy past.

On the right, 2 miles distant, is Richmond Hill, the seat of the late Judge Pearson's law school. For 1,500 feet below Oresfield's Ferry the best water is toward the right, ranging from 2 to 3.5 feet in depth; thence is a long gravel shoal, underlaid with rock, with a channel 1.5 to 3.5 feet deep, at the end of which is a fish-dam with deep water and rock bottom. From Oresfield's Ferry to the foot of the shoal is 4,500 feet and the fall is 8.38 feet. Thence 2.01 miles to Foster's Upper Shoal, 1,500 feet below Double Creek, a channel of sufficient width and depth may be selected. The bottom generally is rock, very irregular; the depth in the best channel from 2.8 to 10 feet.

Foster's Upper Shoal.—In the upper part of this shoal an old fish-dam extends nearly across the river, and the ledge shows above the surface in many places. Depth, 1.8 to 5.6 feet; length, 4,570 feet; fall, 3.37 feet. Thence there is good navigation, 1,600 feet, to Foster's Lower Shoal. Length of shoal, 1,260 feet; fall, 0.61 foot; depth, 2.3 to 5.5 feet; rock bottom. Thence good navigation, 2,500 feet, to Lime Rock Shoal. On the right is Lime Rock, 169 feet in height. Lime was once burned here; the old kilns may still be seen.

Lime Rock Shoal.—Rock bottom; fish-dams in several places with sharp falls. The shoal extends 2.59 miles, to Merrimon's Ferry. Fall, 12.88 feet; depth, 1.7 to 6.6 feet.

Siloam.—On the left bank half a mile from the river is the village of Siloam, containing saw and grist mill, tobacco factory and store, property of R. E. and M. C. Reeves; post-office and several farm-houses. The mill on Hogan's Creek has a turbine wheel and circular saw, and facilities for sawing large timber. From Merrimon's Ferry, 2,800 feet, to Reeve's Fish-Trap Shoal, there is good navigation.

Reeve's Fish-Trap Shoal.—The dam extends from the right bank to a point 30 feet from the left bank and is built on the rock. Length of shoal, 600 feet; fall, 1.66 feet; depth, 1.8 to 4 feet. Thence to Ararat River is 1,400 feet, and the navigation is good.

Ararat River.—Ararat River rises in Patrick County, Va., and has fine bottom lands along its banks. It is 100 feet wide at its entrance into the Yadkin. Good navigation continues 3,000 feet. At this point the bottom is rock, very rough, rising nearly to the surface and then showing depth of 4 to 6 feet.

A channel 2 feet and more in depth may be selected by crossing from side to side. This kind of navigation continues 2.88 miles to the head of Bean Shoals. The fall in this distance is 5.95 feet. The distance from Wilkesborough to the head of Bean Shoals, measured on the axis of the river, is 53.6 miles, and the fall is 167.01 feet.

Bean Shoals.—The most rapid descent in these shoals is between the head of the shoals and a point 1,000 feet below the head of the large island. The fall in this distance, 5,300 feet, is 16.88 feet. The greatest fall is 1.34 feet in a distance of 100 feet; at another point the fall is 1.38 feet in a distance of 200 feet. The depth in the best channel ranges from 0.8 to 4 feet. At the island the best channel is on the right, and, with the exception of a high ridge of rock near the foot of the island, the depth is 2 to 3 feet. The fall from the last point to which the fall was given to the foot of the island, a distance of 3,370 feet, is 5.17 feet.

At Little Bean Shoals Creek, 1,800 feet above the foot of the island, an old fish-dam obstructs navigation. From the foot of the island to Sycamore Ford, which is considered the foot of Bean Shoals, the distance is 2.46 miles, and the fall is 17.12 feet.

The depth in the best channel is 1 to 4.5 feet; 4,400 feet below the island are two ridges of rock, each shoaling the water to 1 foot in depth, the fall at the first is 1.83 feet in a distance of 200 feet. These are the only sharp falls that occur in this part of the shoals. Length of shoals is 4.12 miles; fall, 39.17 feet, or an average fall of 9.51 feet per mile. The bottom is stratified rock, very ragged, rising in sharp points and ridges at right angle to the river's axis, forming at some points natural dams

nearly the full width of the river. Especially is this the case in that part of the shoals above the islands. Large rocks, projections from the ledge, show several feet above the surface in many places. The two large islands are high and cultivated. On the right, just above the islands, is Marten's grist-mill, operated by an undershot wheel; the water is supplied from the Yadkin by a short wing-dam. In 1830 to 1835 the Yadkin Navigation Company did considerable work at these shoals with a view to rendering the river navigable. A dam was built at the head of the shoals and a canal commenced along the northern side of the river. The only trace of the dam now to be seen is the abutment at the entrance to the canal. The canal was completed for a little more than a mile from the head of the shoals and was 15 to 45 feet wide at the bottom. Where the cliff forms one wall, the minimum width is 15 feet. At 2,000 feet from the head of the canal are the ruins of a guard lock 12 feet wide. The canal walls are of earth except along the foot of the cliffs. Here a very good retaining wall was built of stone quarried on the spot. The upper wall, 700 feet in length, was built of headers and stretchers neatly pinned with small stone and is in good condition. The outer face has a batter of 2½ inches to the foot rise. The inner face was left rough and covered with gravel and earth. No cement was used in its construction. The dimensions are: height, 6 to 20 feet, top width, 2.5 feet, bottom width, about 7 feet. The lower wall, about 400 feet in length, is of the same general character, but in some places has been torn down to obtain stone for the construction of fish-dams. The canal has been filled in by the floods, and where it runs through the woods is overgrown with trees and bushes. No water flows through it.

Little Yadkin.—Just below Sycamore Ford the Little Yadkin comes in from the north. A quarter of a mile up from its mouth it is 55 feet wide and 2 feet deep.

Sycamore Ford Shoal.—Eight hundred feet below Sycamore Ford is a gravel shoal and fish-dam. Length, 500 feet; fall, 1.5 feet; depth, 2.3 to 3.2 feet. Thence, 1.9 miles to Hauser's Island Shoal, 400 feet below Hauser's Ferry there is good navigation. *Velocity Observations.*—One mile below Sycamore Ford, opposite the plantation of Mr. Poindexter, velocity observations were taken, showing the discharge of the river at this point to be 13,344 gallons per second.

Hauser's Island Shoal.—Both channels were examined. The left is better for improvement. Gravel bottom, with fish-dam; length of shoal, 760 feet; fall, 1.36 feet; depth, 2.3 to 5 feet. Thence good navigation is found for 1.52 miles. From this for a distance of 1.83 miles, to the head of Shore's Island, the water runs swiftly. There are fish-dams in two places and a number of snags which obstruct navigation. The depth ranges from 2 to 7.5 feet; rock and gravel bottom; fall, 7.73 feet.

Shore's Island.—The three channels were examined. That on the right is the widest and best for improvement; the depth, 2.6 to 3.3 feet; gravel bottom. From the head to the foot of the island the distance is 2,800 feet and the fall 0.88 feet. Thence 1.57 miles, to the rapids at Glenn's old mill-dam, the depth is 2.3 to 4.7 feet and the fall is 6.18 feet; the bottom is gravel most of the distance; rock was found in a few places.

Fifteen hundred feet above Glenn's dam a ridge of rock extends the full width of the river, rising above the surface in two places; the channel is 100 feet or more in width; depth on the rock, 2.6 to 3.1 feet.

Glenn's Mill-Dam Rapid.—The old dam extends the full width of the river and was constructed of timbers and planks, filled in with stone. It is broken through in two places and the fall, 2.95 feet, is distributed over a distance of 400 feet. The depth on the rock is 2.3 feet. The old grist-mill on the right was operated by an undershot wheel supplied with water by a wing-dam extending two-thirds the width of the river. The mill is not in operation and is falling to pieces. From the mill there is swift water for a distance of 1,600 feet, to Glenn's old fish-dams. The fall in this distance is 2 feet and the depth 2.2 to 5 feet; rock bottom.

Thence for a distance of half a mile, to Glenn's Ferry, there is good navigation. The river at this point is 350 feet in width. The mail-route from Winston to Red Plains, Richmond Hill, and Rockford crosses here. Thence good navigation 2,870 feet to

Meadow Branch Shoal.—There are fish-dams here the full width of the river. Length of shoal, 1,900 feet; fall, 2.01 feet; depth, 1.4 to 4.3 feet; rock bottom. Thence there is good navigation 1,750 feet to Conrad's Ferry. A road from Winston to Yadkinsville crosses here. Good navigation continues for 2,700 feet. At this point is a shoal with fish-dams the full width of the river; rock bottom; depth, 1.7 to 5 feet; length, 300 feet; fall, 0.70. Thence good navigation is found 2,740 feet to Briar Branch Shoal.

Briar Branch Shoal.—The bottom is of rock and uneven, but a channel may be selected 3 feet and more in depth. Length, 2,900 feet; fall, 0.86 feet. Thence there is good navigation 3,300 feet. At this point a sand bar 80 feet in length shoals the water to 2.4 feet. Thence there is good navigation 1.48 miles to Jones's mill-dam.

Jones's Mill-Dam.—Jones's lumber and grist mill, operated by a turbine wheel, is on the left bank. The dam is built of stone, logs, brush, and drift-wood, and extends the full width of the river. The fall at the dam is 2.56 feet. The right channel is shallow and swift, and near the foot of the island a ledge shows above the surface; 1,000 feet below the mill is Jones's and Conrad's Chain Ferry.

Thence there is good navigation 1,000 feet to a gravel bar 50 feet in length; depth on the bar 2.3 feet. Thence there is good navigation 4,100 feet to Shallow Ford Shoal.

Shallow Ford Shoal.—At the ford the river is 1,000 feet wide. Below the ford, on the right, is the grist mill of Bitting's & Carver's, operated by an undershot wheel; the wing-dam extends about half the width of the river. The best water is to the left of the dam. At the foot of the shoal is an old fish-dam. Length of shoal, 5,560 feet; fall, 7.89 feet; depth, 1.6 to 4.8 feet; rock and gravel bottom. The mail-routes from Winston to Huntsville and Yadkinsville crosses at Shallow Ford.

Huntsville.—On the right, three-quarters of a mile distant, is the village of Huntsville, consisting of two stores, a tobacco warehouse, blacksmith-shop, post-office, and a few dwellings.

Sheek's Shoal.—From Shallow Ford Shoal there is good navigation 3.21 miles to Sheek's Shoal. The stone from an old fish-dam is scattered on the bottom. The best channel is on the left; depth, 2.4 to 4.7 feet. Length of shoal, 500 feet; fall, 0.84 feet. On the right are the ruins of Sheek's old mill. Thence good navigation 3.16 miles to Langenhone and Nason's, formerly Douthet's mill-dam.

Langenhone's and Nason's Grist-Mill.—The mill, which is the best on the river, is on the left bank, and is operated by two turbine wheels. The dam is substantially built of hewn oak timbers, covered with plank, and filled in with stone. The bents are in the form of an isosceles triangle, with the acute angle upstream, and are about 6 feet apart. The foundation is rock. The dam extends the full length of the river. The fall at the dam is 4.57 feet. Thence there is good navigation 2,900 feet to a gravel bar, 200 feet in length. Depth on the bar is 2.6 feet. At 500 feet below this bar a ridge of rock shoals the depth to 1.6 for 150 feet.

Thence there is good navigation 4,660 feet. At this point, on the left, rock shows 3 feet above the surface. There is an old fish-dam on the ledge. The water on the right is 3 feet and more in depth. The right wing of the dam should be removed to give sufficient width to the channel. Length of shoal, 500 feet; fall, 0.43 feet. Thence there is good navigation 3,800 feet to a point 3,600 feet above Hall's Ferry.

Shoal above Hall's Ferry.—Here a ridge of rock extends the full width of the river, appearing above the surface in the middle of the stream. The depth on the rock ranges from two or three-tenths of a foot to 3.3 feet. The best channel is on the right, about 18 feet in width and 2.5 to 3.3 feet in depth. Length of shoal, 600 feet; fall, 0.23 feet. Thence there is good navigation 3,500 feet to Hall's Ferry Shoal 500 feet below Hall's Ferry. At the ferry the river is 360 feet wide. The road from Winston, via Clemmonsville to Fulton and Statesville, crosses at this point. Winston is 13½ miles distant.

Clemmonsville is 2½ miles from the river, on the left, and is a flourishing village of 250 inhabitants, containing 2 churches, several stores, post-office, high school, and the tannery of Strupe & Son, doing a very good business.

Hall's Ferry Shoal.—In this shoal are 2 old fish-dams, extending the full width of the river. The bottom is rock, and for 200 feet the high points appear above the surface in many places. The depth between the rocks is sufficient. Length of shoal, 850 feet; fall, 141 feet. Thence good navigation is found for 3,944 feet to Clouse's Upper Shoal.

Clouse's Upper Shoal.—Has large rocks: appear several feet above the surface. The bottom is rock. The best channel is along the left bank until about half-way through the shoal, and then along the axis. Sixty years ago there was a bridge across here resting on the rocks. It was carried away by a flood. Clouse's old mill-dam is in a dilapidated condition. It extends the full width of the river, and is a low dam constructed of stone and brush. The mill, situated on the left bank, was destroyed by fire during the civil war. Length of shoal, 2,730 feet; fall, 2.51 feet; depth, 2.5 to 4.7 feet. Thence there is good navigation 2,800 feet to Clouse's Lower Shoal.

Clouse's Lower Shoal.—Here the best channel is on the left, large rocks, parts of the ledge, showing from the right bank half the width of the river. Depth, 2.2 to 5.5 feet; length, 3,600 feet; fall, 2.37 feet. Thence there is good navigation 4,300 feet, to Eckel's Shoal, 400 feet below Ido's Chain Ferry.

Eckel's Shoal and Douthet's Saw-Mill.—The small channel to the right of the island is shallow and swift, ending in rapids, below the island, so rough that it was impossible to take soundings there. Rocks project above the surface. The water at the time of the survey appeared to be 2.5 to 3 feet deep in the rapids, and the gauge was 1.7 feet above low-water. At the foot of the falls, on the left, is Douthet's saw-mill, a small affair, not in operation. A wing-dam supplies the water to an undershot wheel. The dam is built of joist and plank inclined upstream and resting against the rock. It extends about one-third the distance across the river to the ledge as it shows above the water. The rock under the dam appears to be a narrow ridge. At the end of the dam in the river it is 30 to 40 feet wide. The best location for a channel seems to be about one-third the distance across from the left bank. From the head of the shoal to the dam at the mill is 1,600 feet, and the fall to that point is 1.22 feet. Fall at the dam, 2.64 feet. Thence there is good navigation 2,200 feet. Here a rapid occurs.

Mill Branch Rapid.—A large rock shows 60 feet out from the left bank. Least depth found, 3.3 feet; length, 700 feet; fall, 0.98 feet. Thence there is good navigation for 1,200 feet. Here a narrow ridge of rocks shoals the water to 2 feet. Thence good navigation is found 1.39 miles to Bailey's Chain Ferry, the depth ranging from 3.4 to 14.4 feet. The mail route from Winston to Advance and Fulton crosses here. On the right, one-half a mile from the river, is Bailey's whisky distillery, and 2 miles distant is the village of Advance. The river at this point is 380 feet wide. Thence there is excellent navigation 1.1 miles to March's Pole Ferry. One thousand six hundred feet below this ferry, at the mouth of Muddy Creek, a sand and gravel bar 300 feet long shoals the depth to 2.3 to 2.8 feet. Thence 2,420 feet, to the head of the rapid at Grimes's mill-dam, there are no obstructions.

The mill (saw and grist) is on the left bank, and is operated by an undershot wheel, the water supplied by a wing-dam extending about three-fourths the distance across from the left bank. Between the right bank and the end of the dam the depth is 2 to 3.4 feet. The current is very swift. From the head to the foot of the rapid is 800 feet, and the fall is 0.81 feet; 700 feet below is Ellis Chain Ferry. Thence for 3,400 feet there is excellent navigation. Here a high point of rock is 1.8 feet below the surface. Thence good navigation is found for 1.53 miles to a point about 1,300 feet above Hartley's Mill. Here a ridge of rock is within 2.3 feet of the surface. Thence to Hartley's mill-dam the depth is sufficient. The mill is on the left—undershot wheel; water supplied by a low wing-dam extending nearly the full width of the river and built on rock foundation. The best location for a channel is toward the left, as the water on the right above the island is shallow. The fall at the time of the survey was distributed over about 1,000 feet, and was 1.3 feet. A short distance below the mill, rock shoals the water 2.3 feet for about 300 feet. At 3,000 feet below the mill a ridge of rock shoals the water to 2.1 feet. Thence there is good navigation 2,200 feet to the head of the island below Peeble's Ferry. Here a gravel bar 300 feet long shoals the water to 1.7 feet in depth. At the foot of the island is another short bar. Least depth here, 1.9 feet. A snag shows above the water about one-third the distance across from the left bank. Thence there is good navigation to the shoal at Peeble's grist-mill, 1,600 feet. The mill is on the right bank of the river—undershot wheel; low wing-dam about one-third the distance across from the right bank; length of shoal, 700 feet; fall, 0.59 feet; depth, 1.4 to 2.6 feet; rock bottom. About 600 feet below the mill a short gravel bar is within 2.5 feet of the surface. Thence excellent navigation exists for 4,740 feet, to Fulton Ferry, at the town of Fulton, a small village containing saw and grist mill of Mr. Haynes on Haynes's Creek, country store, drug-store, post-office, and one-half a dozen houses. Good navigation continues 35 to 40 feet to a rock shoal. Length of shoal, 500 feet; depth, 2.4 to 5 feet; fall, 0.08 feet. Thence there is good navigation 1,440 feet; then swift water 900 feet along Meadow Island. The depth is sufficient. Fall in the rapid, 0.58 feet. Thence there is excellent navigation 1.41 miles to Oakes's Ferry. Below the ferry the water runs swiftly 1,400 feet.

Oakes's Ferry Rapid.—A channel of sufficient width and depth may be found along the left bank; fall, 0.73. Thence there is good water 4,370 feet to the head of the shoal opposite the Hairston property at Swicegood's grist-mill.

Swicegood's Mill.—The mill is on the left bank of the river—undershot wheel—wing-dam extending nearly to the right bank, and a fish-dam between that and the bank. Below the dam the river is full of rocks, except on the left, where the improved channel should be located.

From the head to the foot of the rapid is 1,700 feet, and the fall is 2.19 feet. Thence 1,100 feet is a gravel bar 350 feet long; depth, 2.5 to 4 feet; fall, 0.52. One thousand six hundred feet below is a shoal gravel-bar, probably underlaid with rock; depth, 2.4 feet. Thence there is good navigation 4,500 feet to Hairston's Ferry. Total fall to this point, 309 feet. Good navigation continues 3.16 miles; depth ranging from 3 to 16 feet; width, 300 to 400 feet. Fall in this distance, 3.55 feet.

Big Rock Shoal.—Here a short shoal is encountered. Rock bottom; best channel along left bank, large rock in middle of river; depth, 2.2 to 4.6 feet; length, 680 feet; fall, 0.34 feet. Thence there is good navigation 1,900 feet to Barne's Fish-Trap Shoal. The old dam and trap should be removed; length, 1,400 feet; fall, 0.42; depth, 2.2 to 4 feet; rock bottom. Thence good navigation is found for 1.36 miles to

Dutchman Island.—Here are two short gravel bars; depth, 2.6 feet. Below the island the channel is along the left bank. Thence there is good navigation 2.06 miles. Here a short rapid is encountered; length, 700 feet; fall, 0.75. There are remains of an old fish-dam, which should be removed. Best channel on the right. Thence good navigation 3.95 miles to

Motley's Shoal at Boone Ford; length of shoal, 1,300 feet; fall, 0.99 feet; depth, 1.1 to 5 feet; rock bottom. Thence the required depth is found with no sharp falls for 2.22 miles. At this point a rocky bluff on the left and high bank on the right confine the river to about 350 feet in width. The fall in 600 feet is 1.48 feet; depth, 3.2 to 4.7 feet. Thence there is good navigation 4,300 feet to Hannah's Ferry, at the junction of the Yadkin and South Yadkin.

South Yadkin River.—Here the river is 600 feet wide and 12 feet deep. Total fall to this point from Wilkesborough, 331.2 feet; distance, 117.23 miles. Just above its mouth the South Yadkin is 150 feet wide and 6 feet deep. Thence 2.64 miles to Sower's Ferry is one of the finest stretches of water on the river, ranging from 5 to 16 feet in depth. Here the river is about 500 feet wide. Thence to the Western North Carolina Railroad bridge the depth is sufficient; distance, 1.98 miles; fall, 3.68 feet. From a point 3,000 feet above the bridge the water runs swiftly to and below the bridge; fall in the 3,000 feet, 2.14 feet. Between the two northern piers of the old bridge, 1,100 feet above the railroad bridge, the water is deep; distance from Wilkesborough to the Western North Carolina Railroad bridge, measured along the axis of the river, 121.98 miles; fall, 337.28 feet. The river at the Western North Carolina Railroad bridge is 500 feet wide, and the level notes show the bridge to be 24.6 feet in the clear above low water. From the bridge to the ferry below the depth is 4 to 16 feet.

A condensed statement of the facts obtained by the survey party is given in the following table:

Locality.	Distance from Whitewater mouth.	Least depth.	Length of shoal.	Full.	Gravel observed.	Total full.	Remarks.
Gordon's Ford shoal	Miles. 0.4	Feet. 1.2	Feet. 300	Feet. 0.14	Feet.	Feet. 1.16	Gravel boulders and submerged logs.
Valley's Ford shoal	0.7	0.6	440	1.72	0.7 in 129	2.48	Gravel boulders and drift wood.
Plan's Island shoal	1.15	0.6	1,700	3.44	.....	7.89	Gravel bottom; fish dam; overhanging tree; left channel.
High Ford	1.64	0.6	.....	.....	.....	8.38	Rock.
High Rock and blackeye shoals	2.88	1.4	4,725	3.63	1.48 in 955	13.38	Rock and gravel bottom.
Sand bar	3.15	2.0	150	.....	.....	13.49	Temporary bar.
Do	3.33	2.0	.....	.....	.....	.....	Do.
Bar at Mulberry Creek	3.9	1.3	700	.....	.....	14.17	Sand and gravel bottom.
Hunt's Island shoal	4.15	1.6	2,600	2.75	1.07 in 400	17.50	Gravel bottom generally; ridge of rock; swift place.
Reynolds Island shoal	6.0	1.5	1,880	2.16	1.16 in 940	21.74	Gravel shoal; fish dam and snag.
Sand bar	6.25	2.2	150	.....	.....	25.64	Rock bottom covered with gravel.
Stacy's Ford shoal	7.26	1.7	540	1.70	0.34 in 40	28.79	Gravel bottom.
Gravel bar	8.4	1.5	6,800	2.15	0.45 in 300	29.52	Rock bottom.
Parker's Ledge	8.6	1.8	400	0.43	.....	30.26	Do.
Parker's Ford shoal	8.8	1.8	150	0.40	.....	32.60	Rock and gravel bottom; fish dam.
Gravel bar	8.9	2.4	100	.....	.....	.....	.....
Fish trap shoal	9.6	1.4	1,400	1.56	0.7 in 700	34.23	.....
Gravel bar	10.05	0.4	50	.....	.....	38.09	Right channel; old fish dam; rock and gravel bottom.
Do	10.2	2.3	.....	.....	.....	39.74	Rock bottom; fish dam.
Roaring River	10.94	2.7	2,700	3.86	0.14 in 86	42.52	Boulders and gravel shoal; the depth 2 feet for 150 feet near the foot.
Reeves Island and fish dam	11.50	2.0	1,000	0.89	.....	45.93	Gravel bottom; right channel.
Rocky shoal and fish dam	12.0	2.0	1,400	1.40	.....	48.91	Right channel.
Greenwood's Island	12.7	2.0	1,400	0.86	.....	51.14	Left channel; gravel bottom.
Gravel bar	12.9	2.3	50	1.56	0.65 in 300	53.07	Fish dam and gravel shoal.
Adams Island	14.0	2.4	1,400	0.96	.....	56.58	Right channel; gravel shoal.
Hickerson's Island No. 1	15.11	2.3	1,200	.....	.....	60.98	Slams should be removed.
Harrell's Island rapid and fish dam	15.4	2.3	600	1.56	.....	66.55	Gravel bar.
Hickerson's Island No. 2	16.6	0.9	1,100	0.96	.....	69.55	Fish dam; rock bottom.
Coxson's Island shoal	18.1	2.6	1,800	.....	.....	70.60	Fish dams; bottom gravel on rock.
Old fish dam	19.1	2.3	150	.....	.....	71.42	Gravel bar.
Saxle's ford	20.4	2.3	3,100	5.40	2.09 in 1,000	77.63	Fish dam; gravel bottom.
Swan Creek shoal	21.24	1.7	800	2.16	1.06 in 150	79.23	Gravel bottom; gravel bottom.
Little Elk in shoal	22.43	2.0	350	0.50	.....	81.88	Fish dam; rock bottom.
Walton's ford	22.64	1.7	350	0.50	.....	82.68	Rock bottom; ledge in middle of river.
Elkin Creek shoal	24.79	1.8	350	0.81	.....	84.74	Rock bottom.
Town Creek shoal	25.87	2.0	1,000	1.29	1.23 in 320	87.16	Remove a few detached rocks.
Greenwood's Creek shoal	26.84	1.8	150	0.18	.....	88.69	.....
Morrisson's shoal	27.24	1.8	280	1.01	.....	.....	.....
Tumbling Falls	27.62	0.6	200	1.01	1.34 in 749	.....	.....
Tumbling shoal	28.16	1.8	1,770	1.87	.....	.....	.....
Old fish dam	29.37	.....	.....	.....	.....	.....	.....

Hart's Lodge	30.57	1.3	360	0.89	90.28	Rock bottom.
Mitchell's Island shoal	31.32	1.1	2,740	4.00	94.61	Bottom gravel and bowlders; fish-dams.
Woodruff's fish-trap shoal	32.94	2.0	1,800	4.55	101.14	Fish-dam; sharp fall; rock bottom.
Devil's Strait and Long shoal	35.99	1.0	1.61 miles.	11.18	112.21	Rock bottom; two old fish-dams.
Two old fish-dams	36.35				112.27	
Large rock below the surface.	37.1					Channel on either side.
Fish River shoal	37.42	2.3	300	0.08	113.0	Bottom, stratified rock.
Do.	37.60				113.96	Rock bottom.
Seven Islands shoal	40.4	1.8	2,630	4.02	114.49	Do.
Bohannan's mill	40.71	2.0	3,450	2.44	123.18	Rocks above surface.
Bohannan's Island	41.00	1.6	1,500	8.25	125.62	Irregular rock bottom; grist-mill on Fall Creek.
Overfield's Ferry at Rockford	41.30	0.6	1,600	3.07	128.87	Rocks above the surface.
Shoal below Rockford	42.10	1.5	4,500	8.38	131.94	Right channel; rock above surface.
Foster's upper shoal	43.04	1.8	4,570	3.37	140.32	Rock bottom; fish-dams.
Foster's lower shoal	43.58	2.3	1,200	0.61	146.37	Ragged rock bottom; fish-dams.
Lime Rock shoal	48.08	1.7	2.59 miles.	10.62	147.31	Rock bottom.
Reeve's fish-trap shoal	49.32	1.8	600	1.66	158.06	Rock bottom; fish-dams in several places.
Head of Bear shoal	53.06				160.32	Rock bottom; fish-dam.
End of proposed canal	54.55		7,900	21.0	167.01	Three locks, 7 feet lift.
Foot of Bean shoal	57.18		13,870	18.17	206.18	Rock bottom, very irregular; total full Bean shoal, 39.17.
Sycamore Ford shoal	57.42	2.3	500	1.5	208.08	Gravel bottom; fish-dams.
Hanser's Island shoal	59.50	2.3	700	1.36	213.80	Left channel; gravel bottom; fish-dam.
Shoal above Shore's Island	62.73	2.0	1.83 miles	7.73	224.77	Rock and gravel bottom; fish-dams.
Shore's Island	63.24	2.6	2,800	0.88	225.65	Right channel; gravel bottom.
Glenn's mill-dam rapid	64.89	2.3	2,400	2.95	234.78	Dam broken through; mill not in operation; rock bottom.
Glenn's fish-trap shoal	65.20	2.2	1,600	2.0	236.78	Old fish-dams; rock bottom.
Meadow Branch shoal	66.63	1.4	1,000	2.01	240.32	Fish-dams; rock bottom.
Fish-dam shoal	67.52	1.7	300	0.70	241.32	Do.
Brian Branch shoal	68.61	3.0	2,900	0.86	242.63	Rock bottom; no improvement required.
Sum-bar	69.24	2.4	80			
Jones's mill-dam	70.72			42.55	246.08	Mill on left bank; undershot wheel; dam built of stone and logs, brush, &c., full width of river.
Gravel-bar		2.3	50			
Shallow Ford shoal	72.99	1.6	5,560	7.89	255.97	Rock and gravel bottom; Bittings & Carver's grist-mill on the right bank; undershot wheel; wing-dam half the width of the river.
Sheek's shoal	76.29	2.4	500	0.84	260.39	Fish-dam; gravel bottom.
Langenhour & Nenson's dam	78.45			4.57	267.10	Grist-mill on the left bank; two turbine wheels; substantial wood and stone dam, full width of the river; rock foundation.
Gravel-bar	80.03	2.6	200			
Ridge of rock	80.15	1.6	150			
Shoal and fish-dam	81.17	3.0	500	0.43	269.47	Rocks above surface on the left, channel on the right; remove right wing of old fish-dam.
Shoal above Hall's Ferry	82.01	1.9	600	0.23	269.73	Rock bottom; channel on right 18 feet wide and 2.5 to 3.3 feet deep.
Hall's Ferry shoal	82.97	2.4	850	1.41	271.70	Rocky shoal; fish-dams and high points to remove.
Clouse's upper shoal	84.15	2.5	2,730	2.51	274.74	Rocky shoal; Clouse's old mill-dam.
Clouse's lower shoal	85.38	2.2	3,600	2.97	277.68	Rock bottom.
Ekels's shoal and Douthet's saw mill	86.50	2.2	1,600	3.86	282.16	Rock bottom; wing-dam; mill on left; undershot wheel.
Mill Branch rapid	87.08	3.4	1,700	0.98	283.94	No improvement required.
Ridge of rock	87.52	2.0			284.40	

* Vertical.

* Vertical.

Locality.	Distance from Wilkesboro- ough.	Least depth.	Length of shoal.	Fall.	Greatest fall observed.	Total fall.	Remarks.
	Miles.	Feet.	Feet.	Feet.	Feet.	Feet.	
Railley's Ferry	88.94	2.3	300			286.97	Deposit from Muddy Creek.
Sand and gravel bar	90.35	2.0	800	0.81		289.15	Grist and saw mill; wing-dam; channel between dam and right bank may be improved.
Grimes's mill-dam rapid	91.63						Rock bottom.
A high point	91.82	1.8	75				
Ridge of rock	93.36	2.3	1,000	1.30			Grist-mill; wing-dam; rock bottom.
Hartley's mill shoal	93.70	1.5					
Ridge of rock	94.20	2.1	200			294.03	
Gravel bar below Peebles's Ferry	94.64	1.7	300				
Gravel bar	95.02	1.9	50			296.58	Shag on the bar.
Peebles's mill shoal	95.46	1.4	700	0.59		298.01	Grist-mill; wing-dam; rock bottom.
Rocky shoal	95.88	1.4	500	0.08		300.47	
Rapid at Meadow Island	97.73	2.0	900	0.58		301.30	
Oakes's Ferry rapid	99.42	2.9	1,400	0.73		303.83	Gravel bottom.
Swicegood's mill shoal	100.39		1,700	2.19		306.61	Grist-mill; mill and fish dams full width of river.
Gravel bar	100.88	2.5	350	0.52		307.65	
Do.	101.25	2.4				308.28	Short bar, probably overlaid with rock.
Hairston's Ferry	102.10					309.00	
Big Rock shoal	105.42	2.2	680	0.34		312.89	Rock bottom: large rock in middle of river.
Barnes's fish-trap shoal	106.15	2.2	1,900	0.42		313.55	Old fish-dam: rock bottom.
Dutchman Island bars	107.33	2.6	50			317.77	Gravel bottom.
Rapid	109.87	3.0	700	0.75		322.52	Old fish-dam to remove.
Motley's shoal at Boone Ford	114.08	1.1	1,300	0.99		325.47	Rock bottom.
Rapid	116.41	3.2	600	1.48		331.05	Do.
Hannah's Ferry and South Yadkin	117.23					331.20	River 600 feet wide.
Sower's Ferry	120.00					333.55	
W. N. C. Railroad bridge	121.98					337.28	24.6 feet in the clear above low water.

IMPROVEMENT.

It will be seen from an inspection of the above table that the river may be divided into three sections, according to the descent per mile, which must determine the character of the improvement.

I. From Wilkesborough to the head of Bean Shoal the distance is 53 miles, and the descent is at the average rate of 3.15 feet per mile.

II. Bean Shoal, which may be subdivided into two divisions, the upper having a descent of 14.04 feet per mile, the lower 6.91 feet per mile; the total length of the shoal being 4 miles and $\frac{1}{10}$ to Sycamore Ford.

III. From Sycamore Ford to the railroad bridge, near Salisbury, where the survey terminated, the distance is 64.56 miles, and the rate of fall 2.02 feet per mile.

Assuming that a grade of 1.3 feet per 1,000 feet may be taken as the limit of ordinary steamboat navigation, it is evident from the above description and the profile that the river can be improved to a navigable depth of $2\frac{1}{2}$ to 3 feet at low water from Wilkesborough as far as Bean Shoal, by excavating the bars and constructing wing-dams and four locks and dams. At the head of Bean Shoal it will be necessary to abandon the river and make a canal about 3 miles in length, with three locks, having an aggregate lift of 21 feet. The remaining distance of 1 mile to Sycamore Ford can be overcome by excavation and the construction of perhaps one wing-dam.

From Sycamore Ford to the railroad bridge the average fall of 2.02 feet per mile is within the assumed limit, but the actual descent at special localities is so great that excavation will need to be supplemented by the construction of wing-dams. The excavation, locks and dams, and wing-dams which are necessary for light-draft steam navigation between Wilkesborough and Salisbury are included in the following estimate, given in a tabular form. The canal around Bean Shoal will have a width of 40 feet at the bottom and 60 feet at the water surface and a depth of 5 feet. The dam will be of stone and the lock of crib-work, with a chamber 100 by 20 feet.

Summary of estimate for improvement of the Yadkin River for steam navigation.

SECTION I.—WILKESBOROUGH TO HEAD OF BEAN SHOAL.

Locality.	Dredging.	Rock excavation.	Dams.	Amounts.	Total.
	Cub. yds.	Cub. yds.			
Blair's Island, Sta. 77 + 66.....			Masonry dam, 10 feet high, 1,000 cubic yards. Lock, with 7 feet lift	\$8,000 15,000	
Sta. 84 + 64 to Sta. 206 + 24	1,319	2,032	2 wing-dams..... 791 cubic yards.....	1,319 6,096 2,373	\$23,000 00
Reynolds' Island and Staylor's Ford, Sta. 291 + 22 to 365 + 64.	1,347	167	4 wing-dams, 1,055 cu. yds.	1,347 501 3,165	9,788 00
Above Sta. 377 + 20	33				5,013 00
Sta. 389 + 34.....	222				33 00
Sta. 404 + 83.....	194				222 00
Parkes Ford and Ledge		46			194 00
Sta. 433 + 37.....			2 wing-dams, 800 cu. yds.	138 2,400	
					2,538 00

Summary of estimate—Section I—Continued.

Locality.	Dredging. <i>Cub. yds.</i>	Rock excavation. <i>Cub. yds.</i>	Dams.	Amounts.	Total
Fish-Trap Shoal Sta. 464 + 9		10 93		30 279	
Sta. 475 + 41	111				309 00
4,000 feet above Roaring River	65				111 00
Foot & Reeve's Fish-Trap Shoal Sta. 568 + 47		10		30	65 00
			3 wing-dams and 3 dikes, 1,200 cubic yards	3,600	
Sta. 599 + 63		10			3,630 00
Sta. 635 + 19	46				30 00
Below Sta. 641 + 64	30				46 00
Adams Island	46			46	59 00
Sta. 694 + 28			2 wing-dams, 806 cu. yds.	2,418	
Hurricane Island		10		30	2,464 00
Sta. 781 + 31			3 wing-dams, 1,200 cu. yds.	3,618	
Hickerson's Island No. 2, Sta. 824 + 75	239				3,648 00
Gwynn's Island, Sta. 909 + 59	185				239 00
Sta. 978 + 17		16 37		18 111	185 00
Savle's Ford, Sta. 1,020 + 45	74				129 00
Swan Creek Shoal			Masonry dam, 8 feet high, 687 cubic yards.	5,496	74 00
Sta. 1,068 + 83			Lock, with 4.2 feet lift.	9,500	
Little Elkin Shoal		185		555	14,896 00
Sta. 1,132 + 10			9 wing-dams, 2,007 cu. yds.	6,021	
Wilcox's Ford, Sta. 1,147	148				6,376 00
Above Sta. 1,191 + 10	19				148 00
Sta. 1,225, Elkin Bridge Shoal, Sta. 1,240 + 23	379	19		379	19 00
		10	1 wing-dam, 660 cu. yds.	1,980	57 00
Town Creek Shoal, Sta. 1,310 + 97	185				2,380 00
Greenwood's Creek Shoal, Sta. 1,359 + 2		70		210	185 00
			4 wing-dams, 1,256 cubic yards.	3,768	
Trumbling Falls and Shoal, Sta. 1,419 + 40		74		210	3,978 00
			11 wing-dams, 4,270 cubic yards.	12,837	
Sta. 1,509 + 88		10			13,059 00
Hurt's Ledge, Sta. 1,570 + 56		156			59 00
Mitchell's Island	851			851	468 00
		31		93	
Sta. 1,607 + 50			5 wing-dams, 1,030 cubic yards.	3,090	
Woodruff's Fish-Trap Shoal, Sta. 1,695 + 42		191		573	4,034 00
			6 wing-dams, 2,442 cubic yards.	7,326	
Devil's Staircase			2 wing-dams, 450 cubic yards.	1,350	7,899 00
Sta. 1,766 + 88		92		276	
Long Shoal, Sta. 1,822 + 91		1,679		5,037	1,626 00
			4 wing-dams, 972 cubic yards.	2,916	
Sta. 1,863 + 63		10			7,953 00
Fish River Shoal, Sta. 1,920 + 60		28			30 00
Sta. 1,920 + 50		93			84 00
		19		30	279 00
Sta. 1,935 + 72		278		834	
					864 00
Seven Islands, Sta. 2,041 + 79		2,233			6,609 00
Bohannon's Island, Sta. 2,167 + 28		5,037			9,111 00
Sta. 2,123 + 17		70			210 00

* Removing dams.

Summary of estimate—Section I—Continued.

Locality.	Dredging.	Rock excavation.	Locks and dams.	Amounts.	Total.
	<i>Cub. yds.</i>	<i>Cub. yds.</i>			
Sta. 2156 + 77			Masonry dam 11 feet high, 1,748 cubic yards.	\$13,084	
			Lock with 7.2 feet lift	15,000	\$28,084 00
Foster's Upper Shoal, Sta. 2278 + 4		93			279 00
Foster's Lower Shoal, Sta. 2346 + 79		36			108 00
Sta. 2372 + 60		174			522 00
Linne-Rock Shoal			Masonry dam 10 feet high, 1,593 cubic yards.	12,744	
			Lock with 7 feet lift	15,000	
Sta. 2463 + 31					417
Below Sta. 2478 + 7		139			138
Sta. 2505 + 49		46			28,299 00
Reeve's Fish Trap		556		1,608	
Shoal, Sta. 2540 + 30		70		30	1,698 00
Sta. 2586 + 19		111			333 00
Below Sta. 2617 + 31		44			132 00
Below Sta. 2772 + 13		292			866 00
Removing overhanging trees					570 00
Contingencies 15 per cent					194,093 00
Total					29,113 95
					223,206 95

SECTION II.—BEAN SHOAL.

Canal extending from the head of the shoals 8,070 feet to a point 800 feet above the foot of Island No. 9.

Earth excavation in canal, 144,600 cubic yards, at 15 cents	\$21,690 00
Rock excavation in canal, 4,259 cubic yards, at \$3	12,777 00
3 locks, lift of each 7 feet, at \$15,000	45,000 00
Guard lock at head	10,000 00
Rock excavation, Island No. 9 to Sycamore Ford, 10,692 cubic yards, at \$3	32,076 00

121,543 00

Contingencies 15 per cent	18,231 45
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Total	139,774 45
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SECTION III.—SYCAMORE FORD TO THE WESTERN NORTH CAROLINA RAILROAD BRIDGE, NEAR SALISBURY.

Locality.	Dredging.	Rock excavation.	Locks and dams.	Amounts.	Total.
	<i>Cub. yds.</i>	<i>Cub. yds.</i>			
Sycamore Ford Shoal, Sta. 2998 + 3	333	*10		\$333	
				30	\$363 00
Hauser's Island, Sta. 3107 + 15	278	*10		278	
				30	308 00
Shoal above Shore's Island, Sta. 3199 + 82	619	*20		619	
		148		60	
				444	1,123 00
Shore's Island			Dam at head 259 cub. yds.	777	
Sta. 3297 + 60			Dam at foot 223 cub. yds..	669	
					1,446 00
3,000 feet above Glenn's Dam	741	*20			741 00
Glenn's Dam, Sta. 3407 + 6		1,377		60	
			6 dams, 4,638 cubic yards.	4,131	
				13,914	18,105 00

*Removing dams.

Summary of estimate—Section III—Continued.

Locality.	Dredging.	Rock exca- vation.	Dams.	Amounts.	Total.
	<i>Cub. yds.</i>	<i>Cub. yds.</i>			
Meadow Branch Shoal, Sta. 3484 + 48.		*10 194		\$30 582	
Sta. 3544 + 46		*10 65		30 195	\$612 00
Below Sta. 3627 + 9	63				225 00
1,400 feet above Jones's Dam.		207			69 00
Jones's Dam, Sta. 3723 + 66	332			332	621 00
		*40		120	
2,000 feet below Jones's Dam	30				452 00
Shallow Ford Shoal, Sta. 3819 + 1	2,467			2,467	30 00
		583		1,749	
			3 dams, 1,980 cubic yards	5,940	
Shree's Shoal, Sta. 4004 + 19	281				10,156 00
Laugenhour and Neason's Dam, Sta. 4176 + 44.		602 *50		1,806 150	281 00
			3 dams, 1,980 cubic yards	5,940	
2,000 feet below Laugenhour and Neason's Dam.	74			74	7,896 00
		74		222	
Sta. 4261 + 27		*10			296 00
Sta. 4303 + 47		17			30 00
Hall's Ferry Shoal, Sta. 4349 + 8		250			51 00
Clouse's Upper Shoal, Sta. 4398 + 30		277			750 00
Clouse's Lower Shoal, Sta. 4452 + 46		329			831 00
Eckel's Shoal, Sta. 4531 + 6		1,712			978 00
Sta. 4603 + 33		56			5,126 00
Muddy Creek, Sta. 4762 + 3	167			167	168 00
			Jetty, 330 cubic yards	900	
Grimes's Mill, Sta. 4785 + 71		174			1,157 00
Sta. 4836 + 22		56			522 00
1,400 feet above Hartley's Mill		306			168 00
Hartley's Mill, Sta. 4928 + 88		*10 741		30 2,223	918 00
2,000 feet above Peeble's Ferry		166			2,253 00
Peeble's Ferry, below Sta. 4956 + 6	800				498 00
1,100 feet above Peeble's Mill	92				800 00
Peeble's Mill, Sta. 5021 + 1		412			92 00
Sta. 5110 + 36		11			1,236 00
Swicegood's Mill, Sta. 5279 + 16		788		2,364 5,280	33 00
			2 dams, 1,700 cubic yards		
4,400 feet below Swicegood's Mill		22			7,644 00
Big Rock Shoal, Sta. 5532 + 64		1,111			66 00
Barnes's Fish-Trap Shoal, Sta. 5509 + 76		*10 278		30 834	3,333 00
Dutchman's Island, Sta. 5643 + 64		4			864 00
Motley's Shoal, Sta. 5971 + 5		46			12 00
Sta. 6118 + 31	23				138 00
Removing snags and overhanging trees					23 00
					600 00
Contingencies and superintendence, 15 per cent					71,619 00
Total					10,652 85
					81,671 85

* Removing dams.

The aggregate cost of the three sections from Wilkesborough to the railroad bridge will be as follows:

Section I, from Wilkesborough to head of Bean Shoal	\$223,206 95
Section II, Bean Shoal	139,774 45
Section III, foot of Bean Shoal to railroad bridge	81,671 85
Total	444,653 25

BATEAU NAVIGATION.

The improvement of the river for steam navigation above the foot of Bean Shoal will not only entail the expenditure of \$362,981.40, but will also make government liable for the annual future cost of repair and superintendence. I have, therefore, thought proper to submit another estimate for improving the natural channel of the river in order to make it suitable for steam navigation. This can be done by means of riprap dams and the excavation of rock and gravel bars.

Bean Shoal will be reduced to a grade of 1.3 feet in 1,000 feet, from Sycamore Ford to a point 7,360 feet below the head of the shoal. For the remaining distance the grade will be 2.6 feet per 1,000, which can be overcome by towing with a cable or poling and combining the crews of the bateaux.

Summary of estimates for improvement of the Yadkin River for bateau navigation.

SECTION I.—FROM WILKESBOROUGH TO HEAD OF BEAN SHOAL.

Locality.	Dredging. Cub. yds.	Rock excavation. Cub. yds.	Dams.	Amounts.	Total.
Gordon's Ford Shoal, Sta. 24 + 20	187		1 dam, 142 cubic yards....	\$187 426	\$613 00
Finley's Ford Shoal, Sta. 30 + 91	237		1 dam, 159 cubic yards....	237 477	
Blair's Island Shoal, Sta. 60 + 72	165		1 dam across right channel, 122 cubic yards....	165 366	714 00
Above Sta. 77 + 56	93		1 dam, 130 cubic yards....	93 390	
Sta. 84 + 60		187			1,035 00
High Rock Shoal, Sta. 103 + 2		27			561 00
Buckeye Shoal, Sta. 130 + 39		139			81 00
Bar at Mulberry Creek, Sta. 203 + 87	90		Jetty, 133 cubic yards....	389 90	417 00
Hunt's Island Shoal, Sta. 212 + 80 to Sta. 216 + 3	53	78		53 234	489 00
Reynolds's Island Shoal, Sta. 294 + 60 to Sta. 306 + 90	230	7		230 21	287 00
Staylor's Ford, Sta. 355 + 20		126	1 dam, 167 cubic yards....	501 878	251 00
600 feet above Sta. 377 + 20	22				879 00
Sta. 389 + 34	93				22 00
Sta. 404 + 83	204				93 00
Parke's Ford, Sta. 432 + 87		30			204 00
Fish-Trap Shoal, Sta. 464 + 9 and Sta. 475 + 11		7		21 387	90 00
Foots and Reeves's Fish-Dam, Sta. 558 + 73		3		9	408 00
Sta. 565 + 30		17		21 51	
Sta. 599 + 63		7			81 00
Greenwood's Island, Sta. 635 + 10		33			21 00
Harrill's Island, Sta. 778 + 51		7			99 00
Hickerson's Island No. 2, Sta. 824 + 75		7		21	21 00
Below Sta. 834 + 73	130			130	151 00
Below Sta. 964 + 69		7			
Shyle's Ford, Sta. 1036 + 45	30				21 00
Swan Creek Shoal, Sta. 1058		73		219	90 00
		5		15	234 00

* Removing dams.

SURVEY OF YADKIN RIVER, NORTH CAROLINA.

Summary of estimates for improvement of the Yadkin River, &c.—Continued.

SECTION I.—FROM WILKESBOROUGH TO HEAD OF BEAN SHOAL.

Locality.	Dredging.	Rock excavation.	Dams.	Amount.	Total.
	<i>Cub. yds.</i>	<i>Cub. yds.</i>			
Little Elkin Shoal, Sta. 1127 + 25		10 76		30 228	
Wilcox's Ford, Sta. 1144 + 60	44				258 00
Sta. 1227 + 50		15			44 00
Elkin Bridge Shoal, Sta. 1249 + 23		7		21	15 00
	554			554	
Greenwood's Creek Shoal, Sta. 1361 + 80		8 36		24 108	575 00
Tumbling Falls, Sta. 1404 + 70		78			132 00
Tumbling Shoal, below Sta. 1412 + 42		14			231 00
Sta. 1509 + 58		3			42 00
Hurt's Ledge, Sta. 1570 + 56		53			9 00
Mitchell's Island Shoal, Sta. 1600 + 28 to Sta. 1614 + 10	1,191	6		1,191 18	159 00
Woodruff's Fish-Trap Shoal, Sta. 1695 + 42		684 4		2,032 12	1,209 00
Devil's Staircase, Sta. 1763 + 88		4 9		12 27	2,064 00
Long Shoal, Sta. 1806 + 70		1,628 4		4,884 12	39 00
Sta. 1829 + 40		47		141	
Below Sta. 1862 + 53		5			5,037 00
Below Sta. 1941 + 39		4		12	15 00
		44		132	
Below Fish River, Sta. 1955 + 32		4 87		12 261	141 00
Seven Islands, Sta. 2016 + 99		177			273 00
Bohannon's Mill and Island, Sta. 2107 + 28		1,425			531 00
Rockford, Sta. 2140 + 61		741		2,223	4,275 00
Sta. 2150 + 77	356			356	
Foster's Upper Shoal, Sta. 2273 + 4		4 6		12 15	2,579 00
Lime Rock Shoal, above Sta. 2380 + 91		160		480	27 00
Sta. 2417 + 99		4		12	
Sta. 2463 + 31		1,944		5,832	492 00
Below Sta. 2478 + 7		237		711	
Above Sta. 2505 + 49		7		21	
Reeves's Fish-Dam, Sta. 2540 + 3		6			6,554 00
Sta. 2632 + 77		4			18 00
Removing snags and overhanging trees, 50 miles, at \$20					12 00
					1,060 00
Contingencies, 20 per cent					32,600 00
Total					6,521 80
					39,130 80

* Removing dams.

SECTION II.—BEAN SHOALS.

Locality.	Dredg- ing.	Rock ex- cavation.	Dams.	Amounts.	Total.
	<i>Cub. yds.</i>	<i>Cub. yds.</i>			
Bean Shoals, above Island No. 9.			Wall 2,111 cubic yards	\$6,333	
Sta. 2732+73 to Sta. 2813+56.	2,856			8,568	
Sta. 2834+52	176			328	
Sta. 2838+76	746			2,238	
Below Sta. 2931+8	22			66	
Above Sycamore Ford, below Sta. 2971+28.	6			18	
	*299		Cable anchorage, 15 cubic yards.	45	
			5,800 feet of $\frac{3}{4}$ inch diameter cable, iron center, at 20.9 cents.	1,212	
					\$19,896 00
Removing snags and overhanging trees for four miles, at \$20.....					80 00
Contingencies 20 per cent					19,976 00
Total					3,995 20
					23,971 20

* Removing dams.

SECTION III.—SYCAMORE FORD TO WESTERN NORTH CAROLINA RAILROAD BRIDGE.

Locality.	Dredg- ing.	Rock ex- cavation.	Dams.	Amounts.
	<i>Cub. yds.</i>	<i>Cub. yds.</i>		
Sta. 3072+61		10		\$30 00
Sta. 3107+15	6	6		24 00
Sta. 3199+62		10	Dam, 300 feet long	1,252 00
Below Sta. 3212+8	322	6		338 00
500 feet above Sta. 3264+94		20		60 00
Sta. 3297+60			Dam, 200 cubic yards	777 00
Below Sta. 3326+52	230			230 00
Glenn's Dam, Sta. 3407+61		53	Two dams, 1,033 cubic yards ..	3,268 00
Glenn's Fish-Trap Shoal, Sta. 3422+2		*6		18 00
Meadow Branch Shoal, Sta. 3484+48		44		
		*6	Dam, 463 cubic yards	1,539 00
Sta. 3544+46		*10		30 00
1,000 feet below Sta. 3627+9	60			60 00
2,000 feet below Sta. 3627+9	231			231 00
Jones's Mill-Dam, Sta. 3723+66	116	*30	Dam, 556 cubic yards	1,874 00
Above Sta. 3757+17	74			74 00
Shallow Ford Shoal, Sta. 3757+17 to Sta. 3835+13	168		Dam, 1,960 cubic yards	6,168 00
Langenhour and Neason's Dam, Sta. 4176+44		*200	Two dams, 1,556 cubic yards ..	5,268 00
3,400 feet below Sta. 4176+44		33		99 00
Sta. 4346+61, below Hall's Ferry		6		
		*6		36 00
Sta. 4406+4, Clouse's old dam		*6		18 00
Douthett's Dam, Eckel's Shoal, Sta. 4531+6		1,712		5,136 00
Sta. 4603+33		17		51 00
Muddy Creek, 1,500 feet below Sta. 4736			Jetty, 330 cubic yards	990 00
Sta. 4836+22		4		12 00
Hartley's Mill-Dam		*6		
Sta. 4928+88		54		270 00
2,600 feet below Sta. 4928+88	70			70 00
Peeble's Ferry, 1,700 feet above Sta. 4995+98	129			129 00
Sta. 4995+98	19			19 00
Peeble's Mill, Sta. 5015+34	360			360 00
Swicegood's Mill-Dam, Sta. 5279+16, 200 feet above Sta. 5325+64		*22	Two dams, 972 cubic yards	2,962 00
Big Rock Shoal	44			44 00
Sta. 5542+64		159		477 00
Barnes's Fish-Trap Shoal, Sta. 5569+76		*8		18 00
Sta. 5756+8		*8		18 00
Sta. 5976+15		81		243 00
Removing snags and overhanging trees				600 00
Contingencies, 20 per cent				32,743 00
Total				5,548 60
				39,291 60

* Removing dams.

The aggregate estimate of the cost of bateau navigation will be as follows:

Section I. Wilkesborough to head of Bean Shoal.....	\$39,130 80
Section II. Bean Shoal.....	23,971 20
Section III. Foot of Bean Shoal to railroad bridge.....	39,291 60
Total	102,393 60

I have submitted two estimates for two distinct plans of improvement. That by means of locks and dams will cost \$444,653.25, and will be suited for light-draft steamers. That by means of wing-dams and excavation will afford a bateau navigation for bateaux of 6 to 7 tons, and will cost \$102,633.60.

The river, however, can be made navigable for steamboats as far as Bean Shoal without employing locks and dams, and will cost \$81,671.85.

But this part of the river is obstructed by mill-dams which must be removed, at a cost which can only be determined by consulting with the owners or by submitting the question to the judgment of the arbitrators.

The following list gives the localities and character of the dams and mills:

MEMORANDA OF MILLS AND DAMS ON THE YADKIN RIVER BETWEEN SYCAMORE FORD AND THE WESTERN NORTH CAROLINA RAILROAD BRIDGE.

Glenn's Grist-Mill, 7.6 miles below Sycamore Ford. The mill is in ruins. The dam, which was built of timber and formerly extended the full width of the river, is broken down.

Jones's Grist and Saw Mill, 13.5 miles below Sycamore Ford. The mill is a very good one, chiefly for grinding; a little sawing is done. The dam is composed of stone, logs, and brush, and extends the full width of the river. The proposed improvement will destroy the dam.

Bitting and Carver's Grist-Mill, 15.5 miles below Sycamore Ford. Very fair mill with wing-dam built of stone. The proposed improvement will not affect the dam.

Laugenhour and Neason's Grist-Mill, 22.3 miles below Sycamore Ford. This is an excellent mill, the best on the river. The dam, constructed of timber filled in with stone, extends the full width of the river. The proposed improvement will destroy the dam.

Clouse's Mill-Dam, 26.1 miles below Sycamore Ford. The mill was destroyed by fire several years ago. The low wing-dam, built of stone, extends nearly across the river. The proposed improvement will destroy the dam.

Douthitt's Saw-Mill, 29.3 miles below Sycamore Ford. The mill is a small, unimportant affair, and was not in operation at the time of the survey. The dam, constructed of timber, extends about one-third the width of the river. The water-power is considered valuable. The proposed improvement will destroy the dam.

Grimes's Saw and Grist Mill, 33.8 miles below Sycamore Ford. A very good mill. Low wing-dam of stone, extending three-fourths the width of the river. The proposed improvement will not affect the dam.

Hartley's Grist-Mill, 36.4 miles below Sycamore Ford. Ordinary country mill. Low wing-dam, built of stone, extending nearly across the river. The proposed improvement will destroy the dam.

Peebles's Grist-Mill, 38.3 miles below Sycamore Ford. An inferior mill doing little work. Low wing-dam built of stone. The proposed improvement will not affect the dam.

Swicegood's Grist-Mill, 43 miles below Sycamore Ford. Ordinary country mill. Low wing-dam built of stone, extending the full width of the river. The proposed improvement will destroy the dam.

GENERAL CONCLUSIONS.

1. Cost of improving the Yadkin River for 3-foot navigation from Wilkesborough to the railroad bridge near Salisbury:

(A) By means of locks and dams and a short section of canal around Bean Shoals for steam navigation, the cost will be \$444,653.25.

(B) By means of wing-dams and rock excavation for bateaux, ranging from 6 to 7 tons capacity, the cost will be \$102,633.60.

2. I would recommend that the river from Salisbury to the foot of Bean Shoal be improved for light-draft steamers, since this improvement can be made with a navigation of $2\frac{1}{2}$ to 3 feet at low-water without the aid of locks and dams. Until this part of the river is improved, it would not be advisable to begin the improvement at or above Bean Shoal.

3. Before the improvement is begun, the claims of owners of mill property for the destruction of the mills and dams should be ascertained. The total amount of these claims, if settled now, would be small, but if left until the completion of the improvement would increase with the needs and expectations of the proprietors.

The following maps accompany this report:

General map of Yadkin River from Wilkesborough to Western North Carolina Railroad bridge. Scale, 1 inch = 6,000 feet.

Profile of Yadkin River from Wilkesborough to Western North Carolina Railroad bridge.

Special map and profile of Bean Shoal. Scale, 1 inch = 500 feet.

I am greatly indebted to Mr. S. W. Evans, assistant engineer in charge, and to Mr. Burr and Mr. Fisher, assistants, and to the other members of the party, for the skillful conduct of the operations of the survey.

Very respectfully, your obedient servant,

S. T. ABERT,
United States Civil Engineer.

The CHIEF OF ENGINEERS, U. S. A.



LAWS AND RESOLUTIONS
OF THE
State of North Carolina,

PASSED BY THE
GENERAL ASSEMBLY

AT ITS
SESSION OF 1885,

BEGUN AND HELD IN THE CITY OF RALEIGH

ON WEDNESDAY, THE SEVENTH DAY OF JANUARY, A. D. 1885,

TO WHICH ARE PREFIXED

A REGISTER OF STATE OFFICERS, MEMBERS OF THE GENERAL
ASSEMBLY, JUDICIARY, A LIST OF COMMISSIONERS OF
AFFIDAVITS, AND STATE CONSTITUTION.

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EXHIBIT

III b

CAPTIONS OF THE PUBLIC LAWS.

XXIII

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275	212. An act to declare the Great Pee Dee and Yadkin rivers public highways, and for other purposes,	389
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43	223. An act to authorize the commissioners of Hertford county to levy a special tax for the purpose of building a jail,	427

CHAPTER 211.

An act to establish a new township in Yancey county.

The General Assembly of North Carolina do enact:

SECTION 1. That a new township to be known as *Price's Creek* township, is hereby created and established in the county of Yancey, and bounded as follows:

Price's Creek
township
established
in Yancey
county

Boundaries.

Beginning on the Madison county line, on top of the Knob in said line, runs east with the meanders of the McElroy mountain, which divide the waters of Bald creek and Price's creek, to the Summer's gap; thence north to the Cove Knob above W. Hensley's store house; thence east with Cane ridge to the fork of the wagon road at B. B. Whittington's house; thence with the Burns-ville road to the ford of Cane river at John Gibbs'; thence up said Cane river and with the old Cane River township line back to the beginning.

SEC. 2. That said township shall have all the rights, Powers, &c.
powers and privileges now granted to townships by law.

SEC. 3. That the permanent place of voting in said Township shall be established by the board of county Commissioners of said county. *Commissioners to establish voting place.*

SEC. 4. This act shall be in force from and after its ratification.

In the General Assembly read three times, and ratified this the 4th day of March, A. D. 1885.

CHAPTER 212.

An act to declare the Great Pee Dee and Yadkin rivers public highways, and for other purposes.

The General Assembly of North Carolina do enact:

SECTION 1. That the Yadkin river from the northern boundary line of the county of Davidson to its junction *Yadkin and Great Pee Dee rivers declared public highways.*

with the Great Pee Dee river, and the Great Pee Dee from said junction to the boundary line of the State of South Carolina, be and the same are hereby declared public highways for the free passage of boats, flats, rafts and other means of transportation.

Removal of dams and other obstructions.

SEC. 2. That any person desiring the removal of any dam or other obstruction in said river may file his or her petition before the board of county commissioners of the county in which said obstructions or any part thereof are situated to have said obstruction removed in whole or in part.

Commissioners to order removal on petition.

SEC. 3. That upon the filing of said petition the said board of county commissioners shall, if in their discretion they deem it necessary, order the said obstruction to be removed in whole or in part, and the method of procedure shall be the same as prescribed for the laying out of highways in chapter fifty of The Code.

Method of procedure.

Damages paid by petitioners.

SEC. 4. That all damages assessed by any jury appointed by this act shall be paid by the petitioners.

Unlawful to erect dam after June 1st, 1885, without sluice-way.

SEC. 5. That after the first day of June, one thousand eight hundred and eighty-five, it shall be unlawful for any person to erect any dam or other obstruction in either of said rivers within the limits prescribed, unless the person erecting said obstructions shall leave in the middle of said Yadkin river a sluice-way forty-five feet in width, and in the middle of the Great Pee Dee river a sluice-way sixty feet in width, for the passage of boats, flats, rafts and other means of transportation, and fish, and any person who shall so erect and maintain such dam or other obstruction shall be guilty of a misdemeanor and be fined twenty-five dollars for each day said obstruction shall remain in either of said rivers, after having been notified by any person damaged by said obstruction to remove the same.

Misdemeanor.

Penalty.

Dam, when condemned, to be removed within thirty days.

SEC. 6. That whenever any jury appointed under this act shall condemn any dam or other obstruction or part thereof in either of said rivers, the owner of said dam or

other obstruction shall remove the part condemned within thirty days after the verdict of said jury is filed: *Provided, Proviso.* the amount of damages assessed by said jury is paid or tendered to him; and if said owner shall fail to remove the said obstruction within the time prescribed, then any person damaged by the erection or maintenance of said obstruction may remove the part condemned, and the cost of the removal thereof shall be deducted from the amount awarded to such owner as damages.

SEC. 7. That in estimating the damages caused to any owner by removal of his dam in whole or in part, the jury may also include the annual cost of making any sluice-way and maintaining the same. Damages, how estimated.

SEC. 8. This act shall be in force from its ratification. In the General Assembly read three times, and ratified this the 4th day of March, A. D. 1885.

CHAPTER 213.

An act to drain the lowlands of Lick Fork creek, in Rockingham and Caswell counties.

The General Assembly of North Carolina do enact:

SECTION 1. That R. D. Harris, J. L. Wright, P. B. John- Commissioners.
son and Felix Hubbard be appointed commissioners,

whose duty it shall be, on or before the first day of July, one thousand eight hundred and eighty-five, to lay off To lay off Lick Fork of Hogan's creek in sections.

Lick Fork of Hogan's creek in Rockingham and Caswell counties from Watts' old mill dam on said creek to its mouth, with said Hogan's creek, into sections of convenient length, and to appoint one overseer to each section, Overseer.

who shall hold his office for the term of two years and who shall be a land owner in the section to which he is appointed overseer.

execution of the said bond by Samuel A. Culp and wife Christina, Earl L. Woods and J. C. Culp the other parties thereto is this day proven before me by the oath and examination of the said Marshall Ritchie, who is one of the subscribing witnesses to said bond. Wherefore let the said bond with the certificates be registered.

J. H. Milton, Clerk
Superior Court.

Office, Register of Deeds, Stanley County.

I hereby certify that the foregoing bond was filed in this office for registration Sept. 25th 1895 at 10 o'clock A.M. and duly registered.

W. D. Handsham, Reg. of D.

State of N.C. to W. Smithdeal. (Grant)

No. 13743. — State of North Carolina.

Know Ye, that we, for and in consideration of the sum of fifteen (15) cents, for every acre hereby granted, and paid into the Treasury on 20th day of September, 1895, by W. Smithdeal, have given and granted, and by these presents do give and grant unto the said W. Smithdeal a tract of land containing twenty five (25) acres, lying and being in the County of Stanley, being fully described as the bed of the Yadkin River, bounded as follows: Beginning at a stake on the West bank of the Yadkin River at the waters edge in Albemarle Township, near the foot of the Harrows, and the corner between the lands of J. H. Littleton and Russell and runs thence with the river bank, the waters edge and Russell's line the following courses and distances, S. 25° W. 5.65 chains to a stone; S. 7½° W. 3.60 chains; S. 2° E. 1.75 chains S. 7° W. 2.00 chains; S. 27° W. 4.50 chains S. 14° W. 20.00 chains; S. 23° W. 6.75 chains; S. 15° W. 6.60 chains; S. 28° W. 2.50 chains; S. 8° W. 3.15 chains; S. 14½° W. 3.35 chains; S. 2½° E. 8.35 chains; to a stone at the mouth of Cedar branch, near the corner to Freeman and Boat and Bogie's Giesperman old Mill tract, thence with the river bank, the waters edge and Boat and Bogie's line S. 40° E. 4.85 chains S. 15° E. 3.65 chains; S. 36° E. 4.55 chains; S. 78° E. 4.75 chains; S. 66½° E. 7.00 chains; S. 85° E. 5.15 chains to an ash just above the old Mill S. 47½° E. 2.75 chains; S. 62° E. 4.00 chains; S. 60° E. 2.00 chains to a stake on the river bank at the waters edge on the line of the Kirk's Deeds tract and the beginning corner of Boat and Bogie's Giesperman old Mill tract, thence with Kirk's line as it crosses the river N. 58° E. 3.50 chains to the center of the Yadkin river



Witness, Chas Carr, Esq, our Governor
and Commander-in-Chief, at Raleigh, the
20th day of September in the one hundred
and twentiethth year of our independence,
and in the year of our Lord one thousand
eight hundred and ninety five.

By Command,
C. M. Cooke,
Secretary of State.

Officer Register of Deeds, Haverly County, N.C.
I hereby certify that the foregoing grant was filed in
this office for registration Oct. 3rd, 1890, at 10 o'clock A.M.
and duly registered.
H. P. Hancock, R. D.

State of North Carolina to W. Smithdial. (Grant.)
 State of North Carolina. (No. 12743)

Know All Men, that we, for and in consideration of the sum of fifteen (\$15) cents, for every acre hereby granted, and paid into the Treasury on 20th day of September, 1895, by W. Smithdial have given and granted, and by these presents do give and grant unto the said W. Smithdial a tract of land containing twenty five (25) acres, lying and being in the County of Stanley, fully described as the E. d. of Yacklin River, and bounded as follows: Beginning at a stake, formerly a wild land of W. Harris's and C. H. Brooks corner on the Bank of the Yacklin river at the water edge, in Harris Township and runs thence with the river bank, the water edge and C. H. Brooks line S. 70° E. 2.70 chains; S. 60° E. 5.00 chains S. 56° E. 7.15 chains S. 51° E. 6.50 chains S. 62° E. 2.70 chains S. 56½° E. 2.50 chains S. 40° E. 18.35 chains to a stake corner to C. H. Brooks and Arnold Parker on the bank of the river at the water edge; thence with A. Parker's line reversed as it crosses the river N. 17½° E. 7.00 to the center of the Yacklin river, the dividing or County line between Stanley and Montgomery Counties; thence up the middle of the river in a North westerly direction with the said dividing line between Stanley and Montgomery Counties, and the meanderings of the mid-river about 56.00 chains to the corner of J. C. Harris's grant in the river, thence with the line of said Harris's grant S. 20° N. 11.00 chains to the beginning corner as by the plat hereunto annexed doth appear, together with all Woods, Stakes, Mines, Minerals, Hereditaments and appurtenances to the said land belonging or appertaining; To Hold to the said W. Smithdial - Heirs and assigns forever. Yielding and paying to us such sums of money, yearly or otherwise, as our General Assembly from time to time may direct, and providing absolutely to all acts of the General Assembly now existing or hereafter to be enacted, concerning the passage of fish in the waters of said premises. Entered 26th October, 1896.

In Witness Whereof We have caused these letters to be made patent, and our great seal to be hereunto affixed.

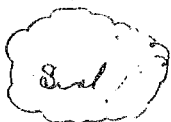
Witness, Elias Carr, Esq, our Governor and Commander in Chief, at Raleigh, the 20th day of September in the one thousand and thirtieth year of our Independence, and in the year of our Lord one thousand eight hundred and ninety five.

By Command:

C. M. Cooke, Secretary of State

Elias Carr,

Governor.



State of North Carolina, } Superior Court,
Stanly County, } Octo. 3rd, 1895.

The execution of the foregoing grant by Chas. Carr, Governor of the State of North Carolina and C. M. Cashe Secretary of the State of North Carolina under the great seal of the State of North Carolina is adjudged to be in due form and according to law. Therefore let the said grant with this certificate be registered.

J. W. Wilton, C. S. C.

Office Register of Deeds, Stanly County, N. C.

I hereby certify that the foregoing grant was filed in this Office for registration October 3rd, 1895; at 10 o'clock A. M. and duly registered.

W. P. Herndon, R. D.

State of North Carolina to W. Smithdeal. (Grant.)
No. 12744. State of North Carolina.

Know Ye, that we, for and in consideration of the sum of fifteen (15) cents, for every acre hereby granted, and paid into the Treasury on 20th day of September 1895; by W. Smithdeal have given and granted, and by these presents do give and grant unto the said W. Smithdeal a tract of land containing one hundred and eighty nine (189) acres, lying and being in the County of Stanly, being fully described as the bed of Yadkin River and bounded as follows: Beginning at a stake on the West bank of the Yadkin River at the water edge, in Harris Township, corner of Arnold Parker's Mill tract and the Kirk et al's heirs lands and runs, thence with the river bank the water edge and the lines of the Kirk et al's heirs lands the following courses and distances, S. 77° E. 2.25 chains, S. 87° E. 1.87 chains, S. 81° E. 2.00 chains, S. 75° E. 1.62 chains, S. 83° E. 1.25 chains, S. 64° E. 4.37 chains, S. 46° E. 5.00 chains, N. 62° E. 2.80 chains to a black gum, S. 62° E. 2.00 chains, S. 48° E. 1.12 chains, S. 18° E. 1.25 chains, S. 85° E. 3.75 chains, S. 47° E. 8.10 chains, S. 51° E. 2.80 chains, S. 65° E. 4.00 chains, S. 45° E. 3.80 chains, S. 65° E. 5.00 chains, S. 44° E. 1.00 chain, S. 55° E. 1.25 chains, S. 47° E. 2.00 chains, S. 51° E. 2.00 chains, S. 47° E. 7.05 chains, S. 58° E. 7.85 chains, S. 51° E. 2.05 chains, S. 20° E. 4.00 chains, S. 11° E. 12.00 chains crossing the race of the Nash Mill at its head, S. 15° W. 2.70 chains, S. 25° W. 1.25 chains to a ferry landing at Kirk and Nash's Mills, S. 18° W. 2.80 chains, crossing the tail race of the mill to a willow,

thence S. 13° W. 4.00 chains crossing Grassy branch to Kirk
and Wash Mill Cms. and J. P. Wash's corner, a stone with 3/
cut on it, thence with the river bank, the water edge and J. P.
Wash's line, S. 1° W. 12.35 chains, S. 13° W. 3.00 chains to a ditch,
S. 15° E. 4.75 chains, S. 1° E. 3.50 chains, S. 15° W. 1.80 chains, S.
32 1/2° W. 3.25 chains, S. 2° W. 1.35 chains, S. 21° W. 5.50 chains, S.
13° W. 3.20 chains, S. 15° E. 2.05 chains, S. 59° E. 1.70 chains, S. 88°
E. 1.60 chains, S. 21° E. 4.50 chains, S. 33 1/2° E. 1.60 chains, S. 45° E.
2.65 chains, S. 51 1/2° E. 2.25 chains, S. 66 1/2° E. 1.80 chains, S. 76 1/2° E. 2.50
chains, S. 66° E. 2.80 chains, S. 53° E. 4.00 chains, S. 66° E. 1.00
chains, S. 87° E. 2.10 chains, S. 75° E. 6.00 chains, S. 82° E. 3.10 chains,
S. 64° E. 0.75 chains, S. 58° E. 2.75 chains, S. 50° E. 3.00 chains to
a birch on the bank of the river at the water edge, corner
to J. L. Shute and John L. Palmer, thence with the river bank,
the water edge and John L. Palmer's line, (not to include the
island belonging to Thos. P. Palmer Jr. and John L. Palmer) S. 45°
E. 10.50 chains crossing Palmer's dividing line, thence S. 40° E. 7.00
chains, S. 10° E. 3.00 chains, S. 37° W. 5.00 chains, S. 35° W. 4.50 chains,
S. 45° W. 5.50 chains, S. 45° W. 15.00 chains to J. L. Palmer's upper line
of his Locke Place; thence S. 20° E. 21.00 chains to the mouth of a
small creek at the head of the Narrows, S. 25° E. 7.00 chains
to John L. Palmer and J. W. Littleton's stone corner on their
line on the bank of the river at the water edge; thence
with J. W. Littleton's line about N. 45° E. about 5.50 chains, to
his corner to his upper tract, near the head of the Narrows
in the center of the Goshkin River and the dividing line be-
tween Stanley and Montgomery Counties; thence up the
middle of the river in a Northwesterly direction, with the
said dividing line between Stanley and Montgomery Counties,
and the meanderings of the said river, about 270.00 chains,
to Arnold Parker's corner in the center of the river, which
is just below the mouth of Duck Creek; thence with Parker's
line S. about 6.00 chains to the beginning corner on the bank
of the river, as by the plat hereto annexed hath appear-
ed, together with all woods, waters, mines, minerals, heredita-
ments and appurtenances to the said land belonging or
appertaining: To Hold to the said W. Smith's heirs and
assigns forever. Yielding and paying to us each sum
of money, yearly or otherwise, as our General Assembly
from time to time may direct, and promising obedience
to all acts of the General Assembly now existing or hereafter
to be enacted, concerning the passage of fish in the waters
of said premises. Entered 26th October, 1874.

In Witness Whereof, We have caused these
Letters to be made patent, and our great

seal to be hereunto affixed.



Witness, Elias Carr, Esq., our Governor
and Commander-in-Chief, at
Raleigh, the 20th day of September in
the one hundred and 20th day of
September in the year of our Inde-
pendence, and in the year of our Lord
One thousand eight hundred and ninety
five. Elias Carr,
Governor.

By Command:
C. M. Cook
Secretary of State.

State of North Carolina, } Superior Court,
Stanly County, } Oct. 3rd, 1895.

The execution of the foregoing grant, by Elias Carr, Gov-
ernor of North Carolina and C. M. Cook Secretary of the
State of North Carolina under the great seal of the State of
North Carolina, is adjudged to be in due form and accord-
ing to law. Therefore let the said grant with this certificate
be registered.
J. H. Milton, C. S. C.

Office Register of Deeds, Stanly County, N.C.

I fully certify that the foregoing grant was filed in
this office for registration October 3rd, 1895 at 10 o'clock
A.M. and duly registered.
H. D. Kershner, R. D.

State of North Carolina to H. Smithdeal. (Grant)
No. 13745 - State of North Carolina.

Know Ye, that we, for and in consideration of the
sum of fifteen (15) cents, for every acre hereby granted, and
paid into the Treasury on 20th day of September, 1895, by H.
Smithdeal have given and granted, and by their agents do
give and grant unto the said H. Smithdeal a tract of land con-
taining one hundred and twenty three (123) acres, lying and
being in the County of Stanly, being described in full as the
bed of the Hoshin River and bounded as follows: Beginning
at a stake on the river bank at the water edge, on
the line of A. and E. Kren, in Albemarle Township,
where their lines cross the river. Below Big Falls, and at
their Lake Fishing, and runs thence with the river bank,
the water edge and the lines of the said Kren's and others,
according to the following courses and distances, the line

beginning about 15.00 chains below the Hick and Kram corner on the bank of the river below the falls, S. 67° E. 5.00 chains, S. 61° E. 7.00 chains, S. 15° E. 25 chains to Botian Landing, S. 45° E. 4.25 chains, S. 8° E. 5.00 chains, S. 30° E. 3.00 chains, S. 36° E. 5.00 chains, S. 47° E. 4.50 chains, S. 66° E. 4.50 chains, S. 72° E. 3.25 chains, N. 37° E. 3.00 chains, N. 60° E. 1.50 chains, S. 58° E. 5.00 chains, S. 57° E. 5.00 chains, S. 56° E. 3.50 chains, S. 44° E. 4.00 chains, to Barringers Ferry; thence S. 37° E. 10.75 chains, S. 25° E. 6.75 chains, S. 23° E. 6.00 chains, S. 73° E. 2.50 chains, S. 13° E. 10.50 chains, S. 31° E. 5.00 chains, S. 23° E. 5.00 chains, S. 16° E. 2.50 chains, to Barringers Ferry opposite the mouth of the Duckharrie river, which runs into the Yadkin river and forms the Lee River, thence continuing down the Lee River bank, at the waters edge and the line of Pawlows and others S. 11° E. 3.50 chains, S. 15° E. 10.00 chains, S. 22° E. 3.50 chains, S. 38° E. 2.50 chains, S. 44° E. 5.00 chains, S. 40° E. 5.00 chains, S. 45° E. 4.50 chains, S. 50° E. 4.25 chains, S. 66° E. 4.50 chains, S. 66° E. 2.00 chains, S. 70° E. 1.75 chains, S. 43° E. 5.00 chains, S. 3° E. 5.00 chains, S. 27° E. 5.00 chains, S. 5° E. 2.00 chains, S. 6° E. 4.00 chains, S. 15° E. 2.50 chains, S. 23° E. 3.00 chains, S. 33° E. 4.00 chains, 340° E. 1.00 chain, to Mrs. M. A. Smiths Ferry a stone on the river bank at the waters edge, thence across the river with the Ferry line rope, S. 54 1/2° E. about 7.12 chains to the center of the river and the dividing line between Stanley and Montgomery Counties, thence up the middle of the river in a Northwesterly direction with said dividing line between Stanley and Montgomery Counties and the meanderings of the Mud river, about 80.00 chains to the line of Pawlows Ferry opposite the mouth of the Duckharrie river, thence continuing up the Yadkin river with the dividing, or County line between Stanley and Montgomery Counties and the center of the river, about 65.00 chains to the line of Barringers Ferry, where it crosses the river, and also the corner in the center of the river of said Barringers river tract, thence with the said County line, the center of the river and the line of the said Barringers river tract, about 60.00 chains to his corner on the Kram's line, where they cross the river just below their Lake Fishery, thence with the Kram line in a Southwesterly direction, about 4.50 chains to the beginning corner on the bank of the river, as by the plat hereunto annexed doth appear, together with all woods, waters, mines, minerals, Hereditaments and appurtenances to the said land belonging or appertaining;

To Hold to the said M. Smiths heirs and assigns forever, Yielding and paying to us each sum of money, yearly or

otherwise, as our General Assembly from time to time may direct, and promising abstinence to all acts of the General Assembly now existing or hereafter to be enacted, concerning the passage of fish in the waters of said fisheries, entered said Oath 1874.

In Witness Whereof, We have caused these Letters to be made patent, and our great seal to be hereunto affixed.
Witness Elias Carr, Esq, our Governor and Commander-in-Chief, at Raleigh, the 20th day of September in the one hundred and twentieth year of our Independence, and in the year of our Lord one thousand eight hundred and ninety-five.

Elias Carr,
Governor.

By Command:
O. W. Cooke,
Secretary of State.

State of North Carolina, } Superior Court,
Stanly County, } October 3rd, 1895:

The execution of the foregoing grant by Elias Carr, Governor of North Carolina and by O. W. Cooke Secretary of the State of North Carolina, under the great seal of the State of North Carolina, is adjudged to be in due form and according to law. Therefore let the said grant with this certificate be registered. J. H. Milton, C. J. C.

Officer Register of Deeds, Stanly County, N. C.
I hereby certify that the foregoing Grant was filed in this office for registration October 3rd, 1895; at 10 o'clock A. M. and duly registered.

W. F. Hancock,
Register of Deeds.

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Shade of North Carolina to H. Smithdeal. (Genl)
No. 12,746. State of North Carolina.

Know Ye, That we, for and in consideration of the sum of fifteen (15) cents, for every acre hereby granted, and paid into the Treasury on 20th day of September, 1890, by H. Smithdeal have given and granted, and by these presents do give and grant unto the said H. Smithdeal a tract of land containing one hundred and fifty five (155) acres, lying and being in the County of Stanly, being fully described as the bed of the Yadkin River, bounded as follows: Beginning at a stone by an oak, on the bank of the Yadkin River, on the Rowan and Stanly County line where the two County lines strike the river, at the water's edge, and run, thence with the water's edge along the line of Widow D. H. Deere, S. 81 1/2° E. 1.75 chains to a small cottonwood, thence S. 10 1/2° E. 2.00 chains to a stake, thence S. 9° W. .80 chains to a stake, and thence following down the bank of the river at the water's edge, the following course, S. 17 1/2° E. 2.75 chains, S. 10° E. 2.06 chains, S. 13° E. 1.80 chains, S. 7° E. 2.50 chains, S. 12° E. 1.90 chains, S. 6° E. 3.68 chains, S. 4° W. 1.50 chains, S. 12° E. 1.80 chains, S. 5° E. 2.00 chains, S. 18° E. 1.68 chains to a willow at the mouth of Stokes' Spring Branch, S. 13° E. 1.50 chains, S. 17° E. 6.50 chains, S. 3° E. 2.80 chains to an ironwood, S. 17° E. 1.50 chains, S. 15° E. 2.00 chains, to a persimmon, S. 17 1/2° E. 1.10 chains, S. 39° E. 0.88 chains to a sycamore, S. 17 1/2° E. 3.50 chains to a willow, Stokes and M^r Allister corner, S. 5° E. 3.50 chains, S. 2 1/2° W. 1.50 chains, to an ironwood, S. 17° E. 78 chains to a stake, S. 24° E. 1.50 chains to a H. O. S. 7° E. 2.75 chains, S. 5° E. 3.25 chains to V. Manning's corner at the mouth of Goose Island creek, S. 30° E. 1.80 chains to a willow, S. 25° W. 2.90 chains to a birch, S. 15° W. 1.50 chains to a birch, S. 3° E. 1.50 chains to the mouth of the ditch, S. 15° E. 2.75 chains, S. 27° E. 1.20 chains to a birch, S. 58° E. 1.80 chains, S. 36° E. 1.00 chains, S. 11° E. 1.25 chains, S. 14° E. 2.00 chains, S. 5° E. 2.70 chains passing V. Manning's upper mill to a stake, S. 11° W. 1.25 chains to a willow, S. 6° W. 6.62 chains to a willow, S. 25° E. 1.85 chains to a willow, S. 10° E. 1.50 chains to a birch, S. 17° E. 6.00 chains passing V. Manning's lower corner of upper mill tract at 1.00 chains to the mouth of a branch, S. 34° E. 2.35 chains to an oak stump, S. 43 1/2° E. 1.30 chains to a persimmon, S. 58° E. 4.00 chains to a stone crossing Manning's race at the head, S. 35° E. 5.00 chains to a sycamore at Manning's Lower Mill, S. 28° E. 6.00 chains crossing tail race at mouth, S. 17° E. 3.00 chains to a stake, S. 37° E. 1.35 chains to the Ferry Landing, S. 54 1/2° E. 1.65 chains to a willow, S. 86° E. 1.25 chains to a stone, S. 54° E. 2.30 chains, to a birch, S. 48° E. 3.12 chains to a large stone, S. 44 1/2° E. 3.50 chains to a large

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 creek,
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 a birch,
 S. 14° E.
 in mill
 chains
 corner
 branch,
 runs to
 Manny's
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 runs to
 S. 48°
 large

stone, S. 51 1/2° E. 1.00 chains, S. 55 1/2° E. 2.00 chains, S. 72° E. 2.00
 chains to a stone crossing the head of Station run, S. 35° E.
 2.00 chains, S. 44 1/2° E. 1.25 chains, S. 2° E. 1.75 chains to a stake,
 S. 14 1/2° E. 1.88 chains to Manny's and Station's corner, S. 52° E.
 1.88 chains to a willow, S. 48° E. 1.00 chains to birch, S. 60° E.
 1.00 chain to a birch, S. 52 1/2° E. 2.00 chains to a willow, S. 75 1/2°
 E. 0.88 chains, N. 88° E. 2.75 chains to a stone, S. 48° E. 1.25
 chains to a stone, S. 34° E. 2.13 chains to a willow, S. 72° E.
 1.15 chains to stone, S. 66° E. 4.20 chains to a birch, S. 60° E. 1.00
 chains to a birch, S. 51° E. 1.00 chains to a willow, S. 47° E. 34
 chains, S. 63° E. 0.75 chains, S. 47° E. 0.88 chains to a willow, S. 58 1/2°
 E. 1.00 chain to a stone, S. 72° E. 1.13 chains, S. 65° E. 0.75 chains, S.
 58° E. 0.60 chains, S. 35° E. 1.00 chains, S. 76 1/2° E. 1.55 chains, to a
 stone, S. 41 1/2° E. 2.00 chains to a birch, S. 55 1/2° E. 2.00 chains to
 a black gum, S. 74° E. 2.50 chains to a stone, S. 46° E. 1.50 chains
 to a maple, S. 15° E. 1.16 chains to a birch, S. 49° E. 1.00 chains
 to an elm, S. 65° E. 1.00 chains to an ash, N. 88° E. 0.55 chains
 to a stone, S. 78° E. 0.76 chains, S. 41 1/2° E. 3.50 chains to a maple,
 S. 53° E. 1.00 chains to a birch, S. 20° E. 0.75 chains to a stone
 S. 16° E. 1.00 chains to a willow, S. 2.75 chains to a stake, S. 67 1/2°
 N. 0.75 chains, S. 13 1/2° N. 1.38 chains, to a willow, S. 1° N. 1.88 chains
 to a willow, S. 3° N. 0.70 chains, S. 5 1/2° E. 2.10 chains to a black
 gum, S. 13 1/2° E. 1.50 chains to a black gum, S. 19° E. 2.25 chains,
 S. 24° E. 2.05 chains to New Landau Estate's company's
 dump station, S. 18° E. 1.65 chains to the North bank of
 Rock Hall Creek, S. 43° E. 2.55 chains, S. 51 1/2° E. 1.25 chains,
 S. 56° E. 1.50 chains, S. 60° E. 3.50 chains, S. 34° E. 0.75 chains,
 S. 89° E. 0.70 chains, N. 86° E. 1.30 chains, S. 65° E. 2.25 chains, S.
 86° E. 1.50 chains, N. 86 1/2° E. 3.25 chains, S. 74° E. 4.12 chains, S.
 71° E. 0.88 chains, S. 76° E. 2.10 chains, N. 88 1/2° E. 0.80 chains, N. 56 1/2°
 E. 1.10 chains, N. 86 1/2° E. 2.00 chains, S. 66 1/2° E. 5.00 chains, S. 70 1/2° E.
 1.15 chains, S. 64 1/2° E. 2.25 chains, S. 68 1/2° E. 1.25 chains, S. 74° E. 2.56
 chains, S. 68° E. 1.50 chains, S. 58° E. 3.58 chains to mouth of a
 small branch, S. 60° E. 1.38 chains, S. 54 1/2° E. 1.10 chains, S. 62°
 E. 2.55 chains, S. 72 1/2° E. 1.33 chains, S. 57° E. 1.05 chains, S.
 60° E. 1.00 chain, S. 77° E. 0.70 chains, N. 37° E. 0.63 chains, to
 a stake on the bank of the river, at the water edge, on
 R. C. Carmichael's line and corner of an old grant now
 owned by John S. Pennington, then with the line of said
 grant proceed about N. 50° N. up the river 50.00 chains
 to a stake corner in the river, thence N. 10° E. with the line
 of said grant to the center of the river and the dividing
 line between Stanley and Montgomery Counties, thence up
 the middle of the river in a Northwesterly direction with
 the said dividing line between Stanley and Montgomery Coun-

lies and the meanderings of the mid-river to the intersection of said dividing line ^{with the dividing line} between Rowan and Stanly Counties, thence with the said Rowan and Stanly County line, that about 3.75 chains to the beginning, as by the plat hereto annexed both appear, together with all Woods, Waters, Mines, Minerals, Hereditaments and appurtenances to the said land belonging or appertaining; To Hold to the said H. Smith and his heirs and assigns forever. Yielding and paying to us and our heirs from time to time may direct, and promising abate even to all acts of the General Assembly now existing or hereafter to be enacted, concerning the passage of fish in the waters of said premises. Witness our hand and seal at Raleigh, the 26th October, 1894.

Edw. H. Smith, Whose. We have caused these letters to be made patent, and our great seal to be hereunto affixed.

W. H. Smith, Esq., our Commissioner and Commanding Chief, at Raleigh, the 20th day of September in the one hundred and 20th year of our Independence, and in the year of our Lord one thousand eight hundred and ninety-five.

Elias Carr,
Governor.

By Command,
C. M. Cooke,
Secretary of State.

State of North Carolina, } Superior Court,
Stanly County. } Date 3rd, 1895.

The execution of the foregoing grant by Elias Carr, Governor of North Carolina and by C. M. Cooke Secretary of State of North Carolina, under the great seal of the State of North Carolina is adjudged to be in due form and according to law. Therefore let the said grant with this certificate be registered.

J. H. Miller, C. S. C.

Officer Register of Deeds, Stanly County, N. C.

I hereby certify that the foregoing grant was filed in this office for registration October 3rd, 1895, at 10 o'clock A. M. and duly registered.

W. J. Henderson,
Register of Deeds.

W. Smithdeal to Powell Evans & Thos. G. Klutzy.
This Indenture, made this the first day of January, in the year of our Lord one thousand eight hundred and ninety six, between W. Smithdeal and his wife Carrie A. Smithdeal of the County of Rowan, and State of North Carolina, of the first part, and Powell Evans, of Philadelphia Pa, and Thos. G. Klutzy of the County of Rowan, and State of North Carolina, of the second part.

Witnesseth, that the said parties of the first part, for and in consideration of the sum of Five Dollars, to the said parties of the first part in hand paid, the receipt whereof is hereby acknowledged, have bargained, sold and conveyed unto the said parties of the second part their heirs and assigns, the following described real estate, situate, lying, and being in the State of North Carolina, bounded as follows, to wit: All and singular the lands described and granted in and by the following described several grants from the State of North Carolina to W. Smithdeal, for several tracts of land, in the bed of the Yankin River, including certain islands, lying in the Counties of Rowan, Davidson and Stanly in said State, said grants being more particularly described and referred to as follows:

- (1) Grant No. 12740 Lib 187 Page 157, Records of Secretary of State, Raleigh, N.C. for 600 acres, registered in Book 87 page 131 &c, office Register of Deeds Rowan County, and Book 48 page 135 &c Register of Deeds office Davidson County.
- (2) Grant No. 12741 L. 187 page 161 Records of Secretary of State, Raleigh, N.C. for 400 acres, Registered in Book 87 page 137 &c land records of Rowan, and Book 48 page 141 &c, land records of Davidson County.
- (3) Grant No. 12742 L. 187 page 163 Records of Secretary of State, Raleigh, N.C. for 25 acres, Registered in Book 21 page 264, office of Register of Deeds, Stanly County.
- (4) Grant No. 12743 L. 187 p. 164 Records of Secretary of State, Raleigh, N.C. for 25 acres, Registered Book 21 p. 266 &c land records Stanly County.
- (5) Grant No. 12744 L. 187 p. 165 Record of Secretary of State, Raleigh, N.C. Registered Book 21 p. 267, land records of Stanly County for 187 acres.
- (6) Grant No. 12745, for 125 acres, L. 187, page 166 Records of Secretary of State, Raleigh, N.C. Registered Book 21 page 268 office of Register of Deeds, Stanly County.
- (7) Grant No. 12746 for 155 acres L. 187, page 167, Records of Secretary of State office, Raleigh, N.C. Registered in Book 21 page 272 &c, Stanly County in the land records in the office of

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the Register of Deeds for said County.

To Have and to Hold all and singular the rights, privileges and appurtenances of every and several estate belonging or appertaining, their heirs and assigns and one fourth undivided interest to John F. Kibbey, his heirs and assigns.

To Have and to Hold all and singular the above granted premises, with the appurtenances, unto the said parties of the second part, their heirs and assigns forever.

And the said W. Smithdeal party of the first part, for himself, his heirs executors and administrators, doth hereby covenant with the said parties of the second part, their heirs and assigns, that he is seized of the premises in fee simple; that the said premises are free from all incumbrances; that he hath good right and lawful authority to sell the same; and that he will warrant and defend the said premises unto the said parties of the second part their heirs and assigns, against the lawful claims of all persons whatsoever.

In Testimony Whereof, the said parties of the first part have hereunto set their hands and seals, this day and year above written.

W. Smithdeal (Sd)
Carrie A. Smithdeal (Sd)

State of North Carolina, }
Rowan County, }

Be it remembered, that on this 1 day of January 1876 before the undersigned Orin D. Davis, a Notary Public, duly confirmed in and for said County and State of said County, personally appeared W. Smithdeal and Carrie A. Smithdeal, his wife the grantors named in the foregoing deed and acknowledged the execution thereof by them as their act and deed, and thereupon the said Carrie A. Smithdeal being by me privately examined, separate and apart from her said husband, touching her free consent to the execution of said deed, she, on such separate examination, declared that she executed the same freely, of her own will and accord, and without any force, fear or undue influence on the part of her said husband, or any other person, and with still voluntarily assent thereto. Therefore, let the said deed, together with this certificate, be registered.

Witness my hand and Notarial seal, date above written.
Orin D. Davis,
Notary Public.

State of North Carolina, }
Rowan County, }

Superior Court, January 11, 1876.
The foregoing certificate of Orin D. Davis, a Notary Public in

and for said County and State, is adjudged to be in due form and according to law. Therefore let the said Deed, with its certificate, be registered.

H. E. Watson,

Clerk of the Superior Court.

North Carolina,

Davidson County. } The foregoing certificate of Orin D. Davis Not. Public in and for the County of Rowan with his notarial seal attached, having been exhibited before me, is adjudged to be correct. Therefore let the same with this certificate be registered. This 17 day of January, 1896.

Geo. E. Hunt, C. S. C.

State of North Carolina, } Superior Court.
Stanly County. } January 27th, 1896.

The foregoing certificate of Orin D. Davis, a Notary Pub. of Rowan County, with his notarial seal is adjudged to be correct and sufficient. Therefore let the said deed with the certificate be registered.

J. H. Milton C. S. C.

Officer Register of Deeds, Stanly County, N. C.

I hereby certify that the foregoing Deed was filed in this office for registration January 27th, 1896, at 5 o'clock P. M. and duly registered.

W. T. Coker, R. D.

J. E. Morgan to R. E. Austin.
State of North Carolina,
Stanly County.

This Indenture, made on the 3d day of February A.D. One Thousand Eight Hundred and Thirty Six, between J. E. Morgan of the County of Stanly and State of North Carolina, on the one part and R. E. Austin of the County of Stanly and State of North Carolina, on the other part, Witnesseth: That whereas, by virtue of a certain deed of trust made by one J. C. Love to the said J. E. Morgan on the 7th day of September, A.D. One Thousand Eight Hundred and Thirty one to secure the payment of a debt of Three Hundred and Fifty Dollars and interest, due to one J. E. Morgan, as will fully appear on reference being had to the said deed, the condition of which not being complied with, the said J. E. Morgan died, according to said conditions, as per public sale the property therein mentioned and thereby conveyed

ally before me Isaac Misenheimer and his wife Mary L. Misenheimer and acknowledged the due execution of the within deed whereupon I proceeded to take the examination of the said Mary L. Misenheimer separate and apart from her said husband who declares to me that she signed the same freely without force, fear or any undue influence of her said husband or any other person and does still voluntarily assent thereto, therefore let the deed and this certificate be registered.

J. W. Redwine

Probate Judge for Stanley County

Office, Register of Deeds, Stanley Co., N. C.

The foregoing Deed was filed in this office for registration May 8th 1899, at 10 o'clock A. M., and duly registered.

W. F. Bushaben,

Register of Deeds.

Grants and Klutts to Yadkin River Power Company.

This Indenture, made the Twenty ninth day of April, A.D. 1899, between Powell Evans and Estelle Merchant Evans, his wife of the city of Philadelphia and State of Pennsylvania, and Theodore F. Klutts and Sallie C. Klutts, his wife of Salisbury, North Carolina, parties of the first part, and the Yadkin River Power Company, a corporation duly chartered, organized and existing under the laws of the State of North Carolina, party of the second part,

Witnesseth that:

In consideration of the sum of Five Dollars, and for other valuable considerations, the receipt of which is hereby acknowledged, the said Powell Evans and Estelle Merchant Evans, his wife, and Theodore F. Klutts and Sallie C. Klutts, his wife, have granted, bargained, sold and conveyed, and by these presents do grant, bargain, sell and convey, unto the said Yadkin River Power Company, its successors and assigns, forever, the following described real estate, situate, lying and being in the Counties of

EXHIBIT

III 9

PENGAD 800-691-6989

Davidson, Rowan and Stanley, and State of North Carolina,
 viz:

We also singular the lands described and granted in and by the following described several grants from the State of North Carolina to W. Smithwick, for several several tracts of land, in the bed of the Yadkin River, including certain islands, lying in the Counties of Rowan, Davidson and Stanley, in said State, said grants being more particularly described and referred to as follows:

1. Grant No. 12,740, Liber 187, page 157, Records of Secretary of State, Raleigh, North Carolina, for six hundred (600) acres, registered in Book 81, page 127, &c., Office Register of Deeds Rowan County, and Book 48, page 136, &c., Register of Deeds Office Davidson County;

2. Grant No. 12,741, Liber 187, page 161, Records of Secretary of State Raleigh, North Carolina, for four hundred (400) acres, registered in Book 81, page 127, &c., Land Records of Rowan, and Book 48, page 141, &c., land records in Davidson County.

3. Grant No. 12,742, Liber 187, page 163, Records of Secretary of State, Raleigh, North Carolina, for twenty-five (25) acres, registered in Book 21, page 264, Office of Register of Deeds Stanley County;

4. Grant No. 12,743, Liber 187, page 164, Records of Secretary of State, for twenty-five (25) acres, registered Book 21, page 266, &c., land records Stanley County;

5. Grant No. 12,744, Liber 187, page 165, Records of Secretary of State, Raleigh, North Carolina, Registered Book 21, page 267, Land records of Stanley County, for one hundred and eighty nine (189) acres;

6. Grant No. 12,745, for one hundred and twenty-three (123) acres, Liber 187, page 166, Records of Secretary of State, Raleigh, North Carolina, registered Book 21, page 269, Office of Register of Deeds, Stanley County;

7. Grant No. 12,746, for one hundred and fifty-five (155) acres, Liber 187, page 167, Records of Secretary of State's Office, Raleigh, North Carolina, registered in Book No. 21, page 272, etc., Stanley County, in the land records in the office of the Register of Deeds for said County;

Together with all and singular the rights, privileges and appurtenances of every character thereto belonging or appertaining;

Being the same real estate which W. Smith deal and Carrie A. Smith deal, his wife, by deed dated the 1st day of January, A.D. 1896, and registered in the office of the Register of Deeds for Davidson County, North Carolina, in Book of Deeds No. 49, pages 158, &c., in the office of the Register of Deeds for Rowan County, North Carolina, in Book of Deeds No. 79, pages 137 etc., and in the office of the Register of Deeds for Stanly County, North Carolina, in Book of Deeds No. 21, pages 363, etc., granted and conveyed unto the said Powell Evans and Theodore F. Klutz in fee;

To have and to hold all and singular the above granted premises, with the appurtenances, unto the said Yadkin River Power Company, its successors and assigns forever;

And the said Powell Evans and Theodore F. Klutz, for themselves, their heirs, executors and administrators, do back to the extent of his undivided interest therein) hereby covenant with the said Yadkin River Power Company, its successors and assigns, forever, that they will warrant and defend the said premises unto the said Yadkin River Power Company, its successors and assigns, forever, against the lawful claims of all persons whomsoever claiming or to claim in, through or under the said Powell Evans and Theodore F. Klutz, and not otherwise or to any further extent.

In Testimony Whereof, The said parties of the first part have hereunto set their hands and seals, the day and year first above written.

Signed, sealed and delivered by Powell Evans and wife in the presence of us:

Wm. McGeorge Jr.

Arthur McGeorge.

Signed, sealed and delivered by Theodore F. Klutz and wife in the presence of us:

Powell Evans (seal)

Estelle Merchant (seal)

Theo. F. Klutz (seal)

Sallie C. Klutz (seal)

State of Pennsylvania } ss.
City and County of Philadelphia. }

Be it remembered That on this Twenty, with the day of April, A.D. 1899, before the undersigned, a duly authorized Notary Public of said City and County, personally appeared Powell Evans and Estelle Melchank Evans, his wife, grantors named in the foregoing deed, and acknowledged the due execution thereof by them as their act and deed, and then on the said Estelle Melchank Evans, being by me privately examined, separate and apart from her said husband, touching her free consent to the execution of said deed, and on such separate examination declared that she executed the same freely, of her own will and accord, and without any force, fear or undue influence on the part of her said husband, or any other person, and doth still voluntarily assent thereto. Therefore, let the said deed, together with this certificate, be registered.

Witness my hand and seal, date above written.

Arthur M. George, Notary Public.

State of Pennsylvania, }
County of Philadelphia, ss.

I, W. Russell Trayer, Prothonotary of the County of Philadelphia and Clerk of the Court of Common Pleas, of said County, which is County of Records, having a common seal, being the officer authorized by the laws of the State of Pennsylvania to make the following certificate, do certify, That Arthur M. George Esquire, whose name is subscribed to the certificate of the acknowledgment of the annexed instrument and thereon written, was at the time of such acknowledgment a Notary Public for the Commonwealth of Pennsylvania, residing in the County aforesaid, duly commissioned and qualified to administer oaths and affirmations and to take acknowledgments and proofs of Deeds or Conveyances for lands, tenements, and hereditaments in said State of Pennsylvania and to all whose acts, as such, full faith and credit are and ought to be given, as well in Courts of Judicature as elsewhere, and that I am well acquainted with the handwriting of the said Notary Public and truly believe the signature thereto is

genuine, and I further certify that the said instrument is executed and acknowledged in conformity with the Laws of the State of Pennsylvania.

In Testimony Whereof, I hereunto set my hand and affixed the seal of said Court, this First day of May in the year of our Lord one thousand eight hundred and ninety nine. (1899)

(Notarial Seal)

W. Russell Prager Notary Public

State of North Carolina } ss.

County of }

Be it Remembered That on this 3rd day of May, A.D. 1899, before the undersigned, a duly authorized Notary Public of said County, personally appeared Theodore F. Klutz, and Sallie C. Klutz, his wife, the grantors named in the foregoing deed, and acknowledged the due execution thereof by them as their act and deed, and thereupon, the said Sallie C. Klutz, being by me privately examined separate and apart from her said husband and believing her free consent to the execution of said deed, viz, on such separate examination, declared that she executed the same freely, of her own will and accord, and without any force, fear or undue influence on the part of her said husband, or any other person, and both still voluntarily assent thereto. Therefore, let the said deed, together with this certificate, be registered.

Witness my hand and seal, date above written.

(Notarial Seal)

J. L. Rindelman Notary Public

State of North Carolina } Superior Court.

Rowan County. } May 3rd 1899.

The foregoing certificate of Arthur McGeorge a Notary Public of the city and county of Philadelphia and John L. Rindelman a Notary Public of Rowan County are each adjudged to be in due form and according to Law. Let the instrument and the certificates be registered.

Witness my hand date above written.

W. G. Watson C. S. C.

(Signature)

North Carolina, } Superior Court.
 Stanly County. } May 8th 1899.

The foregoing certificates of John McGeorge a Notary Public of the city and county of Philadelphia, and John S. Rindaman a Notary Public of Rowan County are each adjudged to be in due form and according to law. Let the instrument and the certificate be registered. Witness my hand and date above written.

P. D. Council Clerk
 Superior Court.

State of North Carolina, } Office of Register of Deeds.
 Stanly County. } May 9th 1899.

Came to hand this the 9th day of May 1899, at 4 o'clock P. M. and registered.

H. T. Henshaw,
 Register of Deeds.

Roland Man to Abraham Forest.

This Indenture Made, this 26 of October in the year of our Lord one thousand eight hundred and nineteen between Roland Ware of Montgomery County and State of North Carolina of the one Part and Abraham Forest of the same County and State of the other Part, Witnesseth, that for and in consideration of the sum of twenty five pounds current money of North Carolina to him in hand paid by the said Abraham Forest the Receipt and Payment whereof is fully acknowledged hath given, granted, bargained and sold and by these Presents doth give grant bargain and sell unto the said Abraham Forest a certain tract Parcel or Parcell of Land lying and being in Montgomery County and State aforesaid on the south west side of the Yadkin River beginning at a Seed tree on the River Bank and runs North seventy and thirty Poles to a White oak, then South twenty and fifty four Poles, then South seventy East thirty Poles to the River, then West to the Beginning containing ten acres of Land to have and to hold the aforesaid ten acres of Land with the appurtenances and all Rights, Privileges and Improvements to the said

Initial Statement



Initial Statement

Before the Federal Energy Regulatory Commission Application for License for Major Project -- Existing Dam

- (1) Alcoa Power Generating Inc. (APGI), Yadkin Division, herein referred to as the "Applicant," applies to the Federal Energy Regulatory Commission (FERC) for a new license for the Yadkin Hydroelectric Project (Project), FERC No. 2197, as described in the attached exhibits.

- (2) The location of the Project is:

State or territory:	North Carolina
Counties:	Davidson, Davie, Montgomery, Rowan, and Stanly
Townships or nearby towns:	Albemarle, Badin, Denton, Granite Quarry, Lexington, Mocksville, Rockwell, Salisbury, and Troy
Stream or other body of water:	Yadkin River

- (3) The exact name and business address of the applicant are:

Alcoa Power Generating Inc.
Yadkin Division
P.O. Box 576
NC Highway 740
Badin, NC 28009-0576

The exact name and business address of the person authorized to act as agent for the applicant in this application is:

Mr. Brian S. Dahlberg
Vice President
Hydroelectric Operations
Alcoa Power Generating Inc.
Yadkin Division
P.O. Box 576
NC Highway 740
Badin, NC 28009-0576

Primary Contact for relicensing:

Mr. Gene Ellis
Licensing & Property Manager
Alcoa Power Generating Inc.

Yadkin Division
P.O. Box 576
NC Highway 740
Badin, NC 28009-0576

- (4) The applicant is a domestic corporation and is not claiming preference under Section 7(a) of the Federal Power Act.
- (5) (i) The statutory or regulatory requirements of North Carolina that affect the Project as proposed, with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes, and with respect to the right to engage in the business of developing, transmitting, and distributing power in any other business necessary to accomplish the purposes of the license under the Federal Power Act, are:

APGI is not aware of any specific laws or regulations in North Carolina with respect to the bed and banks of the Yadkin River, or to the appropriation, diversion or use of the waters therein which are applicable to the Yadkin Project.

N.C.G.S. § 55-15-01 sets forth the requirements for a "foreign corporation" to conduct business in North Carolina.

- (ii) The steps which the applicant has taken or plans to take to comply with the law cited above are:

North Carolina follows the riparian system of water rights, whereby the owner of riparian land possesses the right to use the waters passing over its lands reasonably, including temporarily impounding the water through the erection of a dam. See, e.g., *Dunlap v. Carolina Power & Light Co.*, 212 N.C. 814, 823 (N.C. 1938) APGI owns all of the lands and riparian rights necessary under North Carolina law to operate and maintain the developments of the Yadkin Project.

APGI is a Tennessee Corporation, originally incorporated as Knoxville Power Company. It was domesticated in North Carolina in 1954.

- (6) The name and address of the owner of existing Project facilities:

Alcoa Power Generating Inc.
Yadkin Division
P.O. Box 576
NC Highway 740
Badin, NC 28009-0576

- (7) Person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the Project:

Alcoa Power Generating Inc.
Yadkin Division
P.O. Box 576
NC Highway 740
Badin, NC 28009-0576

- (8) (i) Every county in which any part of the project, and any Federal facilities that would be used by the Project, would be located:

Davidson County, North Carolina

Davidson County
P.O. Box 1067
Lexington, NC 27292
Mr. Robert Hyatt, County Manager

Davie County, North Carolina

Davie County
123 South Main Street
Mocksville, NC 27028
Mr. Terry Bralley, County Manager

Montgomery County, North Carolina

Montgomery County
P.O. Box 425
Troy, NC 27371
Mr. Lance Metzler, County Manager

Rowan County, North Carolina

Rowan County
202 North Main Street
Salisbury, NC 28144
Mr. William Cowan, County Manager

Stanly County, North Carolina

Stanly County
201 South Second Street
Albemarle, NC 28001
Mr. Jerry Myers, County Manager

- (ii) Every city, town, or similar local political subdivision in which any part of the Project, and any Federal facilities that would be used by the Project, would be located; or that has a population of 5,000 or more people and is located within 15 miles of the Project dam:

City of Albemarle, North Carolina

City of Albemarle, North Carolina
157 North 2nd Street
Albemarle, NC 28001
Mr. Raymond Allen, Manager

City of Lexington, North Carolina

City of Lexington, North Carolina
Lexington City Hall
28 W Center Street
Lexington, NC 27292
Mr. John Gray, City Manager

City of Salisbury, North Carolina

City of Salisbury, North Carolina
P.O. Box 479
Salisbury, NC 28145
Mr. David Treme, City Manager

- (iii) Every irrigation district, drainage district, or similar purpose political subdivision in which any part of the Project, and any Federal facilities that would be used by the Project, would be located; or that owns, operates, maintains, or uses any Project facilities or any Federal facilities that would be used by the Project:

Not applicable

- (iv) Every other political subdivision in the general area of the Project that there is reason to believe would likely be interested in, or affected by, that application:

Town of Badin, North Carolina

Town of Badin, North Carolina
P.O. Box 611
Badin, NC 28009
Mr. Matt Brinkley, Town Manager

Town of Denton, North Carolina

Town of Denton, North Carolina
P.O. Box 306
Denton, NC 27239
Mr. William Pless, Town Manager

- (v) All Indian tribes that may be affected by the project:

The Catawba Indian Nation of South Carolina

The Catawba Indian Nation of South Carolina
996 Avenue of the Nations
Rock Hill, SC 29730
Mr. Gilbert B. Blue, Principal Chief

The Eastern Band of Cherokee Indians

The Eastern Band of Cherokee Indians
88 Council House Loop
Cherokee, NC 28719
Chief Michell A. Hicks

This application is executed in the:

State of North Carolina

County of Stanly

By: Mr. Brian S. Dahlberg
Vice President
Hydroelectric Operations
Alcoa Power Generating Inc.
Yadkin Division
P.O. Box 576
NC Highway 740
Badin, NC 28009-0576

Being duly sworn, deposes, and says that the contents of this application are true to the best of his knowledge or belief. The undersigned Applicant has signed the application this _____ day of _____, 2006.

Alcoa Power Generating Inc., Yadkin Division
Applicant

By: _____
NAME

Subscribed and sworn to before me, a Notary Public of the state of _____ this _____ day of _____, 2006.

Notary Public

Exhibit D

Statement of Costs and Financing



Exhibit D – Statement of Costs and Financing

D.1 Original Cost of the Project

The Yadkin Project (Project) was originally licensed with an effective date of May 1, 1958. Because this is not an initial license, a tabulated statement of original cost of Project land or water rights, structures, or facilities is not necessary.

D.2 Estimated Takeover Costs as per Section 14 of the Federal Power Act

Section 14 of the Federal Power Act (FPA) reserves to the United States the right to take over a non-publicly owned project upon expiration of its license. In the event that such take over is ordered by the Federal Energy Regulatory Commission (FERC), Alcoa Power Generating Inc. (APGI) would, pursuant to Section 14, be entitled to be reimbursed for its “net investment”, not to exceed “fair value,” plus any “severance damages” suffered (see 16 U.S.C. § 807). At the time of the filing of this License Application, there was no indication that any federal department or agency, state or municipality has or will recommend takeover or redevelopment of the Project. Nonetheless, APGI hereby submits the basic information required by FERC’s regulations that would be needed to quantify the compensation to be paid to APGI pursuant to Section 14.

D.2.1 Fair Value

“Fair value” as that term is used in the FPA and for the purpose of this License Application, is calculated as the present cost of project reproduction less estimated depreciation. “Fair value” does not mean “fair market value” but rather is a specialized calculation of a company’s unrecovered capital investment in today’s dollars. The Handy-Whitman Cost Index (Index), a standard tool used in the utility industry to estimate the reproduction costs of utility assets, such as the project works, has been used to estimate the Project reproduction costs in 2005 dollars. For the purposes of this License Application, plant depreciation has been estimated for each development separately by dividing the value of the accumulated depreciation (Table D.2-2) by the total plant cost (Table D.2-2). Applying these percentages to each reproduction cost (Table D.2-1) for the Yadkin Project developments, developed using the Index, suggests that an estimate of the fair value of the Yadkin Project in 2005 dollars is \$130,547,917.^{1,2} No allowance has been made for external or functional obsolescence. Adding \$130,547,917 to the original cost of the land within the Project, \$6,791,638; produces a total fair value estimate for the Project of \$137,339,555. It must be noted that the foregoing is a rough calculation of fair value and that more precise calculations using this methodology may be possible. The estimated fair value for the Yadkin Project, excluding Project land, is shown in Table D.2-1.

¹ Does not include the cost of equity.

² Note that this is not an appraisal value, and this calculation was not performed by a licensed appraiser.

Investments of \$44,000,000 are anticipated in the Project through the expiration of the existing license on April 30, 2008.

Table D.2-1: Estimated Fair Value of the Yadkin Project^{a,b}

Development	Reproduction Cost ^c	Estimated Physical Depreciation ^d	Estimated Fair Value
High Rock	\$88,184,714	(\$50,845,542)	\$37,339,172
Tuckertown	\$54,849,726	(\$41,504,239)	\$13,345,487
Narrows	\$203,553,370	(\$135,747,707)	\$67,805,663
Falls	\$51,836,097	(\$39,778,502)	\$12,057,595
Total	\$398,423,907	(\$267,875,990)	\$130,547,917

- a. No attempt has been made to determine the current fair market value of real estate, including improvements, within the Project.
b. Anticipated capital investments into Project through expiration of existing license not included.
c. Based on Handy-Whitman Cost Index, all dollars are 2005. Value includes transmission equipment included within the Project as defined.
d. Does not include external or functional obsolescence.

D.2.2 Net Investment

The FPA generally defines a licensee's "net investment" in a project as the original cost of the project plus additions and betterments, minus depreciation and other amounts (See 16 U.S.C. § 796(13)). APCI's net investment in the Yadkin Project, as reflected in APCI's Fixed Asset Listing as of 2005, was \$24,158,903 as shown in Table D.2-2.

Table D.2-2: Estimated Net Investment in the Yadkin Project^a

Development	Total Plant Cost ^b	Accumulated Depreciation ^c	Net Investment
High Rock	\$17,771,576	(\$10,246,813)	\$6,524,763
Tuckertown	\$16,979,919	(\$12,848,534)	\$4,131,386
Narrows	\$29,497,000	(\$19,671,270)	\$9,825,730
Falls	\$15,807,866	(\$12,130,843)	\$3,677,024
TOTAL COST	\$80,056,361	(\$55,897,460)	\$24,158,903

- a. Source: 2005 Fixed Asset Listing, from email from Lydia Gill dated 1/23/06.
b. For each development, the total plant costs includes: development specific total plant costs and a prorated amount of total Project (a) substation, (b) administrative (c) property and (d) non-utility accumulated depreciation.
c. For each development, the accumulated depreciation includes: development specific accumulated depreciation and a prorated amount of total Project (a) substation, (b) administrative (c) property and (d) non-utility accumulated depreciation.

D.2.3 Severance Damages

Under FPA § 14(a), "severance damages" are those "reasonable damages" to protect property not "caused by the severance there from of property taken" (See 16 U.S.C. § 807(a)). APCI believes that the severance damages inflicted by a takeover of the Yadkin Project would be significant. Given the inherent difficulties in attempting to quantify such speculative values, APCI reserves the right to submit additional evidence quantifying such severance damages should FERC consider ordering a takeover of the Project.

D.3 Estimated Cost of New Development Work

Per 18 CFR §4.30(b)(18), “new development costs” include any construction, installation, repair, reconstruction, or other change in the existing state of project works or appurtenant facilities, including any dredging and filling in project waters. For the purpose of this License Application, this includes the costs of turbine and generator upgrades and refurbishments as well as costs required to provide environmental mitigation or enhancement during the term of a new license.

APGI has conducted studies evaluating the turbine/generator refurbishment potential, as well as upgrades at the Project developments. APGI plans to refurbish and upgrade all Project units at High Rock, Tuckertown, and Falls under the new license, along with Narrows Units 1 and 3³.

The estimated capital costs of the planned refurbishments and upgrades are presented in Table D.3-1.

Table D.3-1: Estimated Capital Costs of Planned Refurbishments and Upgrades

Development	Total Estimated Cost ^a
High Rock Units 1 - 3	\$ 36,000,000
Tuckertown Units 1 – 3	\$ 33,000,000
Narrows 1 and 3	\$ 32,000,000
Falls 1 - 3	\$ 29,000,000
Total	\$ 130,000,000

a. All dollars are 2005.

D.4 Estimated Average Annual Cost of the Project

The estimated annual costs of operating the Yadkin Project are presented in Table D.4-1. These cost are based on the existing operation of the Project with the planned refurbishments and upgrades, as described in Exhibit D.3, and do not include any estimates for anticipated changes in the future operation of the Project.

³ The upgrade of Narrows Unit 4 was completed in 2001, and Unit 2 will be completed prior to the expiration of the existing license in 2008.

Table D.4-1: Estimated Annual Project Operating Costs^a

Item	Amount
Cost of Capital (equity and debt) ^{b,c}	\$ 8,615,579
Property Taxes	\$ 849,043
Depreciation ^{b,c}	\$ 9,083,141
Operation & Maintenance ^c	\$ 9,296,093
FERC Administrative Fee ^d	\$ 466,241
Total	\$28,310,097

- a. All dollars are 2005. The Draft License Application Estimated Annual Operating Cost was \$13,000,000 and did not include the Cost of Capital (equity and debt). The Estimated Annual Operating Cost presented here includes the Cost of Capital (equity and debt) and increased depreciation due to proposed capital investments.
- b. Includes the cost of the refurbishment/upgrade of generating units (see Exhibit D.3, Estimated Cost of New Development Work).
- c. Does not include the additional cost due to APGI's proposed alternative (see Exhibit D.9, Estimated Average Annual Change in Project Generation and Value of Project Power Due to Changes in Project Operations).
- d. Average of Annual Charges for Fiscal Years 2003, 2004 and 2005 under 18 CFR Part 382; Annual Charges include FERC administrative charges and other federal agencies administrative charges, less FERC administrative charge adjustments.

D.5 Estimated Annual Value of Project Power

APGI estimates that the annual value of Project power produced is approximately \$43,600,000. To develop this estimate, APGI modeled the existing Project operations with the addition of proposed generating unit upgrades (see Exhibit D.3) in the Yadkin Project Operations Model, OASIS, for the 1930 to 2003 period of record using the average monthly on and off-peak energy values for 2004 presented below in Exhibit D.8. APGI does not represent in this estimate any indication of the future value of wholesale electric energy or Project production levels.

D.6 Sources and Extent of Financing and Annual Revenues

Because the proposed refurbishment and upgrade will extend over a twelve year period from 2009 through 2020, APGI expects that the Project's capital requirements will be financed internally.

D.7 Estimate of the Cost to Develop License Application

The approximate cost to develop the License Application for the Yadkin Project was \$20,000,000.

D.8 On-Peak and Off-Peak Values of Project Power

APGI calculated average monthly on-peak and off-peak energy values using a third-party developed index for southeast power sales. APGI has selected to use "Southern, Into" energy values. The "Southern, Into" energy values represent a compilation of daily values of peak and off-peak energy sold into the Southern Company Region for 2004, as reported by market participants to Platts, a McGraw-Hill company. Platts uses standard price reporting methodology, including FERC's 2003 standards. From this daily data, APGI calculated average monthly on-peak and off-peak energy values as shown in Table D.8-1. Platts, as publisher of this index, has approved the use of the data in this License Application.

Table D.8-1: Monthly Average Energy Values

Month	On-Peak Value of Project Power (\$/MWh)	Off-Peak Value of Project Power (\$/MWh)
January	\$45.11	\$29.31
February	\$41.67	\$28.89
March	\$43.10	\$29.41
April	\$47.24	\$29.51
May	\$52.78	\$31.00
June	\$56.41	\$27.35
July	\$55.52	\$26.28
August	\$50.61	\$28.26
September	\$44.43	\$28.02
October	\$51.35	\$30.82
November	\$48.25	\$31.84
December	\$48.84	\$34.39
Average	\$48.78	\$29.59

D.9 Estimated Average Annual Change in Project Generation and Value of Project Power Due to Changes in Project Operations

In order to estimate the average annual decrease in Project generation and average annual decrease in value of Project power related to the proposed protection, mitigation and enhancement (PME) measures, APGI modeled the existing Project operations and proposed Project operations in OASIS. Separate calculations were performed to determine the generation losses associated with dissolved oxygen enhancements proposed for the High Rock and Narrows developments. Both operating scenarios were run for the 1930 to 2003 period of record using the average monthly on and off-peak energy values presented above in Exhibit D.8. The estimated average annual decrease in Project generation is 2,100 megawatt hours (MWh). The estimated average annual decrease in the value of Project power is \$770,000.

The estimated annual cost of operating the Project including the additional costs due to APGI's proposals for continued Project operation are presented in Table D.9-1.

Table D.9-1: Estimated Annual Project Operating Costs^a

Item	Amount
Cost of Capital (equity and debt) ^b	\$ 8,650,090
Property Taxes	\$ 849,043
Depreciation ^b	\$ 9,185,541
Operation & Maintenance ^b	\$ 9,856,576
FERC Administrative Fee ^c	\$ 466,241
Total	\$29,007,491

a. All dollars are 2005

b. Includes the additional cost due to APGI's proposed operations

c. Average of Annual Charges for Fiscal Years 2003, 2004 and 2005 under 18 CFR Part 382; Annual Charges include FERC administrative charges and other federal agencies administrative charges, less FERC administrative charge adjustments.

Exhibit H

Information Required for New License

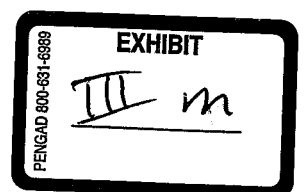


Exhibit H – Information Required for New License

H.1 Plans and Ability of the Applicant to Operate and Maintain the Project

H.1.1 Plans to Increase Capacity or Generation

Throughout the term of the current license, Alcoa Power Generating Inc. (APGI) has maintained the Yadkin Project (Project) to maximize generation value and efficiency. These efforts have included structural modifications, unit refurbishments, generator rewinds, and runner replacements. Under the new license, APGI plans to continue its refurbishment and upgrade program to ensure efficient and reliable electric service in the future. Unit refurbishments and potential upgrades at High Rock, Tuckertown, Narrows, and Falls Developments are proposed for completion under the new license (see Exhibits B.2 and E.2.7).

H.1.2 Plans to Coordinate Project Operation with Other Water Resource Projects

Historically, APGI has coordinated the operation of its facilities with the Tillery and Blewett Falls developments owned by Progress Energy downstream. This coordination has taken place pursuant to an agreement between the parties that dates from 1928 but which has been modified over the years, most recently in 1968, and the related FERC order issued in March 1968. Further modifications to this arrangement may be necessary depending on the terms of a new license for the Yadkin Project.

APGI schedules energy availability by Thursday noon for the coming week, allowing APGI to determine subsequent water flows downstream. Operating schedules are shared daily with the downstream project owner to communicate delivery of water. The U.S. Army Corps (USACE) operates and maintains a flood control project, W. Kerr Scott upstream of the Yadkin Project. Discharges from the USACE project are available on the Internet. APGI's operation of its reservoirs will be within the allowable drawdown limits of the license.

H.1.3 Plans to Coordinate Project Operation with Other Electrical Systems

The APGI generation and transmission system operates as a North American Electric Reliability Council (NERC) Balancing Authority. The facilities are operated in compliance with NERC and Southeastern Electric Reliability Council (SERC) guidelines.

The Project facilities are operated from the Dispatch Center in Alcoa, Tennessee, which is staffed 24 hours per day with NERC-certified operators. In addition, there is a backup Dispatch Center in Badin, North Carolina, that is equipped for full functionality should the need arise.

The Project is connected to the Duke Energy transmission system and the Progress Energy transmission system via APCI's 100 kilovolt (kV) transmission facilities.

H.2 Need of Applicant for Electricity Generated by the Project

Alcoa Inc. (Alcoa) owns all of the outstanding common stock of APCI and is the nation's largest producer of aluminum and aluminum products. Alcoa has several aluminum smelters and related operations in the United States, including extensive operations in the southeast and midwest regions, particularly in North Carolina, South Carolina, Indiana, and Tennessee. Aluminum smelting requires large amounts of low cost, reliable electricity, and energy can comprise more than 30 percent of the cost of producing aluminum. Thus, the competitiveness of Alcoa's primary aluminum business is closely tied to the availability of economical electric power rates. For this reason, Alcoa has located its smelting operations in close proximity to low-cost sources of reliable electric power such as the Yadkin Project hydropower developments, owned and operated by APCI. The Yadkin Project is critical to Alcoa's Primary Metals Operations because it enables Alcoa to maintain its competitiveness in the domestic aluminum market. For many years, the power from the Yadkin Project was a source of power for Alcoa's Badin Works, an aluminum smelter and processing plant. More recently, the smelting operations at Badin were curtailed, but the hydropower developments have continued to supply some power directly to Badin Works, with the remaining power sold to help offset the cost of electricity purchases required for Alcoa's other domestic smelting operations. Currently, the Yadkin Project provides 3 to 5 megawatts (MW) of electricity directly to Badin Works for aluminum refining and other operations that still occur at the plant, with the balance being sold into the wholesale market. Whether the energy from the Yadkin Project is sold into the wholesale market or used to directly supply Alcoa's smelting facilities, access to that source of low cost power is important to Alcoa's Primary Metals Business.

H.2.1 Reasonable Costs and Availability of Alternative Sources of Power

If the power and energy generated by the Yadkin Project were not available, Alcoa would require a replacement source of energy that is of equal value to that being supplied by the Project in order to retain the current economics of Alcoa's primary aluminum operation in the U.S. The Project's non-affiliated wholesale customers would be faced with obtaining firm or spot market power at a cost not to exceed that currently being paid for energy from the Yadkin Project. It is likely that the alternative source of on-peak energy to replace on-peak energy currently being obtained from the Yadkin Project's hydroelectric generation would be generated from coal or natural gas combustion at a higher economic and environmental cost.

H.2.2 Increase in Fuel, Capital, and Other Costs

If APCI were not granted a new license for the Yadkin Project, APCI's cost would include a cost equal to the loss of the market value of the Yadkin Project hydroelectric generation minus the cost of producing such generation. Whether the power generated by the Yadkin Project is consumed by the load at Alcoa's Badin Works or sold on the wholesale market, the difference between the cost of generation and the price on the wholesale market is the value that APCI receives from the Project.

The Project's wholesale customers would incur a cost increase equal to the price of replacement power minus the price currently being paid for the Yadkin Project hydroelectric generation.

H.2.3 Effects of Alternative Source of Power

See Exhibit H.2.

H.2.3.1 Effects on Applicant's Customers, Including Wholesale Customers

As discussed in Exhibit H.2, loss of the value of the Yadkin Project hydroelectric power by Alcoa would affect the costs for Alcoa's primary aluminum business.

In addition, customers other than Alcoa who presently purchase power would have to purchase from alternative sources if Project power were to become unavailable. At present, the only alternative generation for sale in the region comes from coal-fired facilities, gas-fired combustion turbines, or nuclear facilities generally at much higher costs and prices.

H.2.3.2 Effects on Applicant's Operating and Load Characteristics

As it is unlikely that alternative electric energy would be generated within APCI's system, electrical energy from any alternative source of power would be a net flow of power into the Yadkin Balancing Authority from the Duke Energy or Progress Energy transmission systems. The load at the Alcoa Inc. Badin Works would be fed by the alternative source of power instead of the Yadkin Project hydroelectric generation.

H.2.3.3 Effects on Communities Served or to be Served

The Yadkin Project does not sell power either wholesale or retail directly to communities. However, the Yadkin Project does enhance the reliability and power quality of the communities located in the area surrounding the Project. The Yadkin Project operates as a separate balancing authority within the SERC, responsible for the proper and reliable operation of its electric system in coordination with the electric power systems of neighboring utilities, specifically Duke Power Company and Progress Energy North Carolina. This includes responsibility for assuring that the power flows in and out of APCI's system are balanced, that voltage is maintained, and that frequency is held within strict limits. These actions by APCI, in concert with other utilities in North and South Carolina and Virginia, ensure that retail customers in North Carolina receive a reliable supply of electricity, with adequate reserve margins in both generation and transmission. The Yadkin Project also provides reactive power for voltage support of the transmission grid. There are instances that the Yadkin Project provides electrical energy for retail utilities when those utilities purchase Yakin Project power during times of equipment failure, weather related outages, maintenance outages and equipment upgrades. For instance, during the summer of 2005, the Yadkin Project provided electrical energy for Duke Power to communities north of APCI's High Rock transmission line connection with Duke Power while local transmissions lines were being upgraded by Duke Power.

H.3 Need, Reasonable Cost, and Availability of Alternative Sources of Power

H.3.1 Average Annual Cost of Power Produced by the Project

Table H.3-1 presents the average annual cost of the power produced by the Yadkin Project over the last two years. This includes the cost of capital and amortization.

Table H.3-1: Average Annual Cost of Power Produced by the Yadkin Project

Year	Cost
2004	\$16,335,879
2005	\$15,755,551

H.3.2 Resources Required to Meet Capacity and Energy Requirements

H.3.2.1 Energy and Capacity Resources

Currently the Yadkin generation capacity and energy is greater than the resources required by the load being served within the Yadkin system. Energy production that is greater than the required resources is sold on the wholesale market. Should additional resources be required in the future those resources would be purchased on the wholesale market.

H.3.2.2 Resource Analysis

Because of the requirement for low cost power arising out of the economics of aluminum manufacturing, there do not appear to be such alternatives to replace the capacity and energy from the Yadkin Project available in the wholesale market. Although capacity and energy could be purchased over the short and long-term to replace Yadkin Project power, the purchase price for such resources almost certainly render this power uneconomic for aluminum production. However, this would not be true regarding the wholesale customers who currently purchase some of the Yadkin Project output as such sales are made at market prices.

H.3.2.3 Effects of Load Management Measures

Load management measures would not have an effect, for the reasons stated above.

H.3.3 Costs of Alternative Sources of Power

H.3.3.1 Annual Cost of Each Alternative Source of Power to Replace Project Power

The annual cost to replace the Project capacity and energy with purchased power from the wholesale market would be at least equal to the estimated annual value of Project power which is \$43,600,000 (see Exhibit D.5).

The least cost option for the construction of new generating facilities to replace the Project capacity and energy would be a conventional or advanced combustion turbine at \$374/kilowatt (kw) to \$395/kw (see Table H.3-2). The operating cost of any fossil fuel power plant is highly dependent on fuel cost. The estimated construction cost of a 250 MW conventional or advanced combustion turbine would be in the range of \$94,000,000 to \$95,000,000 with an annual operating cost of \$59,000,000 to \$69,000,000 to produce energy equal to the Project power (see Table H.3-3). This includes O&M and fuel cost. Property tax, depreciation, cost of capital, and any regulatory costs are not included.

Table H.3-2: Cost and Performance Characteristics of New Central Station Electricity Generating Technologies^a

Technology	Size (MW)	Leadtimes (Years)	Total Overnight Cost in 2004 (2003 \$/kW)	Variable O&M (2003 mills/kWh)	Fixed O&M (2003 \$/kW)	Heatrate in 2004 Btu/kWh
Scrubbed Coal New	600	4	1,213	4.06	24.36	8,844
Integrated coal-gasification Combined Cycle	550	4	1,402	2.58	34.21	8,309
IGCC with Carbon Sequestration	380	4	2,008	3.93	40.26	9,713
Conv Gas/Oil Comb Cycle	250	3	567	1.83	11.04	7,196
Adv Gas/Oil Comb Cycle	400	3	558	1.77	10.35	6,752
ADV CC with Carbon Sequestration	400	3	1,114	2.60	17.60	8,613
Conv Combustion Turbine	160	2	395	3.16	10.72	10,817
Adv Combustion Turbine	230	2	374	2.80	9.31	9,183
Fuel Cells	10	3	4,250	42.40	5.00	7,930
Advanced Nuclear	1000	6	1,957	0.44	60.06	10,400
Distributed Generation-Base	2	3	807	6.30	14.18	9,950
Distributed Generation-Peak	1	2	970	6.30	14.18	11,200
Biomass	80	4	1,757	2.96	47.18	8,911
MSW – Landfill Gas3,108	30	3	1,500	0.01	101.07	13,648
Geothermal	50	4	3,108	0.00	104.98	45,335
Conventional Hydropower	500	4	1,451	4.60	12.35	10,338
Wind	50	3	1,134	0.00	26.81	10,280
Solar Thermal	100	3	2,960	0.00	50.23	10,280
Photovoltaic	5	2	4,467	0.00	10.34	10,280

a. Information in this table is taken from Table 38 in Cost and Performance Characteristics of New Central Station Electricity Generating Technologies in Energy Information Administration/Assumptions to the Annual Energy Outlook 2005.

Table H.3-3: Cost of a 250 MW Conventional and Advanced Combustion Turbine to Produce 982,000 MWh

Technology	Variable O&M Cost	Fixed O&M Cost	Average Natural Gas cost cents/10 ⁶ 2004 ^a	Fuel Cost	Total Annual Cost ^b	\$/MWh
Conv Combustion Turbine	\$3,103,120	\$2,680,000	596.1	\$63,319,495	\$69,102,615	\$70.37
Adv Combustion Turbine	\$2,749,600	\$2,327,500	596.1	53,754,545	\$58,831,645	\$59.91

- a. Natural gas cost is from Table 4.5 Receipts, average Cost, and Quality of Fossil Fuels for the Electric Power Industry, 1993 through 2004 Energy Information Administration Electric Power Annual 2004.
- b. Total cost is O&M and Fuel Cost. Property taxes, cost of capital, depreciation, and any regulatory costs are not included.

H.3.3.2 Basis for Determination of Annual Cost of Each Alternative Source of Power

The basis for determination of the cost of purchased power is the value of Project power from Exhibit D.5. To develop this estimate, APGI modeled the existing Project operations with the addition of proposed generating unit upgrades in the Yadkin Project Operations Model, OASIS, for the 1930 to 2003 period of record using the average monthly on and off-peak energy values for 2004 presented in Exhibit D.8.

The basis for determination of the construction and operating cost of a combustion turbine facility with a capacity of 250 MW and energy production equal to the Project power is data from the Energy Information Administration/Assumptions to the Annual Energy Outlook 2005 and the Energy Information Administration/Electric Power Annual 2004.

H.3.3.3 Relative Merits of Each Alternative

The estimated long-term average annual cost of the Project power is \$28,310,097 (see Exhibit D.4). This is the long-term cost of power production that seems to be appropriate to compare to the cost of alternative sources of power. The cost of replacement power from the wholesale market is estimated to be \$43,600,000. This is a 55 percent increase in the cost of power and equal to the current Project power value. The source of generation for power from the wholesale market would be from fossil fuels (or possibly nuclear generation).

The estimated average annual cost of operating a combustion turbine is \$59,000,000 to \$69,000,000, which is a 110 to 145 percent increase in cost. This increase in cost does not include the debt and equity cost of capital and the depreciation for the \$94,000,000 to \$95,000,000 cost of the construction of a combustion turbine facility.

In addition, either of these alternatives would have the added environmental impact of additional fossil fuel combustion releases which would impact air quality in the region. Significant

quantities of carbon dioxide and nitrous oxide and lesser quantities of carbon monoxide and sulfur dioxide would be produced as a byproduct of combustion.

H.3.4 Effect on the Direct Providers of Alternative Sources of Power

There would be additional resource requirements on the power system(s) and transmission system(s) that supply the energy to the Yadkin Project if replacement energy were purchased on the wholesale market. The specific power facilities and transmission facilities that would be affected are unknown.

H.4 Effect of Obtaining or Losing Electricity on the Applicant's Own Industrial Facilities

The effect of obtaining or losing electricity on Alcoa's industrial facilities is discussed previously in Exhibit H.2.

H.5 The Impact on the Operations and Planning of the Applicant's Transmission System

H.5.1 Effects of Power Flow Redistribution

The Yadkin Project is connected to the Duke Energy transmission system and the Progress Energy transmission system at Badin and High Rock via the APCI 100kV transmission facilities.

As addressed previously in Exhibit H.2.3.3, the Yadkin Project system is used to increase reliability of electricity in the geographic region. During periods of forced outages on generating units in adjacent utilities, and in high North-South or South-North power flows, the Yadkin Project generation is redirected on the interconnected transmission system to offset high line loading during abnormal conditions. Redistribution of the power flows reduces the line loading to within acceptable engineering limits. Reductions or restrictions in the amount or timing of APCI's power generation would prohibit APCI from alleviating these overloading conditions which could lead to opening of line breakers on the transmission system to redirect the flow of power in the immediate area, and thus affect reliability of electricity.

H.5.2 Advantages of the Applicant's Transmission System

The Yadkin Project transmission system was originally primarily used to connect the generating facilities of the Project, and to provide a path for additional power to increase the reliability of the electricity supply to Alcoa's Badin Works during low Project generation periods through interconnections with local utilities Duke Energy and Progress Energy North Carolina. Originally these transmission facilities were all part of the Project, but as Duke Energy and Progress Energy expanded their own transmission facilities in the region, it became apparent that the bulk of the Yadkin Project 100 kV transmission facilities had become part of the larger interconnected transmission grid. Subsequently, the Project license was amended to remove all but two transmission lines from the Project.

The two transmission lines that remain in the Project are 1) the four- circuit 13.2-kV line that connects the Narrows Powerhouse to a switchyard located at Alcoa's Badin Works and 2) the single-circuit 100-kV line that connects the Falls Powerhouse to the Badin substation. Thus, there is limited transmission in the Yadkin Project that would materially help regional electrical reliability. Delivery of Project energy to Alcoa's Badin Works and/or to the interconnections with Duke Energy and Progress Energy at the Badin substation and High Rock powerhouse does benefit the regional distribution of the Project's power and to help provide voltage regulation in the area. These uses will remain an important function of Yadkin's transmission system when a new license is granted.

APGI's non-Project transmission system consists of approximately 15 miles of single-circuit 100-kV transmission lines that run from the High Rock Development, through the Tuckertown Development and continue to a switchyard at Alcoa's Badin Works.

H.5.3 Single Line Diagrams

The electrical one-line diagram is shown in Figure H-1.

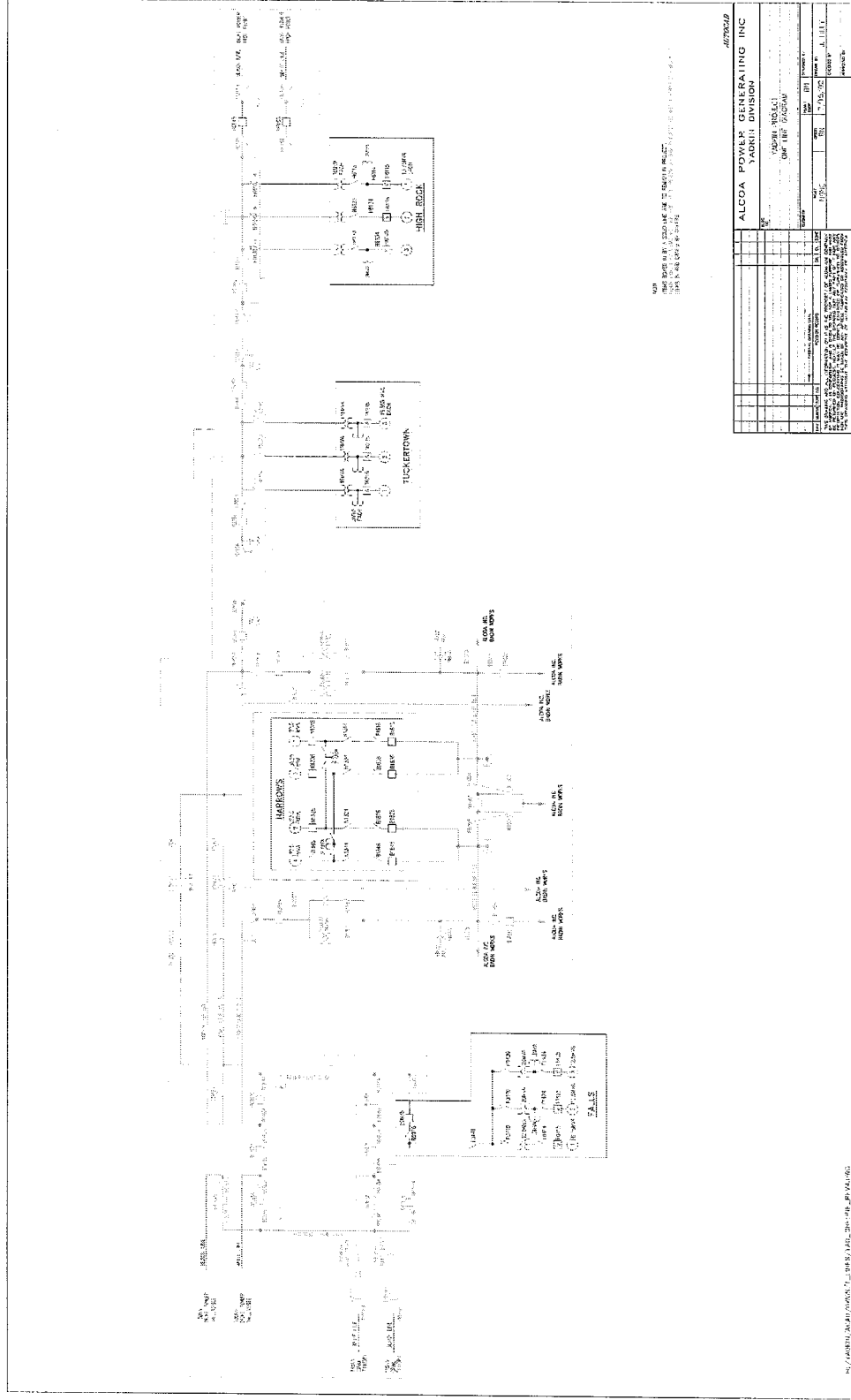
H.6 Plans to Modify Existing Project Facilities

During the new license, APGI proposes to replace existing turbine runners, rewind generators, and refurbish auxiliary equipment at all Project developments (see Exhibit B.2). The facilities proposed for refurbishment are nearing the end of their useful operating lives and are in need of overhaul or replacement. Replacement of the turbine runners will result in increased hydraulic efficiency. Similarly, rewinding the generators and completing associated refurbishments to the electric controls will increase the efficiency by which mechanical energy is converted to electric energy.

In evaluating the proposed unit upgrades, APGI considered the potential effects of the unit upgrades on environmental resources. In this regard, APGI proposes to enhance Project water quality by modifying the design of the replacement runners and draft tube cones in such a way as to enhance the dissolved oxygen conditions in the Project tailraces at the High Rock and Narrows developments. This proposal is discussed in more detail in Exhibit E.2.7.

The planned unit upgrades, refurbishments, along with the installation of technology to improve dissolved oxygen will conform with the comprehensive plan for improving the waterway and for other beneficial uses as defined in Section 10(a)(1) of the Federal Power Act (FPA).

Figure H-1: Yadkin Project One-Line Diagram



H.7 Financial and Personnel Resources

As a wholly-owned subsidiary of Alcoa Inc., APCI has sufficient financial resources to continue operating and maintaining the Project, as well as perform the unit refurbishments/upgrades that are being proposed under the new license.

As previously mentioned, all four Project developments are operated by full-time Power Dispatchers under the direction of the APCI Operations Manager. Operation and generation dispatch is remotely controlled from the Dispatch Center located in Alcoa, Tennessee. The Project is staffed by a crew either located at High Rock or Narrows powerhouses, or at the plant in Badin, North Carolina. The crew consists of multi-craft hydroelectric mechanics, electronics technicians, and supervisors.

The technical support staff is based in Badin, North Carolina and Alcoa, Tennessee, in the same building as the Dispatch Center. The support staff consists of electrical and mechanical engineers, and technical and office personnel. Members of the technical support staff have formal education in their field of expertise and are expected to stay abreast of developments in the hydroelectric industry through continuing education opportunities.

The entire staff receives annual safety training that goes beyond the current state and federal requirements.

Routine maintenance for all four developments is performed by either contracted maintenance crews or by maintenance crews based at the facilities. Major maintenance is normally contracted under specifications by APCI's Engineering Department.

H.8 Proposed Expansion of Project Lands

APCI does not propose to expand the Project to encompass additional lands.

H.9 Applicant's Electricity Consumption Efficiency Improvement Program

H.9.1 Applicant's Record of Encouraging Power Conservation and Plans for Promoting Power Conservation

All of the electricity that APCI generates at the Project is for the benefit of its ultimate customer, Alcoa, and specifically, Alcoa's smelting facilities, whether the Project power is sold in the wholesale market or used directly. The nature of the aluminum smelting process makes energy efficiency a top priority for Alcoa.

Alcoa and other primary aluminum companies produce aluminum from alumina by an electrolytic reduction process that requires large amounts of electric energy as an industrial input. Electric energy accounts for more than 30 percent of the cost of a pound of aluminum produced at an aluminum smelter, and as such, is often the largest single variable cost in the production of

aluminum metal and the most significant factor in determining a company's competitive position in the market

Alcoa's smelters are constantly seeking opportunities to reduce operating costs. Such cost savings are often realized through improved energy efficiency both in the industrial smelting process and in the generation of electric power. As described in Exhibit H.6, Plans to Modify Existing Project Facilities, APCI has initiated phased-in refurbishments and upgrades of aging equipment in order to generate additional electric power from the same water flows on the Yadkin River. In addition, the aluminum smelting industry in general and Alcoa in particular are constantly searching for ways to improve energy efficiency in the smelting process. The Aluminum Association, Inc. estimates that optimization of aluminum smelting processes has reduced the energy demands by more than 20 percent (from more than 8kWh to approximately 6.5kWh per pound) over several years.

Finally, Alcoa also has implemented a long-term energy strategy for the past several decades. New policies developed in the wake of the energy crisis of the 1970's sought to increase self-sufficiency in energy generation and greater energy efficiency at every step of the manufacturing process. More recently, Alcoa has formulated an energy efficiency plan that benchmarks best practices in the industry and makes them available to Alcoa locations. The foundation of the plan is the formation of a network of energy users at Alcoa locations that embrace and employ best practices for improving energy efficiency.

H.9.2 Compliance of Power Conservation Programs with Applicable Regulatory Requirements

The power conservation efforts described in Exhibit H.9.1 meets the intent of the Federal Power Act Section 10(a)(2)(C). There are no State regulatory requirements applicable to the Yadkin Project concerning power conservation programs.

H.10 Identification of Indian Tribes Affected by the Project

Since the distribution of the Initial Consultation Document (ICD) in September 2002, APCI has worked to engage the Catawba Indian Nation (CIN) and the Eastern Band of Cherokee Indians (EBCI) in the relicensing of the Yadkin Project. In addition to the identified tribes, APCI also provided a copy of the ICD to the North Carolina Commission of Indian Affairs.

The current Catawba Indian Nation Reservation is located in South Carolina on the Catawba River. The traditional ceded homelands of the tribe do extend through the entire Piedmont of North Carolina. The Catawba Indian Nation indicated an interest in the Yadkin Project relicensing and has participated as a member of the Cultural Resources Issue Advisory Group. The Catawba Indian Nation identified several interests regarding the Project relicensing that are discussed in more detail in Exhibit E.4.

In a meeting in July 2004, EBCI shared with APCI a map of lands to which they attach religious or cultural significance, and none of the five counties immediately adjacent to the Yadkin Project were identified as significant. EBCI has remained on APCI's distribution list for all relicensing

related materials, meeting notices and communications. However, the EBCI did not directly participate in the Issue Advisory Groups.

Contact information for the two tribes with an expressed interest in the Yadkin Project relicensing is provided below:

The Catawba Indian Nation of South Carolina
Chief Gilbert B. Blue
996 Avenue of the Nations
Rock Hill, SC 29730

The Eastern Band of Cherokee Indians
Chief Michell A. Hicks
88 Council House Loop
Cherokee, NC 28719

H.11 Measures Planned to Ensure Safe Management, Operation, and Maintenance of the Project

APGI strictly adheres to the FERC regulations for maintaining safety at all of its developments within the Project. As such, APGI prepares quality control programs during construction, repair, and modifications of Project works; prepares adequate provisions for installing and maintaining appropriate monitoring instrumentation wherever any physical condition has the potential to affect the safety or stability of the Project; and prepares public safety plans. In addition, APGI performs periodic inspections, every five years, of the Project facilities by an independent consultant, performs power and communication lines testing, and performs annual spillway gates testing.

Also in accordance with FERC guidelines, the Project has an Emergency Action Plan (EAP), which was most recently revised and updated in December 2005. The EAP serves as a tool to APGI personnel as well as public safety agencies to ensure public safety while minimizing property damage in the unlikely event of a failure or potential failure of High Rock, Tuckertown, Narrows, or Falls Dam.

The reservoir and tailrace elevations are monitored continuously by float-operated or sonic transducers. The elevations are recorded hourly at the Dispatch Center in Alcoa, Tennessee. Any significant change in the reservoir or tailrace elevations will be noted by the power dispatcher.

High Rock and Narrows powerhouses are manned by APGI mechanics. The Tuckertown and Falls Developments are unmanned, but are inspected each manned shift. The staff is well trained and routine surveillance of potential hazards is included in the operation of the facilities. Any abnormal condition is reported to the power dispatcher, the operations general supervisor, and/or the maintenance coordinator.

Instrumentation monitoring plans are also set up at the Project facilities to monitor conditions at the developments to alert staff to possible problems.

Weekly inspections of pertinent operating and safety features are performed by the APGI operating personnel. In addition, annual inspections of the Project structures are conducted by APGI's supervisory and engineering personnel with documentation of conditions. Routine

maintenance for all four developments, including trash removal, is performed by either contracted maintenance crews or by maintenance crews based at their facilities. Major maintenance is normally contracted under specifications by APGI's Engineering Department.

The backup diesel generators are inspected on a weekly basis and tested on a monthly basis to ensure operability of the spillway gates. The spillway gates are tested annually at each development and a full-open gate testing is performed on a five year basis. The data communication lines are tested daily, and voice communication lines are tested weekly.

H.11.1 Existing and Planned Operation of the Project During Flood Conditions

During unusually high flow conditions (greater than 30,000 cubic feet per second [cfs]), maintenance personnel are sent to the Project dams, as required, to operate bypass and spillway gates, and monitor general conditions at the Project dams. Each Project development uses a "Standard Gate Operating Procedure" for discharging water through the spillway gates during flood conditions.

All four dams are continuously monitored at the Dispatch Center located in Alcoa, Tennessee through a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system provides real-time monitoring, reporting, and alarming of key elements associated with the normal operation of the dams, including, but not limited to, power generation, unit operation, and reservoir and tailrace elevations. APGI's operation of all four hydro developments as an integral system allows for advance notice of impending flood flows, including localized storm events. Any significant change in the reservoir elevation due to inoperability of the gates or other conditions will be noted by the Dispatcher who will alert the necessary personnel at Alcoa's plant in Badin, North Carolina. These remote monitoring devices provide for a timely response to an adverse condition if it were to occur.

The principal means of communication during an emergency, including flood events, consist of the Yadkin PBX system, the public telephone, cell phones, and two-way radios carried by APGI maintenance crew while working on the dams. There are two base stations for the two-way radio system, one at High Rock Powerhouse and one at Building 105 (Badin Plant) - a backup station, in case the High Rock Powerhouse station system is inoperable. Communication is possible between the base station and the mobile units, between the independent mobile units, as well as the Dispatch Center in Alcoa, Tennessee

H.11.2 Warning Devices Used to Ensure Downstream Public Safety

APGI maintains a comprehensive public safety program to ensure the structural adequacy of the Project dams and the safety of the public within the Project area. All four of the Project dams are inspected annually by a team of APGI's supervisory and engineering personnel. Independent consultants, approved in advance by FERC and engaged by APGI, thoroughly examine the development structures once every five years and publish a comprehensive Safety Inspection Report. The most recent Independent Safety Inspection Reports for the Project developments were prepared in 2003 and 2004 by PB Power.

APGI maintains a current EAP for the Project in the event of high flows, or the unlikely event of a failure or potential failure of the Project dams. This plan is designed to minimize danger to people and property downstream of the High Rock, Tuckertown, Narrows, and Falls Dams. The EAP provides guidelines for notification and early warning of local, state, and federal agencies, emergency services staff, and the public in the event of an actual or potential failure. Developed in accordance with FERC guidelines, the EAP is tested and updated annually. This EAP includes a flood warning notification to the National Weather Service and other agencies during periods of high release (high flows) from the Project developments.

Some of the specific safety measures employed at the Project include fencing, lighting, signs at the dam forebays and tailraces, and turbulent water and spillway warning signs.

At all four Project dams, a warning/sounding alarm is present at the spillway gates and tailwater of generating units. Sounding the alarm prior to starting a unit or opening a spillway gate is a separate control action from opening of the spillway gate.

H.11.3 Proposed Changes Affecting the Existing Emergency Action Plan

APGI does not propose any changes to the operation of the Project that might affect the existing EAP. The EAP was most recently updated in December 2005.

H.11.4 Existing and Planned Structural Monitoring Devices

Instrumentation monitoring plans have been set up at each of the Project facilities to monitor conditions at the developments and to alert staff to possible problems. The following sections discuss monitoring at the Project developments. No changes are proposed at this time.

H.11.4.1 High Rock Dam and Powerhouse Monitoring Devices

The instrumentation program consists of deformation monitoring (inclinometers, extensometers, crackmeters, and survey points), piezometers, thermistor readings, seepage measurements, precipitation measurements, and reservoir and tailwater level monitoring devices.

H.11.4.2 Tuckertown Dam and Powerhouse Monitoring Devices

The instrumentation program consists of deformation monitoring (inclinometers), piezometers, seepage, and reservoir and tailwater level monitoring devices.

H.11.4.3 Narrows Dam and Powerhouse Monitoring Devices

The instrumentation program consists of deformation monitoring (extensometer and inclinometers), seepage, and reservoir and tailwater level monitoring devices.

H.11.4.4 Falls Dam and Powerhouse Monitoring Devices

The instrumentation program consists of deformation monitoring (survey) and reservoir and tailwater level monitoring devices.

H.11.5 Project's Employee and Public Safety Record

As previously mentioned, the entire APGI staff receives annual safety training that goes beyond the state and federal requirements. The safety process consists of a highly developed combination of protective equipment, procedures, inspections, observations, and audits. The success of the process is evident in the fact that APGI has not had a lost workday due to injury since September 23, 1986.

The Project is a popular destination for boating, camping, fishing, swimming, and various other recreation activities. The high use and popularity of the Project's large reservoirs, currently with 40 recreation facilities and access areas available to the public use, contributes to the high number of public safety incidents. Table H.11-1 presents a brief description (with dates) of reported deaths and injuries that have occurred within the Project boundary from the beginning of 2004 through December 31, 2005.

Table H.11-1: Summary of Injuries and Deaths at the Yadkin Project 2004 -2005

Date	Reported Injury/Fatality
3/21/2004	Drowning of a 35 year old male on High Rock Reservoir. Boat overturned in rough waters. Victim was not wearing a life jacket.
6/2/2004	Overturning of a boat in the Tuckertown Powerhouse tailrace on Narrows Reservoir.
10/29/2004	Apparent suicide (shooting). A 22 year old male found in picnic table at the Southmont Public Access Area on High Rock Reservoir, Davidson County.
11/18/2004	Drowning of an 81 year old male on High Rock Reservoir, near a commercial lake access area off Bringle Ferry Road, Rowan County. Victim had a history of heart problems and his boat was found tied to a pier.
6/3/2005	Drowning of a 43 year old male on High Rock Reservoir. Victim was hit by a propeller when he fell off from a boat that took on water.
7/21/2005	Drowning of a 21 year old male on High Rock Reservoir. Victim was swimming near edge of roped off swimming area approximately 50 feet from shore. Victim was not wearing a life jacket.
8/06/2005	Drowning of a 30 year old male on Narrows Reservoir. Victim was swimming outside the roped swimming area to the opposite shore approximately 30 yards away.
9/17/2005	Death of a 26 year old male on Falls Reservoir. Victim was a diver performing work in the intake area of Falls Powerhouse.
12/22/2005	Drowning of a 14 year old male on High Rock Reservoir. Victim was duck hunting with three other males when their boat capsized. The other three persons were rescued.

H.12 Current Operation of the Project

The High Rock Development is a storage facility that is operated in a store-and-release mode. The Narrows Development has storage available, but is generally operated as essentially a run-of-river¹ facility on a daily basis. Based on the limited available storage capacity, the Tuckertown and Falls Developments are essentially operated as run-of-river facilities on a daily basis. Generally, the plants operate during peak hours to maximize the economic value of the power produced. During periods of high stream flow, the system is operated continuously.

As part of its current license with the FERC, APGI operates the Project under operating guides developed with consideration given to many diverse interests including energy generation, recreation, environmental stewardship, downstream municipal and industrial needs, and others. Specifically, the water releases from the Project developments are governed by two FERC orders: one order governs the Project operation under an operating guide for the High Rock Reservoir, and the second order governs the headwater benefits agreement between APGI and Progress Energy.

The High Rock Development is currently operated in accordance with an approved operating guide curve which regulates generation, not headwater elevation. Within the limitations of available streamflow, the operating guide curve is designed to maintain higher water elevations from mid-May to mid-September, followed by a fall-winter drawdown to allow for refill during the late winter and spring runoff. The operating guide curve, reviewed and approved by FERC, was established in 1968, ten years after issuance of the existing license. During periods of low High Rock water levels and low streamflows, the operating guide has an overriding reservoir elevation requirement for APGI to limit discharge to a maximum amount of water on a weekly basis from early March to mid-September to help maintain High Rock water levels.

In addition to the operating guide curve, APGI operates in accordance with an associated 1968 agreement and FERC order related to headwater benefits. Water storage in the APGI reservoirs during periods of high streamflow allows a controlled release to enhance watershed power generation. This regulation of flow provides benefits to APGI and to Progress Energy, by seasonally increasing the flow available for hydropower generation at the downstream facilities. By way of the March 1968 FERC order, Progress Energy pays APGI an annual headwater benefits fee for this benefit. The agreement with Progress Energy requires that the regulated weekly average streamflow, during the ten-week period preceding the recreation period (May 15 through September 15) is not less than 1,500 cfs; during the period May 15 through July 1, is not less than 1,610 cfs; and during the period July 1 through September 15, is not less than 1,400 cfs.

Available storage at Narrows Reservoir may be used during periods of low streamflow to maintain the required minimum downstream releases. Table H.12-1 lists the drawdown relationship between High Rock and Narrows reservoirs as defined by the current Project license.

Current Project operation is discussed in more detail in Exhibit B.

¹ Run-of-river means that the average daily discharge is approximately equal to the average daily inflow, with daily fluctuations occurring to meet system operating demands.

Table H.12-1: Drawdown Relationship Between High Rock and Narrows Reservoirs

High Rock Reservoir		Narrows Reservoir	
Elevation (ft)	Drawdown (ft)	Elevation (ft)	Drawdown (ft)
623.9	0.0	509.8 – 507.7	0.0 – 2.1
622.9	1.0	508.2 – 503.2	1.6 – 6.6
599.9	24.0	508.2 – 503.2	1.6 – 6.6
599.9	24.0	502.7	7.1
597.9	26.0	493.7	16.1
593.9	30.0	478.8	31.1

H.13 History of the Project and Record of Programs to Upgrade the Operation and Maintenance of the Project

H.13.1 High Rock Development

High Rock Development was the third of the Project developments to be built. The turbines for Units 1, 2 and 3 were put in service in 1927. There have been no upgrades to the original Units under the existing license. The Unit 1 generator was rewound in 1988. Other available structural/maintenance records are summarized below:

- At the time of the original construction, the embankments were not riprapped at locations adjacent to the shallow bodies of reservoir water. However, after the reservoir was filled, it was found that sufficient wave action existed to erode the embankments. These locations were repaired with riprap to prevent further damage.
- In 1954, the elevation of the top intake deck and non-overflow gravity sections was raised to elevation of 638.9 ft. This 1954 concrete was extensively dowelled to the original 1927 concrete. Along with increasing the height, the thickness of the no-overflow sections as well as portions of the intake/powerhouse (service and unloading bay) was also increased.
- Based on a review of underwater diving inspections and tailrace investigations, there is evidence of scour of the spillway and powerhouse. Repairs have been made multiple times (1961, 1993, and 1996) in the past to maintain the powerhouse and spillway in good condition.
- During a dive inspection in 1983, an area of undermining was located at the southwest corner of the powerhouse and repaired using grout bags as formwork, and then grouting behind the grout bags to simply fill the remaining voids. The area was repaired again in 1996/1997 by first removing the grout bags and then installing reinforcing bars, dowels and grout.
- The stability analysis of the High Rock Dam was subsequently updated to meet the FERC requirements, including stability under probable maximum flood (PMF) loading. The results of the analyses indicated that spillway bays 1-10 required remediation. Remediation of the spillway bays at High Rock consisted of installing 20 multi-strand,

epoxy coated and filled post-tension anchors. Construction activities began in September 1999 and work was completed in 2001.

- The hoist cables for all ten Stoney gates were replaced between September and November 2003. The replacements were made to maintain the gate lifting devices in good condition.

H.13.2 Tuckertown Development

Tuckertown Development was the fourth of the Project developments to be built. The turbines for Units 1, 2 and 3 were put in service in 1962. There have been no upgrades or modifications to the original Units under the existing license. There were no major structural or maintenance activities performed at the Tuckertown Development under the current license term.

H.13.3 Narrows Development

Narrows Development was the first of the Project developments to be built. The turbines for Units 1, 2 and 3 were put in service in 1917, and Unit 4 went on line in 1924. The present runners were installed in Unit 1 in 1988, Unit 2 in 1964, Unit 3 in 1996 and Unit 4 in 2001. The original generators for Units 1 and 2 were installed in 1917. The original generators for Units 3 and 4 were installed in 1923 and 1924, respectively, and rebuilt in 1947 and 1946, respectively. A new generator was installed in Units 1 and 2 in 1964. Units 1 and 2 were rewound and rotor poles reinsulated in 1997. An upgrade of Unit 3 was completed in 1996, and an upgrade of Narrows Unit 4 was completed in 2001 and the upgrade of Narrows Unit 2 is anticipated to be completed in 2008. Other available structural/maintenance records are summarized below:

- The bypass spillway was originally constructed as an open excavation cut through the rock, approximately 115 ft wide, 1,100 ft long, the depth varying with the contour of the hillside. For a distance of approximately 130 ft downstream of the flood gates the bottom and sides of the bypass channel were lined with concrete. During July 1919 high flood waters were discharged through the dam. The flood waters were discharged through the bypass spillway depositing rock and other debris in the main channel below the powerhouse, which affected the operation of the turbines. As a result, a channel was constructed and a crib built so that the discharge from the bypass spillway would be carried further downstream before it merged with the main river stream below the powerhouse. The chute was further extended and extensive repairs were made in 1923 to prevent further erosion and the washing of materials into the river downstream of the powerhouse.
- A rock reef located about 1,200 ft below the powerhouse was removed during 1922. This rock reef also hindered the free flow of water from the tailrace and was thought to affect the turbine efficiency. During subsequent flood events, it was found that the rock crib erected in 1919 was not of sufficient length to provide the necessary protection for keeping wash material and debris from entering the tailrace area. In addition, it was noted that the bottom and sides of the channel excavated in the rock were severally damaged and extensive repairs would be necessary to prevent further erosion. Before this work had begun, a model of the bypass spillway, true to scale, was constructed so that the action of the water could be

observed on the proposed repairs. The repair work consisted of excavating the rock so that a solid foundation of concrete could be placed on the bottom and sides, which had not been originally concreted. Also, floods passing over the east end of the main dam spillway washed out areas of the protecting rock ledge in the river between the toe of the dam and the powerhouse. To prevent further damage in this area an armor coating of concrete was installed. Hardaway Contracting Company was given the contract for this work in July 1923 and the work was completed in 1925.

- During 1925, flood water passing over the main dam spillway washed loose rock into the tailrace area to such an extent that the debris interfered with the efficiency of the turbines. This material was removed from the river by the Hardaway Contracting Company.
- A 2-foot steel extension was installed on the gates in 1918, thereby increasing the height of the gates approximately 2 ft.
- As a result of seepage observed flowing from the bottom of the inter-gallery drains A-1, A-2 and A-3 in gallery "A" within the intake section, an exploratory drilling and grouting program was performed in 1986 to identify and control the seepage. A total of eight holes were drilled from the piers into the concrete to seek out and identify seepage paths, and to permit grout injection for sealing purposes. In addition, surface repairs were carried out within Penstock Nos. 3 and 4, which included the removal of spalled and cracked concrete, the installation of new concrete and the patching of voids at the steel liner transition area. Inter-gallery Drains A-1, A-2, and A-3 were drilled and cleared of obstructions to restore them to useful function.
- The main spillway deck consists of an integral concrete slab and beam support system spanning between spillway piers. The deck over the trash gate section that is adjacent to the intake is 6 inches thick with no support steel. No expansion joints were included in the original design of the spillway deck. Visual inspections showed abrasion of the concrete in an arc on the right pier side of each gate (viewed looking in the downstream direction) along a path which the gates travel when opened. Normal thermal conditions combined with the lack of expansion joints caused the trash gate deck slab, adjacent to the intake, to buckle in the early 1990s. The first four pier caps adjacent to the trash gate deck slab separated from the piers and translated approximately 1 inch towards the intake structure. Full-open gate testing performed in 2001 showed gate binding prior to the full opening at nine of the Tainter gates. A two-phase remediation program was established to allow the Tainter gates to be fully opened. The initial phase of remediation activities included the cutting of one slot in the spillway deck at the right non-overflow section and Pier No. 1, and six sets of slots, one set each in Pier Nos. 5, 7, 11, 15, 19 and 21 in 2002. The initial phase of the work was completed in October 2002. The second phase of the remediation effort involved the remediation of the gates themselves, and was initiated in August 2003 and was completed in early 2004.

H.13.4 Falls Development

Falls Development was the second of the Project developments to be built. The turbines for Units 1 and 2 were put in service in 1919, and Unit 3 went on line in 1922. Since that time, both Units 2 and 3 have required realignment to correct runner clearance problems (runner began to rub against its discharge ring resulting in the need to realign the unit) on about a 10 year cycle. Unit 1 has experienced similar though somewhat less severe runner clearance problems with the initial runner clearance problems surfacing in the mid 1930s. The difficulties associated with the vertical alignment of the units led to extensive rehabilitation efforts. Alignment adjustment was no longer possible for Units 2 and 3 in 1961, and the turbine-generators were removed and upgraded in 1962. A similar replacement/upgrade was performed on Unit 1 in 1981. The rehabilitation of all three units included the removal and replacement of mass concrete from the powerhouse floor down to just below the stay ring for each of the three units. The concrete piers between the units, and the east (downstream) and north (river side) walls remained in place. Following the rehabilitation efforts there has been no significant trends in the runner clearance measurements since the Unit 1 replacement in 1981 and small progressive movement towards the downstream-river corner of the powerhouse at Units 2 and 3 since their replacement in 1961. Subsequent to the major upgrade, the turbine-generator alignments have been less frequent.

Additionally, a 2-foot extension consisting of wooden boards was installed on the gates in 1923, thereby increasing the height of the gates approximately 2 ft. In 1929, the 2-foot wooden extensions were replaced by 2-foot steel extensions. In 1946, the 2-foot steel extensions were increased to 4 ft.

H.14 Summary of Unscheduled Outages Over the Last Five Years

Table H.14-1 presents a summary of unscheduled outages over the last five years, including the cause of the outage, the duration of the outage, and the corrective action taken.

Table H.14-1: Summary of Unscheduled Outages Over the Last Five Years

Generating Unit	Date	Cause	Duration (hours)	Corrective Action
Tuckertown #3	3/2000	Field ground	19.2	Cleaned slip rings
High Rock #1	8/2001	Low governor air pressure	16.0	Replaced leaking air valve
Tuckertown #3	8/2001	Turbine lube flow switch	78.4	Replaced flow switch
Falls #3	8/10/2001	Governor trouble	20.6	Replaced LVDT
Falls #3	9/2/2001	Intake gate operating hoist	315.5	Rebuilt gear boxes
Tuckertown #3	1/16/2003	86E Stator ground	11.1	Tested windings no ground
Narrows #1	1/6/2003	86N Governor trouble	10.6	Repaired governor
Falls #1	2/23/2003	Tree in transmission line	9.5	Removed tree and repaired line
Falls #2	2/23/2003	Tree in transmission line	9.5	Removed tree and repaired line
Falls #3	2/23/2003	Tree in transmission line	10.9	Removed tree and repaired line
Tuckertown #2	5/9/2003	86N governor controller	13.7	Repaired controller processor
Narrows #2	8/28/2003	86E & 86N Breaker bushing field	89.1	Replaced bushing
Falls #2	8/27/2003	86N governor trouble	32.2	Repaired governor
Falls #1	10/28/2003	Governor trouble	23.5	Repaired governor
Tuckertown #3	12/30/2004	Turbine pit sump level high	17.5	Repaired sump pump float
Narrows #3	12/30/2004	DC ground, turbine bearing oil flow	39	Repaired DC lube pump
High Rock #3	4/4/2005	Generator Breaker	12.3	Repaired Gen. Bkr.

H.15 Licensee's Record of Compliance

APGI has an excellent record of compliance with the terms of the existing license. Complaints to FERC alleging non-compliance have all be resolved in APGI's favor.

H.16 Project Actions Affecting the Public

H.16.1 Electricity, Recreation, Relicensing

APGI's operation of the Yadkin Project affects the public in a number of ways. One is that a significant portion of the electricity currently generated by the Project is being sold to utilities that serve the public. Second, the Project reservoirs provide many recreational benefits to the public, as well as, surrounding property owners (operating guides that are designed to allow higher water levels during the summer recreation season, a private access permitting program, etc.), including numerous, well-maintained public recreation facilities on Project waters, which

allow hunting, picnicking, boating access, fishing, swimming, and other water-based recreation. In addition, other similar facilities are owned or managed by surrounding counties, the State of North Carolina, or the USFS. Third, the Project is operated in a manner consistent with APGI's strong environmental stewardship values. For example, for many years, APGI has voluntarily worked with agencies and others to enhance fisheries and wildlife resources. Finally, for its relicensing of the Yadkin Project, APGI chose to use a Communications-Enhanced Process that allowed numerous opportunities for issue identification and open communication with interested parties, including the general public, beyond those offered by the traditional relicensing process.

H.16.2 County Economic Impacts Study

During the initial consultation phase of the relicensing process, APGI was requested to evaluate the relationship of the Project reservoirs to the economies of the surrounding five counties, under current reservoir operations and other alternative water level scenarios. In response to this request, APGI undertook a study titled County Economic Impacts of APGI's Yadkin Project (County Economic Impacts Study²) which was carried out in accordance with a study plan that was developed in close consultation with the County Economic Impacts Issue Advisory Group (Appendix H-1).

The overall objective of the County Economic Impacts Study was to document and analyze the relationship of the Project reservoirs to the economies of the surrounding five counties, under current reservoir operations and other alternative water level scenarios. The study also characterized tourism expenditures and opportunities at baseline and under alternative water level scenarios. The study also combined the results of the Recreation Economic Impact Study (see Appendix E-20) with the findings from the County Economic Impacts Study to present a comprehensive report on the impacts of alternative water level scenarios on the counties' economies.

Reservoir Management Scenarios

APGI defined three reservoir management scenarios for High Rock Reservoir to represent the potential range of management options which could be compared to existing reservoir management conditions. Scenario 1 would maintain water levels within 3 ft of full pool year round. Scenario 2 would allow water levels to vary over the same range as they currently do, but would extend the relatively full pool conditions six weeks earlier in the spring and six weeks later in the fall. Scenario 3 would maintain lower water levels during the summer recreation season and would allow water levels to fall farther in the winter than they currently do (see Figure E-9). Table H.16-1 summarizes the impacts of these scenarios on businesses and property values in the two counties adjacent to High Rock Reservoir. The following sections describe how these impacts were estimated.

² Heller, Katherine, Laurel Clayton, and Wanda Throneburg. RTI International. 2005. County Economic Impacts of APGI's Yadkin Project Final Report. December 2005. (Appendix H-1)

Table H.16-1: Estimated Impacts of Alternative Water Level Management Scenarios for High Rock Reservoir on Businesses and Property Values in Adjacent Counties

Annual Business Impacts	Estimated Total Annual Change in Revenues for Directly Affected Businesses					
	Alternative 1		Alternative 2		Alternative 3	
Total direct impacts	Low	High	Low	High	Low	High
	\$3,397,000	\$6,802,000	\$678,000	\$3,397,000	- \$6,802,000	- \$33,964,000
	Estimated Economy-Wide Annual Impacts					
Regional Economic Impacts						
	Alternative 1		Alternative 2		Alternative 3	
	Low	High	Low	High	Low	High
Davidson County	\$3,475,000	\$6,964,000	\$695,000	\$3,475,000	- \$6,964,000	- \$34,800,000
Rowan County	\$922,000	\$1,847,000	\$182,000	\$922,000	- \$1,847,000	-\$9,238,000
Five County Region	\$4,479,000	\$8,883,000	\$885,000	\$4,443,000	- \$8,883,000	- \$44,398,000
Property Value Impacts	Estimated Home Sales Prices at Baseline and Under Alternative Water Level Management Scenarios					
	Historical	Alternative 1		Alternative 2	Alternative 3	
Distance from shoreline	12’ range	3’ range		10’ range	20’ range	
	Rowan County					
Homes <0.05 miles	\$136,700	\$167,500		\$143,500	\$109,300	
Homes between 0.05 and 0.5 miles	\$137,300	\$146,900		\$139,400	\$128,800	
Homes >0.05 miles	\$88,200	\$94,300		\$89,500	\$82,711	
	Davidson County					
Homes <0.05 miles	\$150,800	\$184,800		\$158,400	\$120,600	
Homes between 0.05 and 0.5 miles	\$129,600	\$138,600		\$131,600	\$121,600	
Homes >0.05 miles	\$106,000	\$113,400		\$107,700	\$99,500	
Property Tax Impacts	Possible Change in Tax Receipts for Homes Within Two Miles of High Rock Reservoir Shoreline					
	No. of Homes	Alternative 1		Alternative 2	Alternative 3	
Rowan County	2,623	\$219,800		\$48,100	-\$195,800	
Davidson County	1,451	\$133,200		\$29,800	-\$118,200	

Impacts on Reservoir-Related Businesses

Many types of businesses rely to some extent on the Yadkin Project reservoirs for their business. APGI's County Economic Impacts Study (Appendix H-1) looked at an exhaustive list of businesses compiled from a variety of sources, and worked with APGI and others to narrow the list for detailed study to those businesses whose major source of revenue was thought to be related to the reservoirs; the study termed these "Priority A" businesses. The study's authors contacted the businesses for a preliminary interview; then, after the Reservoir Management Scenarios were defined, they contacted them again to ask about the impacts of the water levels specified in the Scenarios. The study used their responses to estimate percentage impacts on revenues; to preserve confidentiality, county-level North American Industry Classification System (NAICS) code data was used as the basis for estimating impacts under "low" and "high" impact measures based on the interview findings.

The study found that most businesses would benefit from Scenarios 1 and 2 and would be hurt by Scenario 3. Impacts on directly affected industries ranged from a gain of more than \$6 million in annual industry revenues in Rowan and Davidson counties for high impacts under Scenario 1 to a loss of more than \$33 million for high impacts under Scenario 3. Using the U.S. Forest Service's Impact analysis for PLANning (IMPLAN) regional input-output model to estimate impacts throughout the economy of the five-county region that would result from these direct impacts, the study found that Scenario 1 may increase output in the region by as much as \$8.9 million per year under the high impact estimate, Scenario 2 may increase output in the region by as much as \$4.4 million per year, and Scenario 3 may reduce output and spending in the region by as much as \$44.4 million per year. These region-wide impacts include the direct impacts plus changes in spending by directly affected businesses, plus changes in consumer spending that result from changes in owners' and employees' incomes. While gains or losses for individual businesses could be substantial, overall these totals represent relatively small impacts on the regional economy (at most a gain of less than 0.1 percent or a loss of less than 0.4 percent of the total sales or revenues for businesses in the five-county region).

Impacts on Property Values

To address the question of how the value of residential property close to a reservoir is affected by reservoir water level management, APGI's County Economic Impacts Study (Appendix H-1) used a statistical analysis using the hedonic method. The hedonic method is a multiple regression technique that allows for the isolation of the effect of individual characteristics of a home and its environment on its sale value. The study collected data on water levels, and residential property characteristics and sales values for homes within two miles of the shorelines, for two Yadkin project reservoirs (High Rock and Narrows/Badin) and six others in North Carolina and South Carolina.

The analysis found that proximity to a reservoir enhances sales values. For homes within 0.05 mile of shore, sales prices were more than twice the values for comparable residences elsewhere; the impact of the reservoir declines with distance and is insignificant beyond a half mile from shore. Reservoir management affects the proximity premium, especially for shoreline residences. Using home sales in Rowan County and Davidson County, the study estimated that

Scenario 1 would increase sales prices of Rowan County properties within 0.05 miles of the High Rock Reservoir shore by about \$31,000, and homes between 0.05 and 0.5 miles from shore by about \$7,000. Scenario 3, on the other hand, is estimated to reduce sales prices of shoreline properties by about \$27,000 and to reduce sales prices for other nearby properties by about \$5,000. In Davidson County, Scenario 1 is estimated to increase sales prices of properties within 0.05 miles of the High Rock Reservoir shore by about \$34,000, and homes between 0.05 and 0.5 miles from the shore would see an increase of \$8,000. Scenario 3 would reduce sales prices for shoreline properties by \$30,000 and would reduce the sales prices for other nearby properties by about \$7,000.

Possible changes in county property tax receipts were estimated by assuming that all the properties within 2 miles of the shoreline were revalued as predicted by the hedonic model, then applying 2004 tax rates to the changed values. If all 2,623 residential properties located in Rowan County within 2 miles of the High Rock Reservoir shoreline experienced the predicted changes in value, under Alternative 1 property tax receipts could increase by nearly \$220,000; under Alternative 2, they could increase by about \$48,000; and under Alternative 3, they could decline by about \$196,000. In Davidson County, if all 1,451 residential properties experienced predicted changes in value, tax receipts could increase by about \$133,000 under Alternative 1, increase by about \$30,000 under Alternative 2, and could decrease by about \$118,000 under Alternative 3. These estimates are rough approximations that assume all properties experience predicted changes in value, that assessments are revised to reflect these changes, and that 2004 tax rates apply.

H.17 Reduced Ownership and Operating Expenses if the Project License were Transferred

If APGI did not receive the new license for the Project, its annual operating costs would be reduced by the amount shown in Exhibit D. In this case, APGI would no longer be responsible for Project operation or paying taxes and administrative fees associated with the Project.

H.18 Annual Fees Paid Under Part I of the Federal Power Act

Since the initial licensing of the Project, APGI has paid annual FERC administrative charges as presented in Table H.18-1.

APGI does not pay fees for the use of federal lands within the Project boundary because there are no federal lands within the Project boundary. There are no Indian lands included within the Project boundary.

Table H.18-1: FERC Annual Administrative Charges^a

Fiscal Year	FERC Administrative Charge	Other Federal Agencies Administrative Charge^b	Total Administrative Charge
1994	\$145,849	\$16,217	\$162,066
1995	\$369,566	\$0	\$369,566
1996	\$657,244	\$0	\$657,244
1997	\$360,848	\$51,117	\$411,965
1998	\$342,067	\$35,449	\$377,516
1999	\$364,566	\$69,592	\$434,158
2000	\$310,221	\$84,034	\$394,255
2001	\$335,671	\$23,844	\$359,515
2002	\$341,297	\$92,106	\$433,403
2003	\$306,957	\$0	\$306,957
2004	\$677,030	\$0	\$677,030
2005	\$414,735	\$0	\$414,735

a. All dollars are actual, as of the year identified.

b. There were no known administrative charges paid to other federal agencies.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Alcoa Power Generating, Inc.) P-2197-073
)
Yadkin Hydroelectric Project) Application for New Major License

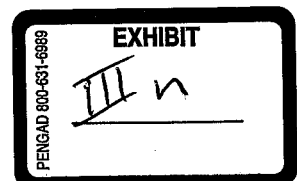
**NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL
RESOURCES' NOTICE OF INTERVENTION AND ALTERNATIVE MOTION
TO INTERVENE**

NOW COMES the Department of Environment and Natural Resources of the State of North Carolina ("NC DENR"), through the undersigned counsel, and (i) gives notice of intervention pursuant to Rule 214(a)(2), and (ii) moves in the alternative to intervene under Rule 214(a)(3). 18 C.F.R. § 385.214.

NOTICE OF INTERVENTION

NC DENR gives notice of intervention under Rule 214(a)(2). In support of this notice NC DENR shows the following: The North Carolina Environmental Management Commission ("EMC") has delegated to the Director of the Division of Water Quality authority to issue water quality certifications on behalf of the State of North Carolina ("State"). 33 U.S.C. § 1341; N.C. Gen. Stat. § 143B-282(1)(u); 15A N.C.A.C. 2H.0500. The Division of Water Quality is a division of NC DENR, which is a statutory department of the State. See N.C. Gen. Stat. § 143B-279.1. The Commission has recognized on numerous previous occasions the authority of NC DENR and its Division of Water Quality to certify hydroelectric projects licensed by the Commission under the Federal Power Act.¹

¹ E.g., Alcoa Power Generating, Inc., 110 FERC ¶ 61,056, at 61,273, 61,306 (25 Jan. 2005) ("the North Carolina State Division of Water [Quality] . . . issued [a] timely water quality certification[] for the Tapoco Project"); Nantahala Power & Light, 98 FERC ¶ 62,214, at 64,436 (28 March 2002) ("This license is subject to the water quality certification conditions submitted by the North Carolina Department of Environment and Natural Resources under Section 401(a) of the Clean Water Act . . ."); Duke Power Co., 72 FERC ¶ 61,030, at 61,182 (13 July 1995) ("North Carolina [Department of Environment and Natural Resources issued [a] water quality certification for the Spencer Mountain Project").



NC DENR submits that this project requires a water quality certification.² Therefore, NC DENR has authority to intervene as of right pursuant to Rule 214(a)(2).

ALTERNATIVE MOTION TO INTERVENE

In the alternative, NC DENR moves the Commission, pursuant to Rule 214(a)(3), to allow NC DENR to intervene. In support of this alternative motion, NC DENR shows the following:

I. GROUNDS FOR INTERVENTION

A. NC DENR Has a Right to Participate in this Proceeding

As stated above, NC DENR has a right to participate in this proceeding by virtue of its authority to certify federally-licensed projects pursuant to section 401 of the Clean Water Act. Rule 214(b)(2)(i).

B. NC DENR Has a Paramount Interest in the Waters of the State Which May Be Directly Affected by the Outcome of this Proceeding

NC DENR is a statutory department of the State of North Carolina. N.C. Gen. Stat. § 143B-279.1.

It is hereby declared to be the public policy of this State to provide for the conservation of its water and air resources. Furthermore, it is the intent of the General Assembly ... to achieve and to maintain for the citizens of the State a total environment of superior quality.

* * *

It is the public policy of the State to maintain, protect, and enhance water quality within North Carolina.

* * *

It is the purpose of this Article to create an agency which shall administer a program of water and air pollution control and water resource management. It is the intent of the General Assembly, through the duties and powers

² S. D. Warren Co. v. Me. Bd. of Env'tl. Prot., 126 S. Ct. 1843 (2006).

defined herein, to confer such authority upon the Department of Environment and Natural Resources as shall be necessary to administer a complete program of water and air conservation, pollution abatement and control and to achieve a coordinated effort of pollution abatement and control with other jurisdictions. Standards of water and air purity shall be designed to protect human health, to prevent injury to plant and animal life, to prevent damage to public and private property, to insure the continued enjoyment of the natural attractions of the State, to encourage the expansion of employment opportunities, to provide a permanent foundation for healthy industrial development and to secure for the people of North Carolina, now and in the future, the beneficial uses of these great natural resources.

N.C. Gen. Stat. § 143-211(c). In furtherance of these policies NC DENR retains authority to:³

- Provide for the protection of the environment. N.C. Gen. Stat. § 143B-279.2.
- Implement the federal Clean Water Act by developing and applying water quality standards and issuing National Pollutant Discharge Elimination System Permits. N.C. Gen. Stat. §§ 143-214.1, 143-215.1 and 143B-282, and 33 U.S.C. §§ 1313 and 1342.
- Certify compliance of federally licensed activities with State law pursuant to section 401 of the Clean Water Act. N.C. Gen. Stat. § 143B-282, 15A N.C.A.C. 2H. 0500 and 33 U.S.C. § 1341.
- Manage water quality at the basinwide level and cooperate in local watershed protection. N.C. Gen. Stat. §§ 143-214.5 and 143-215.8B.
- Investigate the need for and affects of interbasin water transfers and make recommendations regarding approval of such transfers. N.C. Gen. Stat. § 143-215.22I.
- Investigate conditions of localized water depletion and make recommendations regarding regulations to coordinate, conserve, and apportion available supplies. N.C. Gen. Stat. § 143-215.11 et seq.

³ The duties of NC DENR exist by virtue of express legislative mandate, delegation from the EMC, and as NC DENR's function as staff to the EMC. See N.C. Gen. Stat. § 143-215.3.

- Coordinate statewide water supply planning by providing technical assistance to local government for development of local water supply plans and developing a state water supply plan. N.C. Gen. Stat. § 143-355.
- Assist in the development of rules for conservation of water during drought by, among other things, evaluating current water conservation measures and making recommendations regarding those measures. 2002 N.C. Sess. L. 167.
- Investigate fish kills. N.C. Gen. Stat. §§ 143B-279.7, 143B-282 and 143-215.3.

These authorities are merely representative. See, generally, e.g., N.C. Gen. Stat. ch. 143, art. 21; and ch. 143B, art. 7. In essence, NC DENR, in coordination with the EMC and the North Carolina Wildlife Resources Commission, retains broad authority and responsibility regarding water quality and natural resource issues. In addition, the State retains title to the beds of navigable waters and the navigable waters themselves are a public resource.⁴

The operation of this project may change the quantity and quality of fish habitat in the river, alter the chemical and physical properties of the river, affect the recreational opportunities in the river, affect submerged lands to which the State retains title, *etc.* Certainly, these outcomes will affect the implementation NC DENR's regulatory and other statutory authorities on behalf of the public, and its ability to carry out its legal mandates. See Rule 214(b)(2)(ii).

C. NC DENR's Participation in this Proceeding Is in the Public Interest

The mandates discussed above uniquely position NC DENR to oversee and manage water resources affected by this proceeding. As a governmental agency with broad

⁴ E.g., Shepard's Point Land Co. v. Atlantic Hotel, 132 N.C. 517, 44 S.E. 39 (1903); State v. Narrows Island Club, 100 N.C. 477, 5 S.E. 411 (1888).

jurisdiction over public waters, NC DENR is well positioned to balance the interests of various users of this public resource. In the exercise of its authority, NC DENR often must resolve conflicts with regard to competing uses and pressures on water resources. See, e.g., N.C. Gen. Stat. § 143-214.1. The experienced and technically expert staff of NC DENR periodically monitors the status of the waters affected by this proceeding, including the operations of the project. NC DENR's mandate requires it to coordinate all of the information it receives in order to render advice, provide assistance, and make determinations regarding the best overall use of this limited resource. Therefore, the participation by NC DENR in this proceeding is in the public interest. See Rule 214(b)(2)(iii).

**II. NC DENR SUPPORTS SETTLEMENT CONSISTENT WITH
THE TERMS OF THE AGREEMENT IN PRINCIPLE AND
ISSUANCE OF A LICENSE THAT ADOPTS THE LICENSE
ARTICLES THAT THE PARTIES WILL PROPOSE IN THE
SETTLEMENT AGREEMENT**

NC DENR, the licensee, and many other interested stakeholders, including federal, State, tribal, and local government, local business and non-governmental organizations, have prepared a good faith Agreement in Principle ("AIP") to address the substantive matters involved in this proceeding. The parties intend to execute a settlement agreement that is consistent with and incorporates the substantive provisions of the AIP. The agreement will include proposed license articles that the parties will recommend should govern the relationship between the Commission and the licensee over the course of the new license, and other obligations and agreements to govern the interaction of the parties during that time as well. NC DENR supports the AIP and urges the Commission, when the agreement is

executed and filed, to approve the agreement in full and incorporate the proposed license articles into the new license for the project. Also, NC DENR intends to issue a water quality certification pursuant to section 401 of the Clean Water Act with conditions to be incorporated into the new license.

III. CONCLUSION

For all of the foregoing reasons, to the extent NC DENR is not eligible for intervention pursuant to Rule 214(a)(2), NC DENR respectfully requests that the Commission grant this Alternative Motion to Intervene pursuant to Rule 214(a)(3).

CONTACT INFORMATION

Please direct all communications to:

Marc Bernstein
Special Deputy Attorney General
N.C. Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
Telephone: (919) 716-6600
Facsimile: (919) 716-6767
E mail: mbernstein@ncdoj.gov

Steven Reed
Division of Water Resources
N.C. Department of Environment
and Natural Resources
1611 Mail Service Center
Raleigh, NC 27699-1611
Telephone: (919) 715-5424
Facsimile: (919) 733-3558
E mail: Steven.Reed@ncmail.net

Respectfully submitted, this the 22nd day of February 2007.

ROY COOPER
ATTORNEY GENERAL

By: /s/ Marc Bernstein
Marc Bernstein
Special Deputy Attorney General
N.C. Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
Telephone: (919) 716-6600
Facsimile: (919) 716-6767
E mail: mbernstein@ncdoj.gov
Attorney for NC DENR

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

This the 22nd day of February 2007.

/s/ Marc Bernstein
Marc Bernstein
Special Deputy Attorney General
N.C. Department of Justice
9001 Mail Service Center
Raleigh, NC 27699-9001
Telephone: (919) 716-6600

\$ PAID

07-081202

DWQ ID: _____

FERC 401 WATER QUALITY CERTIFICATION APPLICATION

FOR EXISTING FERC PERMITS

*** SEND SEVEN (7) COPIES AND THE
APPROPRIATE FEE (SEE ITEM # 16)* OF THIS APPLICATION TO:**

**THE NC DIVISION OF WATER QUALITY
ATTN: TODD ST. JOHN
4401 REEDY CREEK ROAD
RALEIGH, NC 27607.
(PLEASE PRINT OR TYPE.)**

1. OWNER'S NAME: Alcoa Power Generating Inc.

2. MAILING ADDRESS: 300 North Hall Rd. (MS-T1521) Alcoa, TN 37701-2516

PROJECT NAME: Yadkin Hydroelectric Project (FERC No. 2197)

CITY: Badin STATE: NC ZIP CODE: 28009

PROJECT LOCATION ADDRESS (IF DIFFERENT FROM MAILING ADDRESS
ABOVE):

P.O. Box 576, Badin, NC 28009

3. TELEPHONE NUMBER: (WORK) (865) 977-3334

4. IF APPLICABLE: AGENT'S NAME OR RESPONSIBLE CORPORATE OFFICIAL,
ADDRESS, PHONE NUMBER:

Mark Gross, V.P. of APGI, P.O. Box 576, Highway 740, Badin, NC 28009

5. LOCATION PROJECT (PROVIDE A MAP, INCLUDING A COPY OF USGS
TOPOGRAPHIC MAP OR AERIAL PHOTOGRAPHY WITH SCALE):

Davie, Davidson, Rowan,
COUNTY: Montgomery and Stanly NEAREST TOWN: Badin

SPECIFIC LOCATION (INCLUDE ROAD NUMBERS, LANDMARKS, ECT.) See attached
License Application (LA) Ex. G for Project maps or see D.O. Plan Fig. 1

6. IMPACTED STREAM/RIVER: Yadkin River RIVER BASIN: Yadkin/Pee-Dee River Basin
CURRENT DIVISION OF WATER QUALITY (DWQ) CLASSIFICATION: Variable (Class C or WS):
See LA Ex. E App. E.1, Section 2.5

7. (a) IS THE PROJECT LOCATED WITHIN A NORTH CAROLINA DIVISION OF
COASTAL MANAGEMENT AREA OF ENVIRONMENTAL CONCERN (AEC)? YES ☐
NO ☒

(b) IF THE PROJECT IS LOCATED WITHIN A COASTAL COUNTY (SEE PAGE 7 FOR
LIST OF COASTAL COUNTIES), WHAT IS THE LAND USE PLAN (LUP)
DESIGNATION? _____

Version 1.0
January, 1999

RECEIVED
MAY 8 2008

DENR - WATER QUALITY
WETLANDS AND STORMWATER BRANCH

PENGAD 800-631-6989

EXHIBIT

III 0

8. (a) ARE ADDITIONAL PERMIT REQUESTS EXPECTED FOR THIS PROPERTY IN THE FUTURE? YES ☐ NO ☒ IF YES, DESCRIBE ANTICIPATED WORK:

9. (a) ESTIMATED TOTAL NUMBERS OF ACRES IN PROJECT: 23,000

10. PROVIDE AN APPROPRIATE ENVIRONMENTAL DOCUMENT. THE DOCUMENT SHOULD ADDRESS:
- (a) DATA SHOWING THAT A 7Q10 MINIMUM FLOW WILL BE PROVIDED
 - (b) A COST BENEFIT ANALYSIS OF THE PROJECT SHOWING WHY THE PROJECT IS STILL NECESSARY
 - (c) DESCRIPTION OF LENGTH OF BYPASS REACH (IF ANY) AND MEASURES TO PROVIDE FLOW TO THE REACH IN LOW FLOW CONDITIONS.
 - (d) MEASURES PLANNED OR TAKEN TO MAINTAIN DOWNSTREAM WATER QUALITY SUCH AS ADEQUATE DISSOLVED OXYGEN.

See attached LA & Relicensing Settlement Agreement

11. WHAT IS THE SIZE OF THE WATERSHED 4400 sq miles WHAT IS THE FULL-POND SURFACE AREA? 23,000 acres

12. YOU ARE REQUIRED TO CONTACT THE US FISH AND WILDLIFE SERVICE AND/OR NATIONAL MARINE FISHERIES SERVICE REGARDING THE PRESENCE OF ANY FEDERALLY LISTED OR PROPOSED FOR LISTING ENDANGERED OR THREATENED SPECIES OR CRITICAL HABITAT IN THE PERMIT AREA THAT MAY BE AFFECTED BY THE PROPOSED PROJECT. DATE CONTACTED:

Periodic consultation 2002-2007

13. YOU ARE REQUIRED TO CONTACT THE STATE HISTORIC PRESERVATION OFFICER. DATE CONTACTED: Periodic Consultation 2002-2007

(SHPO) REGARDING THE PRESENCE OF HISTORIC PROPERTIES IN THE PERMIT AREA WHICH MAY BE AFFECTED BY THE PROPOSED PROJECT. DATE CONTACTED: Same as above, and see LA Ex. E Apps E-16, 17 & 25.

14. DOES THE PROJECT INVOLVE AN EXPENDITURE OF PUBLIC FUNDS OR THE USE OF PUBLIC (STATE) LAND? YES ☐ NO ☒ (IF NO, GO TO 15).

(a) IF YES, DOES THE PROJECT REQUIRE PREPARATION OF AN ENVIRONMENTAL DOCUMENT PURSUANT TO THE REQUIREMENTS OF THE NORTH CAROLINA ENVIRONMENTAL POLICY ACT? YES ☐ NO ☐

(b) IF YES, HAS THE DOCUMENT BEEN REVIEWED THROUGH THE NORTH CAROLINA DEPARTMENT OF ADMINISTRATION STATE CLEARINGHOUSE YES ☐ NO ☐

IF ANSWER 17b IS YES, THEN SUBMIT APPROPRIATE DOCUMENTATION FROM THE STATE CLEARINGHOUSE WITH THE NORTH CAROLINA ENVIRONMENTAL POLICY ACT.

QUESTIONS REGARDING THE STATE CLEARINGHOUSE REVIEW PROCESS SHOULD BE DIRECTED TO MS. CHRYS BAGGETT, DIRECTOR STATE CLEARINGHOUSE, NORTH CAROLINA DEPARTMENT OF ADMINISTRATION, 116 WEST JONES STREET, RALEIGH, NORTH CAROLINA 27603-8003, TELEPHONE (919) 733-6369.

15. THE FOLLOWING ITEMS SHOULD BE INCLUDED WITH THIS APPLICATION IF PROPOSED ACTIVITY INVOLVES THE DISCHARGE OF EXCAVATED OF FILL MATERIAL INTO WETLANDS: N/A

- (a) WETLAND DELINEATION MAP SHOWING ALL WETLANDS, STREAMS, LAKES, AND PONDS ON THE PROPERTY (FOR NATIONWIDE PERMIT NUMBERS 14, 18, 21, 26, 29, AND 38). ALL STREAM (INTERMITTENT AND PERMANENT) ON THE PROPERTY MUST BE SHOWN ON THE MAP. MAP SCALES SHOULD BE 1 INCH EQUALS 50 FEET OF 1 INCH EQUALS 100 FEET OF THEIR EQUIVALENT.
- (b) IF AVAILABLE, REPRESENTATIVE PHOTOGRAPH OF WETLANDS TO BE IMPACTED BY PROJECT.
- (c) IF DELINEATION WAS PERFORMED BY A CONSULTANT, INCLUDE ALL DATA SHEETS RELEVANT TO THE PLACEMENT OF THE DELINEATION LINE.
- (d) ATTACH A COPY OF THE STORMWATER MANAGEMENT PLAN IF REQUIRED.
- (e) WHAT IS LAND USE OF SURROUNDING PROPERTY? _____
- (f) IF APPLICABLE, WHAT IS PROPOSED METHOD OF SEWAGE DISPOSAL? _____


16. CERTIFICATION FEE

- (a) IF THE IMPACT IS LESS THAN 1 ACRE OF WETLAND OR WATER AND LESS THAN 150 FEET OF STREAM, PLEASE ENCLOSE A CHECK FOR \$200.00 MADE OUT TO THE NORTH CAROLINA DIVISION OF WATER QUALITY.
- (b) IF THE IMPACT EXCEEDS EITHER OR BOTH OF THE LEVELS IN (a), PLEASE ENCLOSE A CHECK FOR \$475.00 MADE OUT TO THE NORTH CAROLINA DIVISION OF WATER QUALITY. (check attached)
- 17. PUBLIC NOTICE IS REQUIRED FOR ALL FERC PROJECTS. PLEASE NOTE THAT THE APPLICANT IS REQUIRED TO REIMBURSE THE DIVISION OF WATER QUALITY FOR THE COSTS ASSOCIATED WITH THE PLACEMENT OF THE PUBLIC NOTICE. REFERENCE 15A NCAC 2H .0503 (f).

SIGNED AND DATED AGENT AUTHORIZATION LETTER, IF APPLICABLE.

NOTE: WETLANDS OR WATERS OF THE US MAY NOT BE IMPACTED PRIOR TO:

- 1. ISSUANCE OF A SECTION 404 CORPS OF ENGINEERS PERMIT,
- 2. EITHER THE ISSUANCE OR WAIVER OF A 401 DIVISION OF WATER QUALITY CERTIFICATION, AND
- 3. (IN THE TWENTY COASTAL COUNTIES ONLY), A LETTER FROM THE NORTH CAROLINA DIVISION OF COASTAL MANAGEMENT STATING THE PROPOSED ACTIVITY IS CONSISTENT WITH THE NORTH CAROLINA COASTAL MANAGEMENT PROGRAM,

 5-8-08
OWNER'S/AGENT'S SIGNATURE DATE

(AGENT'S SIGNATURE VALID ONLY
IF AUTHORIZATION LETTER FROM
THE OWNER IS PROVIDED).



State of North Carolina

ROY COOPER
ATTORNEY GENERAL

Department of Justice
9001 Mail Service Center
RALEIGH, NORTH CAROLINA
27699-9001

REPLY TO:
I. FAISON HICKS
SERVICE TO STATE AGENCIES
PHONE: (919) 716-6800
FAX: (919) 716-6755
E-MAIL: FHICKS@NCDOJ.GOV

September 18, 2009

**TRANSMITTED AND FILED
BY ELECTRONIC MEANS**

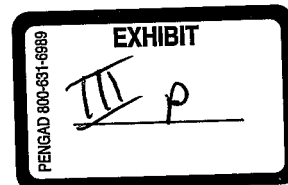
The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: Alcoa Power Generating, Inc. – Yadkin
Hydroelectric (Relicensing) Project,
Project No. 2197-073 (Application for
a New Major License)

Dear Secretary Bose:

Enclosed herewith for filing in the above-referenced proceeding is a pleading entitled "Motion of the State of North Carolina to Present Evidence in Support of its Request that the Commission Recommend Federal Recapture, Comments and Evidence of the State in Support of its Opposition to the Issuance of a New License to Alcoa, Motion of the State to Supplement Final Environmental Impact Statement, Request of the State for Waivers of Commission Regulations, if Necessary, and Motion of the State for Oral Argument Before the Full Commission," with supporting Exhibits 1-5.

Exhibit 1 to the State's Motion, entitled "The State of North Carolina's 21st Century Plan for the Use of the Yadkin River Resources," has two volumes: (i) volume 1, which is the text of the State's 21st Century Plan; and (ii) volume 2, entitled "Attachments to the State of North Carolina's 21st Century Plan for the Use of the Yadkin River Resources."



The Honorable Kimberly D. Bose
FERC Secretary
September 18, 2009
Page 2

I am simultaneously serving these papers on all persons listed on the official service list compiled by your office in this matter, either by electronic means or by First-Class United States Mail.

On behalf of the State of North Carolina and Governor Perdue, I would be grateful if you would file these pleadings and Exhibits with the Commission.

Should you have any questions concerning this letter, its enclosures or anything else, please let me know. My contact information is as follows:

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Thank you very much for your assistance in this matter.

Very truly yours,



I. Faison Hicks
Special Deputy Attorney General
Counsel for the State of North Carolina

Enclosures

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Alcoa Power Generating, Inc.	)	Project No. 2197-073
	)	Yadkin Hydroelectric Project
	)	Application for a New Major License

**MOTION OF THE STATE OF NORTH CAROLINA TO
PRESENT EVIDENCE IN SUPPORT OF ITS REQUEST
THAT THE COMMISSION RECOMMEND FEDERAL
RECAPTURE, COMMENTS AND EVIDENCE OF THE
STATE IN SUPPORT OF ITS OPPOSITION TO THE
ISSUANCE OF A NEW LICENSE TO ALCOA, MOTION OF
THE STATE TO SUPPLEMENT FINAL
ENVIRONMENTAL IMPACT STATEMENT, REQUEST OF
THE STATE FOR WAIVERS OF COMMISSION
REGULATIONS, IF NECESSARY, AND MOTION OF THE
STATE FOR ORAL ARGUMENT BEFORE THE FULL
COMMISSION**

NOW COMES the State of North Carolina, by and through its Governor, Beverly Eaves Perdue (the "State"), pursuant to Rule 212 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (the "Commission" or "FERC"), 18 C.F.R. § 385.212, and Sections 4(e), 7(c), 10, 14, 15 and 309 of the Federal Power Act, 16 U.S.C. §§ 797(e), 800(c), 803, 807, 808 and 825h, and moves the Commission to receive the State's Comments and evidence in support of its request that the Commission recommend federal recapture in this relicensing proceeding and, after consideration of the State's Comments and evidence, that the Commission recommend to the United States Congress that the Yadkin Hydroelectric Project, FERC Project No. 2197, now subject to relicensing, be proposed for recapture by the United States Government, and for transfer thereafter, following the enactment by Congress of appropriate legislation, to the State of

North Carolina for the public purposes described below, upon the terms proposed below for such transfer.

In conjunction with its request for recommended recapture, the State further moves the Commission to deny the new license application of Alcoa Power Generating, Inc. ("Alcoa" or "APGI") and requests that this pleading and the other materials of the State in support of this pleading which have been attached hereto accompany any recommendation made by the Commission for recapture, pursuant to Section 7(c) of the Federal Power Act. In addition, the State requests that the Commission supplement the Final Environmental Impact Statement ("Final EIS") issued by the Commission's Staff for the Yadkin Project in April 2008¹ to address the State's evidence and to evaluate the recapture alternative proposed by the State.

The State of North Carolina further requests that the Commission schedule the State's recapture request for oral argument before the full Commission. The provisions of law applicable to recapture, though of long standing in the Federal Power Act, have not been recently interpreted. The State therefore believes that the Commission will benefit from oral argument because of the significant public policy considerations raised in the State's submission regarding the future management of the State's natural resources and the State's urgent concern that the Commission give adequate and proper weight to the importance of water resources to the State, especially the waters of the Yadkin River.

¹ Final Environmental Impact Statement for the Yadkin and Yadkin-Pee Dee River Projects, Project Nos. 2197-073, 2206-030, at 35 (Apr. 18, 2008), *available at* eLibrary Accession No. 20080418-4000.

Summary of the State's Argument

The State's argument in opposition to Alcoa's relicensing application is simple and straightforward. It is grounded in basic principles of fairness and common sense. Alcoa's initial license in 1958 was premised on an agreement among Alcoa, the State and the Commission. Alcoa told the State and the Commission that, in exchange for a full, prospective 50-year license, it would use the flows of the Yadkin River to create a significant public benefit for the people of North Carolina by creating and maintaining nearly 1,000 jobs near the Project site. The State supported Alcoa's license application on this basis and the Commission awarded Alcoa a 50-year license that was predicated on the significant public interest in the creation and maintenance of these jobs.

Alcoa did not keep this commitment. It has not provided 1,000 jobs to the people of the Yadkin River Basin for decades. In 2007, Alcoa permanently shut down the Aluminum smelting plant in Badin that was the source of these jobs. Its relicensing application and proposal do not contemplate using the flows of the Yadkin River to restore these jobs or to create any other comparable benefit for the people of North Carolina.

In addition to Alcoa's failure to maintain these jobs or to propose to the Commission that it will otherwise use the Yadkin River in the next 50 years to create another, comparable public benefit, the evidence suggests that Alcoa has failed in its statutory duty to be a good steward and trustee of the Yadkin River, Badin Lake and the health and safety of the people who live nearby. Recent evidence points to conduct by Alcoa that substantially polluted and damaged the land, the Yadkin River and Badin Lake. This record also suggests that, out of concern for its own economic interests,

Alcoa has shown little interest in expediting the actual clean-up of its pollution, which today remains largely unremediated.

Furthermore, the circumstances in North Carolina and with Alcoa have dramatically changed since 1958. Today, the State's citizens look to the State to help foster the types of conditions that will promote the creation of jobs to replace those lost, as well as new jobs, as the State's population grows. The current worldwide economic recession, which has cut deeply into the State's employment levels, makes it even more imperative that the State fully harness North Carolina's natural and other resources to stimulate and support economic development, growth and job creation. As the State considers the next 50-year license period and how best to plan for the needs of its people in terms of jobs, economic development, growth, recreation and a better quality of life, it is essential that the State be able to provide individuals, communities and industries with adequate and dependable supplies of clean consumptive water. These and other significant changes in the State's and Alcoa's situation today as compared to 1958 compel a reevaluation of which entity should be the licensee for the Yadkin Project.

The question is: how are these vital public interests to be met? The answer seems clear. The Federal Power Act provides the State with the tools to assist it in meeting its responsibilities and in responding to these public interest challenges. The Commission itself is charged in this proceeding with licensing only that project that is *best adapted* to a comprehensive plan for the use of the Yadkin River to serve the public interest. North Carolina's 21st Century Plan for the Use of the Yadkin River Resources, Exh. 1 hereto (the "21st Century Plan" or the "Plan") addresses these public interest responsibilities and

challenges. It is the best adapted proposal to serve the public interest in the broadest sense. Alcoa has offered nothing comparable.

I. THE RELEVANT FACTS

The State's opposition to Alcoa's relicensing application and its request for a recapture recommendation arise out of: (A) Alcoa's failure to keep its promise to the State that, in exchange for the State's support of Alcoa's initial license application, it would create, maintain and provide North Carolina's people with significant socio-economic benefits; (B) Alcoa's failure as a trustee and steward of the Yadkin River, Badin Lake and the health and safety of the people who live nearby; and (C) significant changes which have occurred since 1958 and which the State believes require a completely new analysis of how best to use the flows of the Yadkin River as a public resource – in particular, the need for clean, accessible water supplies has become critical to the State's continued growth, development and prosperity. Each of these is explained below.

A.

The Loss of the Economic Development Public Benefit That Was the Underlying Basis for the Commission's Decision to Grant Alcoa the Initial License and Alcoa's Failure in its Current Relicensing Proposal to Provide Any Comparable Substitute Economic Development Benefit to the Public

At the heart of the original licensing of the Yadkin Project was the promise made by Alcoa to the State that Alcoa would modernize and increase the size of its Badin

smelting plant, thereby creating and thereafter maintaining nearly 1,000 jobs at the plant. *See Carolina Aluminum Co.*, 19 F.P.C. at 715-16, 719, 722, 730.²

The State's support of Alcoa's license application was predicated upon this promise. *See* Exh. 2, ¶ 4, at 2-3; Exh. 1, Attach. II, ¶ 8, at 7-8. At that time, the State recited in its Petition to Intervene that, unless the Federal Power Commission issued a 50-year license to Alcoa, "aluminum production at Badin would . . . be reduced and, possibly, ultimately abandoned." Exh. 2, ¶ 4, at 3. The State said essentially the same thing in its brief filed in the original license proceeding. Exh. 1, Attach. II, ¶ 8, at 7-8. The State further noted that such an event "would strike a serious blow to the economy of Stanly County and to the State . . . as a whole." Exh. 2 at 3. Alcoa made the same arguments to the Commission. Exh. 3 at 17-27 (Br. of Carolina Aluminum Co. in *Carolina Aluminum Co.*, Project Nos. 2197, 2206 (Nov. 18, 1957) ("1957 Alcoa Brief")).

Much of the evidence presented by Alcoa during the original license proceedings was designed to persuade the Commission to grant Alcoa a 50-year license, beginning in 1957, for all of its Yadkin River power plants (three such power plants were then in existence)³, rather than just for the new (fourth) power plant that Alcoa then proposed to construct. The Commission initially balked at issuing a full 50-year license for the three hydropower plants that had been constructed and had been operating without a federal license since the 1920s. *Carolina Aluminum Co.*, 17 F.P.C. 493, 495 (1957). It was eventually persuaded to issue such a license to Alcoa for all four dams and power plants, however, after Alcoa made it clear to the Commission, the State and the local community

² *See, e.g.*, Finding and Conclusion No. (20) in *Carolina Aluminum Co.*, 19 F.P.C. at 722.

³ *See* 19 F.P.C. at 704, where the Commission noted that the license for the three constructed plants had been backdated to January 1, 1947, resulting in a license just short of a 40-year term.

that it would not modernize the existing Badin smelting plant unless it obtained this 50-year license for all four power plants. *See Carolina Aluminum Co.*, 19 F.P.C. at 707. *See also* Exh. 3, 1957 Alcoa Brief, at 23 (stating that new investment in the Badin smelting works would "not be effectuated" absent a 50-year license term).

A decision by Alcoa to shut down the smelting plant at this point would have left approximately 1,000 workers without jobs which, at that time, paid high wages. The State was concerned that many long-time Alcoa employees, many of whom had worked for Alcoa for over 25 years, would be left without employment. Exh. 1, Attach. II, ¶ 8, at 7-8.

In support of its argument that it needed a 50-year license, Alcoa noted:

. . . the overwhelming public support of the project indicated by the intervention of the State of North Carolina, the strong recommendation of the State's two Senators, interested Congressmen and local governmental officials, and the telegrams, letters, petitions and statements from civic groups, organizations and individuals in North Carolina and, *particularly, those directly affected by the economy of the Badin area.*

As to both objections to the Yadkin Project, it is obvious that the answer lies in the proper balancing of interests. The question is whether the full potential of the affected reach of the Yadkin River should be developed to sustain *an industry which is the life blood of this section of North Carolina* or whether this valuable resource should be wasted in favor of small and relatively unaffected private interests or private aims and desires.

Exh. 3, 1957 Alcoa Brief, at 12 (emphasis supplied) (footnote omitted).

The State, Alcoa and the Commission all understood that the Badin jobs were the *quid pro quo* for the State's support for Alcoa's application. Indeed, the Commission's Presiding Examiner, whose decision was adopted by the Commission, predicated his

decision granting Alcoa its initial 50-year license on, *inter alia*, Finding and Conclusion number (20), which stated that:

The Applicant . . . proposes to reconstruct its smelting plant at Badin to increase both its maximum capacity and its firm or continuous smelting capacity in order to increase the usefulness and efficiency of the . . . smelting plant, and such proposed reconstruction is expected to afford continued employment to more than 900 persons in the Badin area.^[4]

This was the bargain that Alcoa made with the State, the local community and the Commission. The *quid pro quo* for North Carolina's support of Alcoa's quest for a full prospective 50-year license for all four of its hydro plants was this promise to expand the Badin smelting plant and to create and maintain nearly 1,000 high-paying jobs for North Carolina's citizens. In return, Alcoa received a license of great value.

By the latter part of the twentieth century, however, Alcoa decided to shift its Aluminum smelting operations elsewhere. Thus, it significantly reduced employment at its Badin plant over time and, in early 2007, it shut down this facility altogether. As a result, Alcoa eliminated all but approximately 35 jobs.⁵ When it closed its Badin smelting plant, Alcoa offered the people of North Carolina nothing of meaningful value to replace these lost jobs.

⁴ See *Carolina Aluminum Co.*, 19 F.P.C. at 722. In Finding (21), the Presiding Examiner further found that the smelting facilities last about 25 years, and that "full utilization" of the Badin smelting facilities could occur *twice* if a 50-year license were awarded, thus allowing the "continued employment" he referred to in Finding (20). Based on Findings (20), (21) and (22), he concluded that the public interest required that Alcoa be given a 50-year license. *Id.* (Emphasis supplied). This part of the Presiding Examiner's decision demonstrates that the Commission's decision 50 years ago was based on the public interest, as it should be now, and that a key public interest which persuaded the Commission to license Alcoa was its promise of these jobs. Since that time, these jobs have since largely vanished, such that, now, the public interest is no longer supported by licensing Alcoa, but, rather, by recommending recapture and transfer of the license to the State.

⁵ It is the State's understanding that these 35 or so jobs are in Alcoa's hydropower business at the Project site.

A study recently conducted by an economic research team from the North Carolina Department of Commerce estimated the scope of the economic loss caused to the people of the State by Alcoa's abandonment of this smelting plant. *See* Exh. 1, Attach. XVIII. Using a hypothetical new plant and available information as its basis, this study found that direct employment at such an Aluminum smelting plant today would range from 160 people (conservative) to 610 people (average); that the plant would foster total employment (that is, direct, indirect and induced employment) ranging from 571 persons (conservative) to 2,176 persons (average); that the plant would engender one-time facility construction employment ranging from 3,352 persons (conservative) to 12,793 persons (average); that capital investment in plant and equipment would range from \$232,506,550 to \$887,400,000; that the total annual output of the plant (the value of all goods and services produced and sold each year) would range from \$223,503,653 (conservative) to \$852,107,661 (average); that the plant's one-time, construction-related total output would range from \$368,000,000 (conservative) to \$1.5 billion (average); that the plant's total "value added" economic impact annually would range from \$71,711,276 (conservative) to \$273,399,238 (average); and that the plant's total annual recurring employee compensation (including wages and salaries, benefits, health and life insurance, retirement payments and all other non-cash compensation) would range from \$32,000,000 (conservative) to \$122,000,000 (average). *Id.* at 3-5.

These numbers are significant, and the total economic development impact on the State of such a facility, whether built along the lines of the conservative or the average model, would be tremendous. Multiplying this economic impact over an entire 50-year license period increases the economic impact of such a facility manyfold.

Conversely, the closure of such a plant would have an equally tremendous negative economic impact on the State, the Yadkin River region and the local community – an impact that can be seen in the numbers summarized above. This was the negative economic impact that Badin, Stanly County, the Yadkin River Basin and the State sustained when Alcoa closed its Badin smelting plant.

In 1957, Alcoa was well aware of the negative economic effect that failing to maintain these jobs would have on the State and the local economy. In words that would prove all too prophetic, Alcoa stated to the Commission that:

The . . . discontinuance or diminution of [Carolina Aluminum Company's] smelting operation at Badin . . . , would entail losses to the community in taxes and employment that would be *disastrous* in their effect.

Exh. 1, Attach. I, ¶ 3, at 2-3 (Motion for Reconsideration and Rescission of Order of Carolina Aluminum Company in *Carolina Aluminum Co.*, Project Nos. 2197, 2206 (Aug. 28, 1957)) (emphasis supplied). With Alcoa's closing of its Badin smelting plant and the consequent loss of these jobs, this disastrous effect has now come to pass.

After almost 100 years of operations on the Yadkin River, Alcoa now plans to use the flows of the Yadkin River, which belong to the public, solely to generate private profit for itself and its shareholders. Unlike North Carolina's investor-owned public utilities, which are subject to extensive regulation by the North Carolina Utilities Commission, have substantial business operations located here in North Carolina, employ thousands of North Carolinians and have a long-standing tradition of actively working in close partnership with the State in economic development and other productive activities, Alcoa employs very few North Carolinians, is not subject to utilities regulation by North

Carolina and now sends and will continue to send the profits it realizes from its use of the Yadkin River's flows to its shareholders and corporate operations in other states.⁶

B.

**Alcoa's Failure as the Project's Trustee and Steward to
Protect the Public Interest in the Environment and the
Health and Safety of the Public**

During its initial license term, Alcoa's actions and decisions as the Government-licensed trustee and steward of Badin Lake, the Yadkin River and the health and safety of the people who live in this area raise serious concerns about whether it is able to fulfill its stewardship and trustee role when its own economic interests conflict with its duty to act as a steward of the public interest. This conflict and Alcoa's failure to act as a public steward can be seen in evidence only recently surfacing as to: (1) the extent of the environmental pollution of Badin Lake and Alcoa's subsequent resistance to the efforts of State officials to warn the public of the resulting dangers; and (2) Alcoa's inaction with respect to the dissolved Oxygen problems caused by its own operation of the Project.

**1. Alcoa's Pollution of Badin Lake and its Lawsuit
Against the North Carolina Division of Public
Health**

For almost 100 years, Alcoa has conducted industrial operations at its Badin smelting plant. During this period, it produced large amounts of hazardous wastes.⁷

⁶ In fact, Alcoa has even announced that it intends to use the profits generated from the Yadkin River for investment in other countries. See *The New York Times* article on the agreement reached between Iceland and Alcoa, in which Iceland is reported to have agreed to construct a \$3 billion hydropower project, the output of which will be used to supply a \$1 billion new Aluminum smelting plant being constructed by Alcoa in that country. This article can be accessed via the following link: <http://www.nytimes.com/2003/03/19/business/alcoa-and-iceland-agree-on-smelter-project.html>.

⁷ For example, Alcoa's smelting plant produced approximately 4,800 tons per year of spent pot linings, a hazardous waste containing cyanide complexes. See, e.g., Scoping Comments of Stanly County and Request for Additional Information from Licensee at 9 (Feb. 26, 2007), available at eLibrary Accession No. 20070305-0171 ("Stanly County Scoping Comments"). The State has significant additional documentation on industrial pollutants and environmental contamination associated with the Badin

Some of these wastes were discharged into the air and water of Stanly County. Others were stored on or buried in the land.⁸ This environmental contamination of the Badin smelting plant site and the official disposal sites used by Alcoa in Stanly County, all of which are located on or near the shore of Badin Lake, have been documented by Alcoa's own environmental consultants.⁹

In addition, Alcoa used, *inter alia*, PCBs and materials containing polycyclic aromatic hydrocarbons ("PAHs") in its smelting and hydropower operations.¹⁰ It has acknowledged its use of PCBs and certain of its PCB disposal practices, describing one waste disposal operation referred to as the "Aerated Lagoon," where hazardous wastes were stored or disposed of. *See* Stanly County Scoping Comments, Attach. C (at T4-2, T4-4).

Today, Badin Lake is contaminated with both PCBs and PAHs, *see, e.g.*, the RETEC Report and the Matthews Memorandum, substances suspected of causing cancer in human beings. The presence of these potentially cancer-causing contaminants in the

smelting works, and is prepared to make these materials available to the Commission if it would assist the Commission's record and decision in this matter.

⁸ These other hazardous waste materials included, *inter alia*, spent pot linings and other refuse from Alcoa's smelting operations, which were stored or buried underground. "Spent pot lining" waste ("SPL") is a hazardous waste regulated under the Resource Conservation and Recovery Act. This waste contains cyanide and fluoride generated from cleaning and refurbishing the smelting pots. *See* Stanly County Scoping Comments, Attach. C (at T4-2).

⁹ *See generally* Stanly County Scoping Comments at 9-21. *See also* MFG, Inc., *RCRA Facility Investigation Report* (March 2001), attached to letter from Frances E. Francis to Kimberly D. Bose, Sec'y, FERC, *Alcoa Power Generating, Inc.*, Project No. 2197-073 (Dec. 10, 2007), available at eLibrary Accession No. 20071210-5059; Stanly County Board of Commissioners, public meeting (Feb. 5, 2007), video file, which provides an overview of: (i) the contamination that Alcoa acknowledges at the Badin smelting plant and official dumping locations; and (ii) the steps that Alcoa has taken as of February 2007 to address this contamination, Attach. B to the Stanly County Scoping Comments.

¹⁰ *See, e.g.*, Exh. 4, at E-1, "Characterization of the Toxicity and Bioavailability of Polycyclic Aromatic Hydrocarbons in Aquatic Sediments from Badin Lake," prepared for Alcoa by The RETEC Group, Inc., (Feb. 16, 2007) (the "RETEC Report"); Exh. 5, at 1-3, Memorandum from Dexter Matthews, Dir., DENR Waste Mgmt. Div., to Rob McDaniel, DENR Hazardous Waste Section, Re: PCBs in Badin Lake, at 1-3 (Feb. 25, 2009) (the "Matthews Memorandum").

sediments of the Lake gives rise to the concern, *inter alia*, that these toxins will be absorbed by micro-organisms living in the Lake or its sediments and that these micro-organisms will then enter the Lake's food chain, a process that could ultimately result in high concentrations of these toxic substances in fish that are caught and eaten by human beings. The State is particularly concerned that people with limited budgets living in the area around Badin Lake may be especially vulnerable to health risks because they supplement their diet by catching and eating the fish from the Lake.

And indeed, in 2008, when a sample of fish was taken from Badin Lake and the tissues of these fish were analyzed, PCBs were found in the tissues of a number of them.¹¹ These PCB-contaminated fish included, among other species which are routinely caught and eaten by humans, Largemouth Bass and Catfish.¹²

The preliminary findings of one study recently conducted for Stanly County by John H. Rodgers, Jr., Ph.D., a Clemson University professor,¹³ suggest that the source of the PCBs found in the tissues of these Badin Lake fish is the PCB-laden sediment at the bottom of the Lake, including those PCB-laden sediments lying in the southwest quadrant of the Lake, directly adjacent to the old Alcoa smelting plant and resulting from Alcoa's past industrial activities. See Exh. 1, Attach. VI.¹⁴

¹¹ See, e.g., Exh. 1, Attach. VI (Review of PCB Data From Badin Lake, John H. Rodgers, Jr., Ph.D. (July 27, 2009)).

¹² See North Carolina Department of Health and Human Services, Division of Public Health, Epidemiology Fish Consumption Advisory, Badin Lake in Stanly County and Montgomery County (Feb. 11, 2009), <http://www.epi.state.nc.us/epi/fish/current.html> (the "DPH Fish Consumption Advisory").

¹³ Professor Rodgers is the Director of the Ecotoxicology Program in the Department of Forestry and Natural Resources at Clemson University. See Exh. 1, Attach. VII (*Curriculum Vitae* of John H. Rodgers, Jr., Ph.D.).

¹⁴ The Matthews Memorandum, dated February 25, 2009, summarized the (DENR) Division of Waste Management's review of the data then available on the source of the PCBs found in the tissues of the fish caught in Badin Lake. Exh. 5 at 1. This data review concluded that: "[w]ith the information available at this time, considering the vast array of PCB congeners found present in the fish tissue, it would be

After the 2008 fish tissue studies found PCBs in the tissues of Badin Lake fish, the North Carolina Department of Health and Human Services and its Division of Public Health announced a fish consumption advisory for Badin Lake in February 2009.¹⁵ This advisory was intended to warn all pregnant women and certain other at-risk people not to eat Badin Lake Largemouth Bass or Catfish at all and to warn others to eat no more than limited quantities of these PCB-contaminated fish.

In addition, the fish consumption advisory noted that the Division of Public Health would be posting signs at Badin Lake warning people of the health hazards of eating these fish. DPH Fish Consumption Advisory; *see also* Exh. 1, Attach. VIII. Alcoa informed the Division of Public Health that it disagreed with the Division's findings.

When the Division of Public Health announced its fish consumption advisory in February 2009 and stated that it intended to post warning signs at Badin Lake concerning the health hazards of eating Largemouth Bass and Catfish, Alcoa was waiting for DENR to make its decision on Alcoa's application for a Clean Water Act Section 401 Certification, a document that Alcoa was required to have in order to qualify for a new 50-year license for the Project.

At this critically important moment for Alcoa, it was presented with a dilemma arising from its dual role as: (i) a for-profit business enterprise that wanted DENR to issue it a Clean Water Act Section 401 Certification so that it could obtain a new 50-year

extremely difficult and unlikely to conclude that these congeners are due solely from one source with any degree of confidence." *Id.* at 3. The DWM data review that is reported in the Matthews Memorandum was conducted five months or more before Dr. Rodgers' PCB congener analysis and his reported preliminary conclusion that the source of the PCBs found in the tissues of the Badin Lake fish is Alcoa's industrial pollution of the Lake. *Compare* Exh. 1, Attach. VI, with Exh. 5, the Matthews Memorandum. As noted elsewhere in this pleading, Dr. Rodgers' report has recently been provided to DENR and is now being reviewed by that agency.

¹⁵ *See* the DPH Fish Consumption Advisory.

license to operate the Project; and (ii) the Government-licensed trustee and steward of the public interest, including the health and safety of the people who live near the Project. Looking to its own economic needs and interests, Alcoa resolved this conflict by acting so as to increase its chances of obtaining the Section 401 Certification and a new 50-year license.

Alcoa thus chose not to cooperate with the Division of Public Health in its efforts to protect the public's health and safety – even if that meant temporarily setting aside any disagreements with the Division over the Division's conclusions. Instead, Alcoa filed a lawsuit *against* the Division of Public Health in the Office of Administrative Hearings (the “OAH”) challenging the Division's legal right to take this protective action.¹⁶

Alcoa justified its lawsuit by asserting that the Division's actions had “deprived [Alcoa] of *property*” and had “otherwise substantially prejudiced [Alcoa's] rights.”¹⁷ Significantly, Alcoa's lawsuit challenged not only the Division's issuance of the fish consumption advisory, but even its proposed posting of signs at Badin Lake to warn local people of the danger of eating these PCB-contaminated fish.¹⁸

¹⁶ Alcoa's OAH litigation potentially subjected the Division, in the event it lost this case, to an award of at least a substantial portion of Alcoa's attorneys' fees and court costs, which could include expensive expert witness fees. *See, e.g., Walker v. North Carolina Coastal Res. Comm'n*, 124 N.C. App. 1, 10-12, 476 S.E.2d 138, 144-45 (1996), *rev. denied*, 346 N.C. 185, 486 S.E.2d 220 (1997) (attorneys' fees and court costs expended by prevailing OAH litigant during the Superior Court [and beyond] judicial review stage of the administrative proceedings are awardable under North Carolina law). Despite this chilling effect on the Division of Public Health's planned fish consumption advisory and sign posting plan, the Division proceeded.

¹⁷ Exh. 1, Attach. IX (Petition for a Contested Case Hearing filed by Alcoa with the OAH, No. 09-DHR-2505, filed Apr. 9, 2009) (emphasis supplied).

¹⁸ *See id.*, Exh. 1, Attach. IX at 1 of 4, where Alcoa stated: “[b]y virtue of the [Division of Public Health's] issuance of the *Advisory and the posting of the Advisory Signs*, and the impacts of those actions as discussed herein, [Alcoa] is an aggrieved person . . . because the *Advisory and Advisory Signs* directly and indirectly affect [Alcoa] in its property and has [sic] otherwise substantially prejudiced [Alcoa's] rights” (emphasis supplied).

Alcoa's OAH Petition strongly hints at the fact that Alcoa was itself keenly aware of its own conflict of interest between its public trust responsibilities and its narrow economic interests. Thus, in what appears to have been an all-out attempt by Alcoa to find and identify *some* public interest basis for opposing the Division of Public Health's efforts to protect the health and safety of people living near the Project, Alcoa seized upon what it claimed was the public's interest in being able to swim and fish in Badin Lake without having to worry about the health-related dangers of doing so. Exh. 1, Attach. IX, at 1 of 4.¹⁹

But the last two pages of the four-page, single space attachment to Alcoa's OAH Petition suggest that Alcoa was motivated by different considerations and provide evidence of Alcoa's conflict of interest. In this portion of Alcoa's OAH Petition, it complained about "[m]isimpressions of the quality of the Badin Lake environment created as a result of the issuance of the Advisory and [the] posting of the Advisory Signs." *Id.* at 3 of 4. Alcoa's Petition added that:

[T]he Advisory and the Advisory Signs . . . also threaten to have an adverse impact on future decision-making processes involving Badin Lake and Dam. For example, [Alcoa] is in the process of seeking a long-term renewal of the FERC License ("FERC Renewal"). The issuance of the FERC Renewal is conditioned upon [Alcoa] receiving a Water Quality Certificate for Project discharges, including discharges from Badin Lake, under Section 401 of the Clean Water Act ("401 Certification"). In order for [Alcoa] to receive the FERC Renewal, [DENR's] Division of Water Quality ("DWQ") . . . must either issue or deny the 401 Certification by May 7, 2009

* * * * *

¹⁹ Specifically, Alcoa's OAH Petition stated that its purpose in filing this lawsuit was to protect "the public's ability to fully utilize the recreational benefits of Badin Lake without undue concern." Exh. 1, Attach. IX, at 1 of 4.

[Alcoa's] timely receipt of the 401 Certification is important to [Alcoa's] receipt of the ultimate long-term FERC Renewal

Id.

On May 7, 2009, DENR issued the Section 401 Certification to Alcoa (albeit with significant conditions). Exh. 1, Attach. XI.²⁰ Having achieved this key business objective, Alcoa hastened to end this episode, which must by this time have become a public relations embarrassment to Alcoa. Despite its concern that the DPH Fish Consumption Advisory might interfere with the ability of people to swim and fish in the Lake without undue concern for their health, Alcoa entered into negotiations with the Division of Public Health as a result of which it negotiated and consented to an Order staying this OAH lawsuit pending the resolution of the other ongoing and related cases in the OAH dealing with the issuance by DENR of the Section 401 Certification.²¹

2. Alcoa's Failure as the Project Licensee to Take Those Steps Necessary to Deal With the Dissolved Oxygen Problems in the Yadkin River Caused by its Operation of the Project

Alcoa's own filings with the Commission show that it has failed to take those steps necessary to deal with dissolved Oxygen deficiencies in the Yadkin River that were caused, in whole or in part, by its operation of the Project. In 1999, Alcoa filed an application to amend its Project license to obtain authorization to perform major maintenance and install equipment upgrades at eight of the existing, older hydroelectric

²⁰ DENR issued the Section 401 Certification to Alcoa several months before the study conducted for Stanly County by Dr. John H. Rodgers, Jr. was completed or made available to DENR and at a time when no studies existed demonstrating or suggesting that the PCBs in the Badin Lake sediments were or might be moving up the Lake's food chain into the Lake's fish.

²¹ Exh. 1, Attach. X (OAH Order Granting Motion to Amend Scheduling, *Alcoa Power Generating, Inc. v. North Carolina Dep't of Health & Human Servs. and its Div. of Pub. Health*, No. 09-DHR-2505 (July 27, 2009)).

generating units located at the powerhouses for three of the four developments that are part of the Project (High Rock, Narrows and the Falls). When completed, this maintenance and upgrade project would: (1) enable the hydroelectric units to generate more electricity; and (2) improve the dissolved Oxygen (“DO”) content of the water flowing between the reservoirs and dams of the Yadkin system.²² Alcoa proposed to complete this work before its Project license expired in April 2008.

DENR was concerned during this time frame with the DO content of the water, which violated State water quality standards during several months of the year.²³ Thus, DENR wanted Alcoa to make these DO-related equipment upgrades, as did the United States Environmental Protection Agency (“EPA”).²⁴ Nevertheless, it is unclear under the law whether a state environmental agency such as DENR may actually require a FERC licensee such as Alcoa to perform equipment upgrades like these on its Project during the Project’s license term except when the licensee is seeking to modify its existing license, obtain a new license or obtain a Clean Water Act Section 401 Certification.

The Commission approved Alcoa’s amendment application in 2000, but it did so subject to a condition (Article 39) providing that, if necessary to comply with the State’s water quality standards, Alcoa should be prepared “to develop and implement measures

²² When Alcoa submitted the application to amend its license, it declared that its then-current federal license to operate the Project “contemplated that the four developments [of the Project] would continue to serve the electricity needs of Alcoa’s Badin plant, a role that continues to this day.” Application for Commission Authorization to Amend Project License, *Yadkin, Inc.*, Project No. 2197-038, at 2 (Dec. 3, 1999), available at eLibrary Accession No. 19991207-0101. This was just seven years before Alcoa’s complete shutdown of the Badin plant.

²³ Exh. 1, Attach. XIII (Fish and Aquatics IAG and Water Quality IAG Joint Meeting, Final Meeting Summary, at 2-5 (Feb. 3, 2004), reprinted in Alcoa Power Generating, Inc., Application for License, Project No. 2197, vol. V (C) (2006)). See also Environmental Assessment issued May 2000, attached to *Yadkin, Inc.*, 92 F.E.R.C. ¶ 62,084, at 64,106 (Table 3), 108 (2000).

²⁴ *Id.*; Letter from Heinz J. Mueller, Chief, NEPA Program Office, Office of Policy & Mgmt., U.S. EPA, to Kimberly D. Bose, Sec’y, FERC (Dec. 10, 2007), available at eLibrary Accession No. 20071210-5069.

to improve DO, either through structural or operational modifications at the project.”

Yadkin, Inc., 92 F.E.R.C. ¶ 62,084, at 64,101 (2000).

Furthermore, the Commission warned Alcoa that:

[Alcoa] is on notice that a licensee has no guarantee that the costs it decides to incur will be recovered, or even that a new license will be issued. [Alcoa] assumes the risk that our balancing of all public interest considerations on relicensing will result in requirements that may diminish the economic value of the project. It is for [Alcoa] to take these risks into account in determining whether undertaking the proposed upgrades is a reasonable business decision.

Id. at 64,100-01 (footnotes omitted).

When the Commission conditionally approved Alcoa’s license amendment application in 2000, there were eight years left on Alcoa’s initial license to operate the Project. The Commission’s DO condition (Article 39) and its warning to Alcoa that it might not be relicensed or otherwise enabled to recover its upgrade costs presented Alcoa with another conflict between its statutory role as trustee and steward of the Yadkin River and its economic interests in maximizing profits.

Again, Alcoa’s response to this conflict was dictated by its economic interests, not the public interest. By 2001, Alcoa had completed work on one unit at the Narrows plant (Narrows Unit 4) and a DO improvement resulted; however, although it was clear that the discharges from all four Project developments still did not meet State water quality standards for DO during several months of the year,²⁵ Alcoa decided to postpone the refurbishment of the remaining seven units.²⁶

²⁵ *Id.*

²⁶ Exh. 1, Attach. XIII (Fish and Aquatics IAG and Water Quality IAG Joint Meeting, Final Meeting Summary at 3-5 (Feb. 3, 2004), *reprinted in* Alcoa Power Generating, Inc., Application for License, Project No. 2197, vol. V (C) (2006)). An Alcoa representative explained that “the economics of the planned upgrades were stalled when capital dried up” *Id.* at 3.

In March 2006, Alcoa announced that it would complete this work at only two of the eight units before its license expired in 2008. One month later, in April 2006, Alcoa stated as part of its relicensing application that it would refurbish the six remaining units, as well as units at the Tuckertown development,²⁷ only during its anticipated *next* license term.

The economic benefits to Alcoa of its postponement decision following the Commission's conditional license amendment approval are obvious. Among other things, Alcoa avoided the financial risk that it might resolve the long-standing DO problem but then not receive a new license. It also delayed having to spend a significant sum of money on an issue the resolution of which does not contribute to its financial bottom-line or other corporate goals.

The detrimental impact to the public interest of Alcoa's delay in completing the approved facilities is equally obvious, however: (1) the additional renewable energy that would have been generated if the upgrades had been made has been permanently lost; and (2) the River and the State's citizens have been denied the benefits of the improved quality of the water that would have resulted from the installation of the aeration facilities. These benefits are not insubstantial.²⁸

²⁷ Alcoa had by this time secured DENR's consent to this delay as to the Tuckertown development, but only as to this development.

²⁸ As Alcoa itself comments in its RSA, Joint Explanatory Statement for the RSA, para. 7.6.1:

The improved DO concentrations in the Project tailwaters that will be achieved as a result of the proposed DO enhancements will have many significant benefits. Increasing tailwater DO conditions will certainly improve habitat conditions for invertebrates, including mussels, and fish, which in turn should produce better recreational fisheries in these tailwaters.

Since April 2006, Alcoa has even further delayed the implementation of any equipment upgrades designed to resolve the DO problems caused by its operation of the Project.²⁹ In addition, despite the fact that DENR issued Alcoa a Section 401 Certification the effectiveness of which was conditioned upon, *inter alia*, Alcoa posting a performance bond to ensure that it could afford to install this DO-related equipment,³⁰ Alcoa has never posted this bond. Instead, Alcoa filed a lawsuit against DENR in the OAH challenging DENR's legal right to impose this requirement on Alcoa.³¹

²⁹ For example, under the latest Alcoa schedule as presented in its RSA, there are further delays, as the monitoring and enforcement of the State's clean water standards would not become effective until after *all* the DO enhancement equipment and measures have been completed and have become operational (under Alcoa's relicensing application schedule, they are not due to be completed until 8 years after the license is issued, which would be 2017 if the license were issued this year), and there have been two more years of monitoring (which would move the timeline back to 2019). Exh. 1, Attach. XIV, RSA, para. 2.2.4. Even then, Alcoa has an additional year after notification that it has not met the State's DO standards in the preceding two years provided for consultation and to file a plan to correct the situation. *Id.* Thus, sometime in 2020 or 2021, over a decade from now, Alcoa should have submitted a plan for DO improvements. The Commission essentially approved most of these upgrades in 2000 – almost 10 years ago. These upgrades should have been completed far earlier, as part of the Project's ongoing maintenance program and consistent with a licensee's obligation to maintain its Project in good, working condition.

³⁰ See Exh. 1, Attach. XI, at 145-46, 150.

³¹ Furthermore, Alcoa is now attempting to totally bypass DENR, undercut the OAH litigation process that Alcoa itself initiated in North Carolina to challenge the Section 401 Certification's performance bond requirement and emasculate the Section 401 Certification process that has occurred in this case. Thus, on September 17, 2009, Alcoa filed in this docket a Petition with the Commission for a Declaratory Order finding that DENR's Division of Water Quality waived the State's water quality certification under Section 401(a)(1) of the Clean Water Act by imposing a term in the Section 401 Certification which it issued to Alcoa on May 7, 2009 that required Alcoa to provide the State, *inter alia*, with reasonable financial assurances that these DO upgrades would be installed at its facilities once all of its postponements have finally come to an end. See Alcoa's September 17, 2009 Petition for a Declaratory Order, *available at* eLibrary Accession No. 20090917-5101.

C.

**Significant Changes in the Circumstances of the State
and the Yadkin River Basin Since 1958 Which Require
a Completely New Analysis of How Best to Use the
Yadkin River Resources Now and in the Next Fifty
Years: the State's 21st Century Plan**

Significantly changed circumstances in and affecting the State, the Yadkin River Basin and the people of North Carolina since 1958 compel the denial of Alcoa's license application and the recapture of the Project license. In connection with this proceeding and its recapture request, the State has prepared its comprehensive proposal for the use of the Yadkin River, entitled the State's "21st Century Plan for the Use of the Yadkin River Resources." Volume 1, Section I of that Plan at 4-13 (Exh. 1 hereto) demonstrates the almost startling extent of the changed circumstances referred to above. The State here offers a summary of these changed circumstances.

In a nutshell, clean, reliable water resources are essential to the State's economic viability in the future. *See* Exh. 1 at 4-13. According to the North Carolina Division of Water Resources, the State's growing population, combined with severe drought conditions over the last decade, has resulted in a number of water supply problem areas, where water needs exceed supplies.³²

Consequently, there is a vital public interest in ensuring that the State's government, acting in partnership with local governments, is able to properly plan for water availability and use, administering water management laws and establishing policies that will help to solve the water problems facing the State and its people. *Id.*

³² Exh. 1 at 4-13 and Attach. III (North Carolina Drought Management Advisory Council Activities Report-2008, North Carolina Division of Water Resources, Department of Environment and Natural Resources, Division of Water Resources, Oct. 1, 2008 (Revised Dec. 17, 2008)).

The State must be able to ensure that backup systems are in place to protect communities in the event of water emergencies. *Id.*

As the effects of global warming become more pronounced over time and as the State's population increases and becomes more urban, the pressure on water supplies will become severe. At the same time, the availability of large reservoirs typically used to serve the needs of urban areas will decline.³³ The State must plan wisely now and secure a greater degree of control over the water supplies within its own borders in order to fulfill its obligation to promote future economic prosperity and to enhance the quality of the lives of its citizens.

Lack of adequate water supplies could curtail entirely the ability of communities and industries to grow and prosper. It could cause industries to close, thus eliminating jobs, and could cause other industries not to locate in North Carolina in the first place. This problem will also negatively impact people's ability to enjoy recreational and aesthetic activities in the State's rivers and lakes. In short, this problem threatens the continued prosperity and quality of life of virtually every citizen of the State, as well as the State's businesses and industries. *Id.* Thus, the public interests at stake here are vital ones.

When, in 1958, the State sought and obtained for its people the economic development *quid pro quo* discussed above, it had a population slightly over 4 million citizens.³⁴ The State's population is now well over 9.2 million. Exh. 1 at 18. The State's

³³ The pressure of urbanization and the need for adequate, cleaner water supplies in North Carolina are discussed more fully in Exhibit 1 hereto, particularly at pages 4-7, 11-12, 18-20, 45-46, 52, and Attach. V, which appears in Volume 2 of the State's 21st Century Plan.

³⁴ In 1950, North Carolina's population was 4,061,929. In 1960, it had grown to 4,556,155. See United States Department of Commerce, Economics and Statistics Administration, Bureau of the Census, 1990

population is projected to increase by almost another million people by 2013. *Id.* These millions of North Carolinians need the economic development power of the Yadkin River as never before to enable them to achieve and sustain the kind of economic development, job creation, prosperity and quality of life that all Americans seek.

Of equal significance, the elected leaders of North Carolina and the State's many local communities also realize that we are now rapidly approaching the day when water itself may be more valuable than the electricity that the water can generate. Water is critically needed now by local communities and their surrounding regions for growth, development, jobs and improved life quality – indeed, for the very survival of many of these communities. As North Carolina's population continues to grow, water use experts foresee conflicts between communities, industries, counties, regions and even states³⁵ over the uses to which the State's available water will be put. *Id.*

The fundamental importance of the Yadkin River Project to the State was dramatically underscored by a record drought that the State and the Yadkin River region experienced in 2007-2008. As a result of this drought, it became apparent to the State that, if Alcoa continued to control the flows along the Yadkin-Pee Dee River system, the State would not have the ability to plan effectively – or to implement its plans – for the urgent water needs of its growing and increasingly urbanized population and its

Census Population and Housing, North Carolina, 1990 CPH-2-35, available at <http://www.census.gov/prod/cen1990/cph2/cph-2-35.pdf>.

³⁵ In this regard, note the lawsuit filed by the State of South Carolina against the State of North Carolina in the United States Supreme Court over what South Carolina claims is North Carolina's action in allegedly taking more than its share of the water of the Catawba River. This lawsuit, entitled *South Carolina v. North Carolina*, No. 138 (Original Jurisdiction of the Supreme Court), was filed on June 7, 2007 by the Attorney General of the State of South Carolina, has been referred to a master and is now on-going.

increasingly higher tech industries. Exh. 1, at 4-7, 11-12, 18-20, 45-46, and Attachs. V, XVII.³⁶

Many of the mitigation measures necessary to deal with drought, including assuring that the State has both the resources and the plans in place to deal promptly with emergencies, require long-term planning, coordination among many entities and the construction of new facilities. *See, e.g.*, Exh. 1 at 3-7 and Attach. III (North Carolina Drought Management Advisory Council Activities Report-2008, issued Oct. 1, 2008 (revised Dec. 18, 2008), by DENR, Division of Water Resources).

The planning needed to deal with these water availability problems and the public's need for assurance that adequate supplies of water will be available in the future will be made more practicable and effective if the State is permitted to gain a meaningful degree of control over the waters of the Yadkin River, one of the State's largest river systems. *Id.* at 5-6. This increased level of control would give the State the ability to act quickly and effectively when action is required by further changed circumstances, such as a drought, further population growth and other changes. *Id.* at 6. It would also provide stability and greater certainty to companies and individuals on an issue that is of crucial importance to everyone. *Id.*

The rapidly changing situation in North Carolina affecting the State's ability to provide adequate supplies of clean water is one that, absent effective planning and the

³⁶ Significantly, as the State's 21st Century Plan observes, the State has very few opportunities left to develop reservoirs to meet the public's current and future needs for clean water, as most available reservoir sites in the State have already been developed. *See, e.g.*, Exh. 1, Attach. V at 46 (*Water for Electricity and Public Water Supply in the Yadkin River Basin* (Aug. 26, 2009), by David H. Moreau, Ph.D.). This circumstance makes it even more challenging for the State to be able to provide for the most pressing needs of its citizens as regards available water supplies and demonstrates why the public interest in North Carolina requires that the State be given more meaningful control over this large waterway running through the heart of the State.

State's practical ability to exercise meaningful control over the Yadkin River, could threaten the people of North Carolina with dire future consequences. The pace of these changes will accelerate over the next 50 years. Furthermore, the problems associated with water availability and use will almost certainly be made even more complex and challenging by global climate change. The next licensee of the Project will have to make day-to-day decisions about water use and the dynamics of this water-supply-versus-water-demand dilemma. Therefore, the party licensed to conduct the Project for the next 50 years must be an entity that can be trusted to act in the public interest, not merely its own narrow economic interests. *See id.* at 4-7.

II. THE LAW APPLICABLE TO THIS PROCEEDING

A.

The Legal Standard Under Sections 7(c) and 10(a) of the Federal Power Act that is Applicable to and Controlling of the Issues Presented in This Proceeding – Optimization of the Public Interest in the Broadest Sense

In presenting what would become Section 7(c) of the Federal Power Act to Congress, the Commission recommended that the standard to be applied in relicensing should be the standard of Section 10(a) of the Federal Power Act, which it understood

to call for optimum development and accommodation, where a conflict arises, in terms of resource values including: water quality control; flood control; recreation and aesthetic considerations; fish and wildlife conservation and enhancement; protection of improvements along the reservoir shore line; drinking water and other domestic, municipal and industrial uses; irrigation requirements; optimum power development and coordination with other systems in light of regional power needs; hydraulic coordination with other projects on the stream; and navigation.

Letter from Lee C. White, Chairman, FPC, to the Honorable Hubert H. Humphrey, President of the Senate, 113 Cong. Rec. 26,186-87 (Sept. 20, 1967).

When the Federal Power Act was amended in 1986, Congress recognized that “[t]he Commission and the courts have held the Section 10(a) standard to be [a] *broad public interest* standard, requiring consideration of *all* factors affecting the public interest.” H.R. Rep. No. 99-507 at 12 (1986), *reprinted in* U.S.C.C.A.N. 2496, 2499 (emphasis supplied) (internal citation omitted).

Importantly, Congress explained that it intended Section 10(a) to provide the Commission with the flexibility to weigh different public interest factors differently on a case-by-case basis, so that “[a]s the public interest *changes over time*, the Commission’s considerations under the [S]ection 10(a) standard likewise change, encompassing new criteria or reevaluating the weight given established criteria.” *Id.* (Emphasis supplied).

Section 10(a) does not present “an exclusive list of values FERC must evaluate and address,” but rather “highlights the steps the Commission must take to inform itself regarding the needs and uses of the river in question.” H.R. Rep. No. 99-934 at 22 (1986), *reprinted in* U.S.C.C.A.N. 2537, 2539.

The key to the Commission’s determination of a license application is thus always the public interest. The Commission is required to make an independent, *de novo* assessment of whether the applicant’s proposal is best adapted to serve the public interest. The ultimate question in such a *de novo* assessment is which final proposal is best adapted to serve the public interest, taking into consideration on an equitable basis both non-power and power development values. *Id.* at 10. In addition, a license incumbent is not to be given any preference in the relicensing process. *Id.* at 16.

B.

The Authority and Right of the United States Government to Recapture a Project at the Expiration of its License Term are Long-Standing and Settled Principles of Law.

In the first major challenge to the Commission's authority to include a recapture clause in a federal hydroelectric license, the Appalachian Power Company ("AEP") argued that the "capture" clause was confiscatory. *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377, 392 (1940). AEP, a privately owned utility and licensee, described the United States Government's position as arguing that "the right to engage in interstate commerce is a privilege which petitioner may grant, deny or barter upon such terms as it may choose – including the 'taking over' of the property of a citizen as a condition of the grant." See Syllabus, summary of respondent's brief to the Court, ¶ 28.

AEP concluded that the Government's argument was "totalitarianism run riot." 311 U.S. at 394. See Syllabus, summary of respondent's brief to the Court, ¶ 28. The United States Supreme Court responded as follows:

The point is that navigable waters are subject to national planning and control in the broad regulation of commerce granted the Federal Government. The license conditions to which objection is made have an obvious relationship to the exercise of the commerce power. Even if there were no such relationship, the plenary power of Congress over navigable waters would empower it to deny the privilege of constructing an obstruction in those waters.

Id. at 426-27.

Furthermore, in describing the nature of the power held by Congress, the Court could not have been more clear as to the scope of this power when it comes to the flowing waters of the United States:

The Federal Government has domination over the water power inherent in the flowing stream. It is liable to no one for its use or non-use. The flow of a navigable stream is in no sense private property; "that the running water in a great navigable stream is capable of private ownership is inconceivable."

Id. at 424 (quoting *United States v. Chandler-Dunbar Co.*, 229 U.S. 53, 68 (1913)).

The Supreme Court's interpretation in *Appalachian Electric Power Co.* was later echoed in *Louisville Gas & Electric Co. v. Federal Power Commission*, 129 F.2d 126 (1942), where the United States Court of Appeals for the Sixth Circuit held:

It was assumed, though without decision, in *United States v. Appalachian Electric Power Co.*, ... 311 U.S. 377, ... that "by compulsion of the method of acquisition provided in section 14 of the Power Act and the tendered license, these riparian rights may pass to the United States for less than their value. In our view *this 'is the price which (respondents) must pay to secure the right to maintain their dam.'*" This is from the conclusion reached in *Fox River Paper Co. v. Railroad Commission*, 274 U.S. 651, ... which the court now declares is decisive on the issue of confiscation.

129 F.2d at 134 (emphasis supplied).

Thus, there can be no argument as to the right of the Federal Government to condition the award of hydroelectric licenses on the agreement by the licensee to consent to recapture at the end of the license term, and all major hydroelectric licenses are issued subject to this requirement.³⁷ Accordingly, the recapture clause contained in Alcoa's 1958 license is constitutional and enforceable.

³⁷ In discussing Section 14 of the Federal Power Act, the Commission itself has acknowledged the importance to Congress of the recapture provisions of the Federal Power Act:

When the Federal Water Power Act (FWPA) was enacted in 1920 after several years of consideration and debate, section[] 14... w[as a] key part[] of the legislation. There was a keen interest by some members of Congress in providing the opportunity for eventual Federal takeover of Commission-licensed power projects, and that became reflected in

C.

**The Commission Has the Authority to Recommend
Recapture in this Proceeding.**

It is equally clear that the Commission has the authority to recommend recapture in this proceeding. Section 7(c) of the Federal Power Act provides:

Whenever after notice and opportunity for hearing, the Commission determines that the United States should exercise its right upon or after the expiration of any license to take over any project or projects for public purposes, the Commission shall not issue a new license to the original licensee or to a new licensee but shall submit its recommendation to Congress together with such information as it may consider appropriate.

16 U.S.C. § 800(c).

The Commission has implemented this statute in its regulations. 18 C.F.R.

§16.15 states:

Upon receipt of a recommendation from any Federal department or agency, a proposal of any party, or on the Commission's own motion, and after notice and opportunity for hearing, the Commission may determine that a project may be taken over by the United States, issue an order on its findings and recommendations, and forward a copy to Congress.

Thus, the authority of the Commission to independently recommend recapture by the United States is supported by both the Federal Power Act and the Commission's own regulations. This authority is of long standing in federal law. Indeed, in *Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. Federal Power Commission*, 510

section 14. This section was designed as a vehicle that would permit the Federal government to own, maintain, and operate valuable water-power projects under terms which could make such takeover practical when the circumstances warranted.

FERC Policy Statement, *Project Decommissioning at Relicensing*, 60 Fed. Reg. 339, 341 (Jan. 4, 1995), [1991-1996 Regs. Preambles] F.E.R.C. Stat. & Regs. ¶ 31,011, at 31,223 (1994) (footnote omitted), available at eLibrary Accession No. 19941220-0106.

F.2d 198 (D.C. Cir. 1975), the United States Court of Appeals for the District of Columbia Circuit described the effect of the 1968 Act creating Section 7(c) as providing that "the Commission consider recapture and relicensing in a single proceeding." *Id.* at 201 n.7. Thereafter, the court described the proceeding as a "recapture-relicensing proceeding."³⁸ *Id.* at 202, 204, 206.

III. ARGUMENT

A.

Alcoa's License Application Should Be Denied.

Section 15(a)(2) of the Federal Power Act requires that the Commission rigorously scrutinize any application for a new license for an existing hydroelectric project, so that it can determine that the applicant's proposal is "best adapted to serve the public interest." This is so even where there is only one applicant and that applicant is the current license holder of the existing project. In addition, the legislative history of the 1986 amendments to the Federal Power Act noted explicitly that a relicensing proceeding "does not include an incumbent preference" and that the "existing licensee will not be 'rubber stamped,' but must again prove that its proposal qualifies as 'best adapted' on power and non-power grounds [to serve the public interest]." H.R. Rep. Nos. 99-934 at 26 (Conf. Rep.) and 99-507 at 15 (1986), *reprinted in* U.S.C.C.A.N. 2542-43, 2501-02. *See also* H.R. Rep. No. 99-934 at 33-35 (1986) (Conf. Rep.), *reprinted in* U.S.C.C.A.N. 2549-51 (discussing the importance of a rigorous evaluation of all license applications to ensure that each is best adapted to serve the public interest).

³⁸ This case involved competing proposals, in which the Tribes were seeking federal recapture of an existing project in which certain of their lands were included within the project boundary, and the applicant was seeking a renewal of its license.

The denial of Alcoa's relicensing application is appropriate and necessary under the circumstances of this case because its relicensing proposal does not qualify as best adapted on power and non-power grounds to serve the public interest. This is true for a host of reasons.

Alcoa itself argued to the Commission that it needed a 50-year license precisely because of the statutory recapture provision, which it said would enable the Federal Government to recapture the Yadkin Project after the end of the license term. *See* Exh. 3, 1957 Alcoa Brief, at 24. But, after obtaining North Carolina's support and, consequently, the Project license in 1958, Alcoa reneged on its promise of economic benefits. Nevertheless, it now seeks a second half-century of monopoly control over the flows of one of North Carolina's most significant rivers. Its proposal to use the Yadkin River for the next 50 years offers no public benefit comparable to the jobs it originally promised, which have now vanished.

As a result, the issue today is just as it was framed by Alcoa a half-century ago — namely, whether Alcoa continues to be entitled to a 50-year license when it is no longer “an industry which is the life blood of this section of North Carolina.” *Id.* at 12. Fifty years ago, Alcoa itself made the best argument concerning the consequences of failing to act in the public interest when licensing the flows of the Yadkin River. It argued that the River would be a “valuable resource . . . wasted in favor of small and relatively unaffected private interests or private aims and desires.” *Id.*

Furthermore, Section 15(a)(2) of the Federal Power Act specifically requires the Commission to consider the applicant's need for the electricity in the short and long term, as well as the effect on local communities and the applicant's workers of granting a

license to the applicant. Given these standards and the fact that Alcoa has abandoned its Badin smelting plant and devastated the local community economically, there should be no question that Alcoa's application for a new license should be denied.

Moreover, implicit in Alcoa's 1958 acceptance of a license from the United States Government to use a public river for public purposes, as required by the Federal Power Act, was the unspoken promise by Alcoa that it would be a good and responsible steward of the land and the River, and especially of the health and safety of the people who live near the River. But, as discussed above, Alcoa has demonstrated that it has not been a good steward of the land, the River, Badin Lake or, most importantly, the health and safety of the people who live nearby.

Evidence is now emerging that Alcoa's industrial operations contaminated Badin Lake with PCBs, PAHs and other toxic chemical compounds, to say nothing of the pollution it caused to the land surrounding its now defunct smelting plant. When the Division of Public Health announced its intention to issue a fish consumption advisory and to post signs at Badin Lake warning people of the danger of eating the PCB-contaminated fish, its actions threatened to bring unwanted attention to Alcoa's past PCB pollution of Badin Lake, thereby potentially threatening Alcoa's chances of obtaining the Section 401 Certification. Alcoa responded to this public health and safety issue not as a steward or trustee of the public welfare, but rather as a commercial enterprise focused first and foremost on its own economic interests.

In addition, when Alcoa sought in 1999 to amend its Project license so that it could install equipment at the Project that would increase its power generation and was told by the Commission that it could do so, but only if it also installed equipment to

resolve the DO problems that its own operation of the Project was causing, Alcoa balked. Despite its duty to maintain the Project in good working condition and despite its duty to the public and the environment as a Government-licensed trustee and steward, Alcoa's own economic interests dictated its decision to postpone this equipment upgrade project until it could be assured that it would receive a new 50-year license. Alcoa now proposes to install the equipment needed to resolve this environmental problem years *after* the time it hopes to be granted a new license, and it refuses to post a performance bond guaranteeing its ability to complete the work required to resolve this problem, despite DENR's insistence that it do so.

Beyond all this, Alcoa has shown little interest in expediting the actual cleanup of its past substantial environmental damage³⁹ to the area near its old Badin smelting plant or Badin Lake. This Lake, which remains contaminated with Alcoa's chemical wastes, is an important existing reservoir that could help the State's people to avoid the fate that currently faces Atlanta in the wake of the court's decision in *In re: Tri-State Water Rights Litigation*, No. 3:07-md-01, 2009 U.S. Dist. LEXIS 69895 (MDL) (M.D. Fla. July 17, 2009). *See also, e.g.*, Exh. 1 at 4-7 and Attachs. III and V.

It is vital to the people of the State that the waters of Badin Lake be available for the purpose of providing a ready and dependable source of clean drinking water. Only

³⁹ As to the potential scope of its damage to the environment in the area of the Project, Alcoa filed a lawsuit in 1992 in the State of Washington seeking a declaratory judgment that its insurers were required to pay for the environmental damages (including cleanup costs) resulting from Alcoa's Badin smelting plant operations from 1977-1984. *See Aluminum Co. of America v. Aetna Casualty & Surety Co.*, 998 P.2d 856 (Wash. 2000), *reconsideration granted*, No. 67340-3, 2000 Wash. LEXIS 826 (Nov. 1, 2000), *amended*, No. 67340-3, 2000 Wash. LEXIS 827 (Nov. 1, 2000); Second Amended Complaint for Declaratory Judgment of Alcoa, *Aluminum Co. of America v. Aetna Casualty & Surety Co.*, No. 92-2-28065-5 (Apr. 8, 1994), annexed as Attachment D to Stanly County Scoping Comments. In 2003, in case number 92-2-28065-5, Superior Court Judge Sharon Armstrong denied a motion for summary judgment by certain insurers with respect to contamination claims relating to Badin. Stanly County Scoping Comments, Attach. E. Judge Armstrong denied these motions with respect to the Badin pollution because it was one of "only three occurrences that may exceed \$50 million in damages." *Id.* at 5.

good environmental stewardship will assure that the Lake will be cleaned up as soon as practicable, so that the Yadkin River Project resources can provide the public with urgently needed clean water. It would not be appropriate to vest control of the Project and this enormously important natural resource for the next 50 years in a licensee for whom environmental stewardship and responsibility are not priorities.

On all too many occasions, Alcoa has shown by its own conduct that, if relicensed for another 50 years, it will continue to operate the Project for its own narrow economic benefit, not the larger public interest.⁴⁰ Given Alcoa's track record of broken promises, questionable environmental practices and conflicts between its economic interests and its stewardship duties which Alcoa frequently resolves in favor of its own economic interests, the State believes that Alcoa has essentially disqualified itself as a legitimate candidate for a second 50-year license.

Lastly, as discussed more fully above and in the State's 21st Century Plan, the entire socio-economic, demographic and industrial character of North Carolina has fundamentally and dramatically changed since 1958. The State's population is now more than double what it was then, is still growing at a very rapid rate and is becoming heavily urbanized. As a result of these and yet other changing circumstances, the State's communities and industries need access to water as never before, a trend that will only accelerate in the future. Even with the wisest possible water use planning by the State and the most aggressive development of water-related infrastructure, unless the State is given more meaningful control over this section of the Yadkin River and its reservoirs,

⁴⁰ Indeed, absent any real connection to North Carolina other than its use of the peoples' resources for profit, Alcoa has little reason to act in the public interest, unlike other power providers in North Carolina, which are highly integrated into North Carolina's statewide community.

the public interest will almost certainly suffer a serious blow in the future – possibly even the near-term future.

North Carolina will continue to change in these and other ways during the next 50 years. It is precisely because circumstances often do change over the long life of a hydropower license that the Federal Power Act has always provided for and required an independent, *de novo* assessment and reconsideration of where the public interests lie before granting a license. In his now-famous 1908 Rainy River Veto statement, President Theodore Roosevelt spoke directly to this principle:

The public must retain the control of the great waterways. It is essential that any permit to obstruct them for reasons and on conditions that seem good at the moment should be subject to revision when changed conditions demand. The right reserved by Congress to alter, amend, or repeal is based on this principle: but actual experience of what happens with indeterminate public-utility franchises proves that they are in the vast majority of cases practically perpetual. Each right should be issued to expire on a specified day without further legislative, administrative, or judicial action.

* * * * *

Provision should be made for the termination of the grant or privilege at a definite time, leaving to future generations the power or authority to renew or extend the concession in accordance with the conditions which may prevail at that time.

H. R. Rep. No. 99-507 at 11-12 (1986), *reprinted in* U.S.C.C.A.N. 2496, 2498.

Accordingly, Alcoa's relicensing application should be denied.

B.

The Commission Should Grant the State's Recapture Request Under the Circumstances of This Case.

Given that, by virtue of its own conduct as a licensee and a statutory public steward, Alcoa has effectively disqualified itself as a legitimate candidate for a second 50-year license, the issue is who else is qualified to hold the license and to operate the Project in the public interest?

As demonstrated below, the State's proposed 21st Century Plan is the proposal that is best adapted to serve the public interest, in light of Section 10(a)'s mandate that the Commission apply a broad public interest standard requiring consideration of *all* factors affecting the public interest, H.R. Rep. No. 99-507 at 12 (1986), *reprinted in* U.S.C.C.A.N. 2496, 2497-98, and in light of Sections 4(e)'s and 10(a)'s mandate that the Commission give "equal consideration" to a variety of public-interest factors on a case-by-case basis. *Id.* For the reasons discussed below, the Commission should grant the State's request that it recommend federal recapture in these circumstances, with the subsequent transfer of the license to the State, if Congress consents.

1. Why Recapture and Transfer of the Project License to the State Would Result in Licensing the Best Adapted Plan for Most Comprehensively Developing the Yadkin River's Resources in the Public Interest

The State's position on this issue is explained fully in its 21st Century Plan, Exhibit 1 hereto, to which the State refers the Commission. This Plan was prepared on behalf and at the direction of Governor Perdue by the North Carolina Department of Commerce. The Governor is committed to recommending this Plan and any legislation

necessary to implement it to the North Carolina General Assembly in the event the Commission recommends Project recapture.

North Carolina's 21st Century Plan sets out the reasons that the State proposes to acquire the Project facilities and the license at this time. It is the intent of the State, if Congress agrees with a Commission recommendation for federal transfer of the Project and license, to acquire them from the United States Government at the Government's cost, namely, net investment plus severance damages, if any, as defined in the Federal Power Act. 16 U.S.C. § 807.⁴¹ This would mean that the transfer would not cost the United States Government anything.

Furthermore, as more fully explained in the 21st Century Plan, if the State were to acquire the Project and the license, it intends: (1) to maintain the Yadkin Project consistent with principles of sound stewardship and in a prudent and fiscally sound manner, both as to the water resources of the Yadkin River and the Project, as required by the Commission license necessary to operate the Project; (2) to perform major maintenance of the Project that has been deferred by Alcoa and to make timely capital investment in the Project to modernize the Project facilities in order to produce more renewable energy, and also to improve the quality of the water in the Yadkin River; (3) to allocate a portion of the Yadkin Project's revenues to fund ongoing State programs directed at enhancing the economic development infrastructure of the Project area, especially the community college system; (4) to allocate a portion of the Project's

⁴¹ In its April 2006 license application filed with the Commission, Alcoa stated that its statutorily-defined "net investment" in the Yadkin River Project, as reflected in APGI's Fixed Asset Listing as of 2005, was \$24,158,903.00. Exhibit D to APGI's April 2006 License Application at D-2.

Although Alcoa also claimed in its Statement of Costs and Financing, Exhibit D to its license application, that it "believes" it would sustain "significant" severance damages in the event of recapture, it was apparently unable to quantify or even estimate any such alleged damages. The State believes that Alcoa would sustain little or no severance damages in the event of recapture.

revenues to fund local improvements for environmental, public health and recreational concerns; (5) to engage in comprehensive planning for the Yadkin River Basin that is necessary to provide for the long-term assurance of an adequate water supply for the State's people; and (6) to otherwise provide a model for interactive coordination between local and State needs. Exh. 1 at 11-13. In this regard, the State refers the Commission to Sections IV - VIII of the 21st Century Plan for a full and complete statement of the details of the State's proposal regarding its future use of the Yadkin River Resources in the event that recapture is ordered by Congress.

Consistent with the requirements of Section 10(a) of the Federal Power Act, the State's purpose in seeking to change the license to the Project at the termination of the existing license is to harness the flows of the Yadkin River so as to serve the interests and better meet the needs of its citizens. As explained above, acquiring the Project license would permit the State to engage in the kind of comprehensive and meaningful river basin planning that is essential to ensure that the State's citizens have adequate water supplies despite a growing population, and to ensure ample water supplies for those industries that now provide employment in the State, as well as those new businesses that must be encouraged to settle in the State to provide new employment.

The Yadkin Project revenues would also further necessary State programs, facilitate better and more effective drought management and ensure the funding of important programs. The State believes that this focus on the local Project area and the improvement of the lives of the people living there, especially those who have lost their jobs at the now-closed Badin smelting works, is a particularly desirable and important

public benefit.⁴² These matters are of profound and statutory concern in every relicensing proceeding, and the Commission must address how a relicensing decision and the Project will affect local communities and workers. Federal Power Act § 15(a)(2). Other specific public programs are described at pages 12, 37 and 44-45 of the 21st Century Plan, Exh. 1.⁴³

**2. A Recapture Recommendation Under the
Circumstances of These Proceedings Would be
Reasonable and Appropriate**

Section 7(c) of the Federal Power Act contemplates that, at relicensing, the Commission will simultaneously examine both relicensing to non-federal entities and recapture by the United States Government. *See Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. FPC*, 510 F.2d 198, 201 n.7 (D.C. Cir. 1975).

North Carolina's argument in favor of recapture is based upon the facts and circumstances of this case, the situation as it exists in North Carolina now and Alcoa's own track record of conduct showing that it has failed in its statutory mandate to use this public waterway not only to serve its own private, commercial interests, but also the public interest.

A recapture recommendation under these circumstances would be anything but a radical or controversial measure. It would be based on federal law that goes back to

⁴² In this regard, the State notes that rates of unemployment are higher in the Yadkin River Basin than elsewhere in the State, as are indicators of poor health, low income and general lack of well-being. Exh. 1 at 37-38.

⁴³ Nothing contained in the State's Motion and Comments, the State's 21st Century Plan or in any of the State's other submissions should be construed to state or imply in any way that, by virtue of its Motion filed with the Commission or its requests for relief made herein, the State releases Alcoa, any of Alcoa's related affiliates or any other responsible or potentially responsible party(ies) from its liability for any cleanup costs or any other environmental liabilities of any kind; or that the State releases any party(ies) with respect to any such costs or liabilities. The State releases no one from any such liabilities and does not expressly or impliedly waive any of its rights against any person or entity with respect to, *inter alia*, any environmental or environmentally-related issues or liabilities.

1920. Furthermore, in light of Alcoa's broken promise to create and maintain nearly 1,000 jobs in the Badin area and its failure in its current proposal for the use of the Yadkin River to offer the people of North Carolina any significant job-creation or other economic development benefit, a recapture recommendation in this proceeding would merely be based on the time-honored and traditional concept of fairness which says that "a deal is a deal."

In addition, such a recommendation would not create a precedent of general application for the future. In fact, in these circumstances, if the Commission were to allow a licensee to operate a project as a Government-licensed monopolist for 50 years while the licensee repeatedly ignored its statutory mandate regarding the public interest, to say nothing of its promise to provide a significant socio-economic benefit to the State and the local community, and if the Commission were then to relicense that entity for another 50 years, other privately owned licensees would undoubtedly take the Commission's decision to mean that an incumbent licensee will be relicensed almost no matter what its record is. If the State's recapture request presents a danger of a problematic precedent being established, it is the precedent that would be established if the Commission *failed* to recommend recapture in these circumstances.

Moreover, the State's Motion, Comments and evidence, including the 21st Century Plan, show that the State is capable of operating and owning the Yadkin Project and that it will do so in the public interest. Indeed, the State's 21st Century Plan demonstrates that the benefits of recapture and transfer of the license to the State in this case would be tremendous and would fulfill the purposes of the Federal Power Act. By contrast, Alcoa's past conduct and its past stewardship of the Yadkin Project and the

Yadkin River inspire little confidence that the needs of the State's people regarding, *inter alia*, economic development and water resources can be met under its continued trusteeship.

Under these circumstances, recapture is appropriate and essential to the welfare of the people of the Yadkin River Basin and North Carolina.

IV. THE STATE'S RESPONSE TO THE COMMISSION'S APRIL 2008 FINAL ENVIRONMENTAL IMPACT STATEMENT AND ITS DISCUSSION OF FEDERAL RECAPTURE

The Final EIS for the Yadkin Project, which was prepared in April 2008, includes but one paragraph addressing Federal Government recapture:

1.4.1 Federal Government Takeover

We do not consider federal takeover to be a reasonable alternative for the 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 an interest in operating the Projects.^[44]

This statement is no longer valid in light of the evidence proffered by the State in support of its request that the Commission not issue a new license to Alcoa and that it instead recommend federal recapture of the Yadkin Project to Congress. The State is now a party to this proceeding. Its evidence presents new information and a new alternative, none of which were considered in the April 2008 Final EIS. The Commission is obligated to consider the State's request and to evaluate the State's evidence, consistent

⁴⁴ Final Environmental Impact Statement for the Yadkin and Yadkin-Pee Dee River Projects, Project Nos. 2197-073, 2206-030, at 35 (Apr. 18, 2008), *available at* eLibrary Accession No. 20080418-4000.

with the standards set out in Sections 4(e), 7(c), 10, 14, and 15 of the Federal Power Act, 16 U.S.C. §§ 797(e), 800(c), 803, 807 and 808.

The National Environmental Policy Act, 42 U.S.C. §§ 4321, *et seq.* ("NEPA"), imposes an additional, separate obligation on the Commission to consider North Carolina's alternative proposal. It does so in its mandate that a federal agency shall "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(E). Furthermore, supplemental NEPA documentation "is at times necessary to satisfy the Act's 'action-forcing' purpose." *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 371 (1989).

Recognizing NEPA's goal of focusing government and public attention on the environmental effects of agency action, the Supreme Court has stated that:

It would be incongruous with this approach to environmental protection, and with the Act's manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval.

Id. Under NEPA, the Commission must continue to take a "hard look" at the effects of and alternatives to granting a new license to Alcoa, and it must supplement its environmental documentation to reflect that scrutiny.

Accordingly, the State respectfully moves that the Commission supplement the Final EIS issued for the Yadkin Project in April 2008, in order to address the State's evidence and to evaluate the recapture alternative proposed by the State.

**V. REQUEST FOR ORAL ARGUMENT TO THE
FULL COMMISSION**

The State of North Carolina requests that the Commission schedule oral argument before the full Commission on the State's recapture request. The provisions of law applicable to recapture, though of long standing in the Federal Power Act, have not been recently interpreted. The State therefore believes that the Commission will benefit from oral argument because of the significant public policy considerations raised in the State's submission regarding the future management of the State's natural resources and the State's urgent concern that the Commission give adequate and proper weight to the importance of water resources to the State, especially the waters of the Yadkin River.

VI. MOTION FOR ANY NECESSARY WAIVERS

The State believes that its motions and the relief it seeks are well within the Commission's authority under the Federal Power Act and the Commission's regulations. Indeed, as discussed above, the State's recapture request and the evidence and various motions it has submitted in support of that request are completely consistent with both the Federal Power Act and Section 16.15 of the Commission's regulations, 18 C.F.R. §16.15. Furthermore, the legislative history of the Federal Power Act makes clear that Congress expressly intended the Commission to evaluate these issues fully at relicensing.⁴⁵

To the extent that the Commission believes that the State's requests are inconsistent with the Commission's regulations, however, the State seeks any and all waivers necessary, so that the Commission can accept the State's evidence, which is needed to assure a complete and accurate record in these proceedings, and grant the

⁴⁵ See, e.g., FERC Policy Statement, *Project Decommissioning at Relicensing*, 60 Fed. Reg. 339, 341 (Jan. 4, 1995), [1991-1996 Regs. Preambles] F.E.R.C. Stat. & Regs. ¶ 31,011, at 31,223 (1994) (footnote omitted), available at eLibrary Accession No. 19941220-0106.

State's request that the Commission recommend recapture to Congress and the other relief sought by the State of North Carolina.

VII. CONCLUSION

The entire landscape of North Carolina has fundamentally and dramatically changed since 1958. North Carolina has grown from a State of little more than 4 million people to a State of well over 9 million people – the tenth largest by population in the country. Furthermore, North Carolina is still growing rapidly and is becoming far more urban in its population distribution. The people of North Carolina want what Americans generally want – a higher quality of life for themselves and their children, economic growth and prosperity, good jobs and the benefits that come with economic development, as well as opportunities for enriching recreation and the enjoyment of the natural beauty of their local environment.

In order to ensure that the people of the State have a future in which they can achieve these shared goals, an entity which has the public interest at heart must be licensed and thereby given a meaningful degree of control over one of the State's most valuable natural resources, the Yadkin River and its flows. The Commission's determination of this relicensing matter will decide which entity will be given that control. The Commission's decision will also determine to a very great degree what North Carolina will look like 50 years from now, as well as whether its people are able to achieve their share of the American dream.

What is urgently needed now is a licensee that will make day-to-day decisions about how to use the flows of the Yadkin River for the public benefit, not merely its own narrow economic interests. Alcoa has demonstrated by its past conduct, including its

decision to break its promise to the State to create and then maintain 1,000 high-paying jobs and its decision not to live up to its stewardship obligations under the Federal Power Act, that it is not committed to the interests of the public, but rather is focused on its own narrow economic interests.

As its 21st Century Plan demonstrates, the State is the only party that can and will operate the Project in the public interest. The Plan also demonstrates that the State can and will operate the Project in a capable, open and accountable way, and that it will do so with the primary goal of harnessing this great natural resource for the public interest. Under these circumstances, the Commission should deny Alcoa's relicensing application and should recommend Project recapture to the Congress, so as to protect and further the public interest.

WHEREFORE, for each of the foregoing reasons, the State requests that:

1. the Commission accept, as part of the relicensing record in this proceeding, the State's Motion, Comments and evidence in support of the State's request that the Commission recommend federal recapture in this relicensing proceeding;
2. after consideration of the State's Motion, Comments and evidence, the Commission recommend to the United States Congress that the Yadkin Hydroelectric Project, FERC Project No. 2197, now subject to relicensing, be proposed for recapture by the United States Government, and that it be transferred thereafter, following the enactment of appropriate legislation, to the State of North Carolina for the public purposes described above, upon the terms proposed above for such transfer;
3. in conjunction with the State's request for recommended recapture, the Commission deny Alcoa's new license application;

4. this pleading and the other materials submitted by the State in support of this pleading accompany any recommendation made by the Commission for recapture, pursuant to Section 7(c) of the Federal Power Act;

5. the Commission supplement the Final Environmental Impact Statement issued by the Commission's staff in April 2008 to address the State's evidence and to evaluate the recapture alternative proposed by the State;

6. the Commission schedule the State's recapture request for oral argument before the full Commission; and

7. the Commission grant the State such other and further relief as it may deem just and proper.

Attached to this pleading and submitted herewith are true and correct copies of:

a. the Petition to Intervene of the State of North Carolina in *Carolina Aluminum Co.*, Project Nos. 2197, 2206 (Oct. 8, 1957) (Exh. 2);

b. the Brief of Carolina Aluminum Company in *Carolina Aluminum Co.*, Project Nos. 2197, 2206 (Nov. 18, 1957) (Exh. 3);

c. that document entitled "Characterization of the Toxicity and Bioavailability of Polycyclic Aromatic Hydrocarbons in Aquatic Sediments from Badin Lake," prepared for Alcoa by The RETEC Group, Inc. (Feb. 16, 2007) (Exh. 4); and

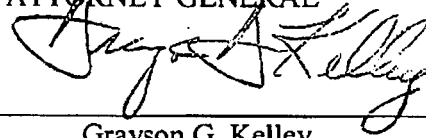
d. the Memorandum from Dexter Matthews, Dir., DENR Waste Mgmt. Div., to Rob McDaniel, DENR Hazardous Waste Section, Re: PCBs in Badin Lake (Feb. 25, 2009) (Exh. 5).

Also submitted along with this pleading as Exhibit 1 is the State of North Carolina's 21st Century Plan for the Use of the Yadkin River Resources, Volume 1, and

the Attachments to the State of North Carolina's 21st Century Plan for the Use of the Yadkin River Resources, Volume 2, which the State requests that the Commission receive for filing along with this pleading and the documents attached to this pleading as Exhibits 2-5.

Respectfully submitted this 18th day of September 2009.

ROY COOPER
ATTORNEY GENERAL



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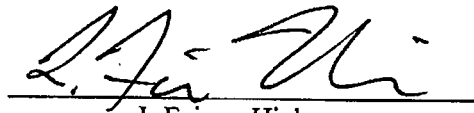
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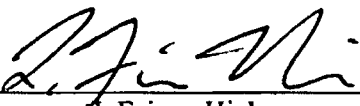
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CERTIFICATE OF SERVICE

This is to certify that, on the 18th day of September 2009, I caused a copy of the foregoing to be duly served on each person designated on the official service list compiled by the Secretary in this proceeding.



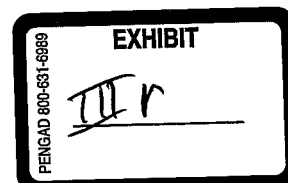
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STATE OF NORTH CAROLINA)	
)	
COUNTY OF FORSYTH)	
)	
)	
Yadkin Riverkeeper, Inc., Petitioner,)	
)	
)	
	)	AFFIDAVIT
	)	OF
	)	DEAN NAUJOKS
)	
)	
)	
)	

COMES NOW THE AFFIANT, DEAN NAUJOKS, being first duly sworn and deposes and says as follows:

- 1) Yadkin Riverkeeper, Inc. is a non-profit organization operating in the state of North Carolina. Yadkin Riverkeeper, Inc. hired me in November of 2008.
- 2) I patrol the Yadkin River by boat and on foot as the Yadkin Riverkeeper. I meet with citizens throughout the Yadkin River basin to learn from them about problems they find in the river and to educate them about these problems and their rights to correct them.
- 3) Members of our organization and other residents use the Yadkin River for swimming, fishing, boating and wildlife observation.
- 4) In my job, I work to educate our members and area residents of their rights and their responsibilities to protect the river.
- 5) One of the most important rights that all residents enjoy are the public trust rights of boating, fishing, bathing, swimming and recreation along the River.
- 6) Members of Yadkin Riverkeeper regularly exercise their public trust rights to use the resources of the Yadkin River.
- 7) As Riverkeeper, it is part of my job to protect those public trust rights from any threats.
- 8) The Yadkin River is the second largest river in North Carolina and provides drinking water to 83 municipalities.
- 9) The Yadkin-Pee Dee River basin is North Carolina's second largest in terms of area, including 5,862 stream miles and 22,988 lake acres, and spanning 21 counties and 93 municipalities.

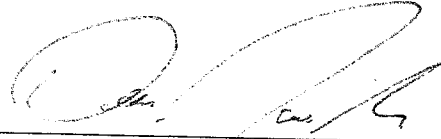


- 10) Nearly one-third of the watershed is used for agriculture, including cropland (15.6 percent) and pastureland (14.1 percent).
- 11) From its headwaters near Blowing Rock, the Yadkin River flows east and then south across North Carolina's densely populated midsection.
- 12) The Yadkin River travels approximately 203 miles—passing farmland; draining the urban landscapes of Winston-Salem, Statesville, Lexington and Salisbury; and fanning through seven man-made reservoirs before its name changes to the Pee Dee River below Lake Tillery.
- 13) The Pee Dee River courses another 230 miles to the Atlantic, leaving North Carolina near the community of McFarlan and ending its journey at South Carolina's Winyah Bay.
- 14) The Yadkin-Pee Dee River Basin bisects North Carolina, running north to south, with the bed of the river serving as the boundary between counties all along its journey.
- 15) Major tributaries of the Yadkin-Pee Dee River include the Mitchell, Ararat, Uwharrie and Rocky rivers and Dutchmans, Long and Abbotts creeks.
- 16) The uppermost reservoir in the basin is W. Kerr Scott Reservoir. Six reservoirs farther downstream are known as the Yadkin chain lakes: High Rock, Tuckertown, Badin (Narrows), Falls, Tillery and Blewett Falls.
- 17) High Rock is the first and largest of the Yadkin chain lakes. Badin, the oldest in the chain, was built in 1917 just below the gorge called "the Narrows" to power an aluminum plant in Badin.
- 18) Forested land covers half of the basin, including the federal lands of the Pee Dee National Wildlife Refuge, the Blue Ridge Parkway and the 50,000-acre Uwharrie National Forest, which lies completely within the basin.
- 19) Since it originates in the Blue Ridge and drains portions of the Piedmont, Sandhills and Coastal Plain, the Yadkin-Pee Dee River Basin contains a wide variety of habitat types, as well as many rare plants and animals.
- 20) The basin's rare species inventory (including endangered, threatened, significantly rare or of special concern) includes 38 aquatic animals.
- 21) Two species that occur in the basin are listed as endangered species by the federal government—the shortnose sturgeon, a migratory marine fish that once spawned in the river but has not been spotted in the basin since 1985, and the Carolina heelsplitter, a mussel now known from only nine populations in the world, including the lower basin's Goose Creek.

- 22) Five species of freshwater mussels which occur in the Yadkin-Pee Dee River have been added to the state's endangered species list — the Carolina creekshell, brook floater, Atlantic pigtoe, yellow lampmussel and savannah lilliput.
- 23) In exercising my duties as the Yadkin Riverkeeper, I paddled in a canoe down 185 miles of the Yadkin River.
- 24) This trip, entitled the "Tour de Yadkin," began on Sunday April 3, 2011 at W. Kerr Scott Dam and Reservoir and ended at the section of the river at Morrow Mountain State Park on Saturday April 30, 2011.
- 25) I paddled most of the Tour de Yadkin with volunteers from the surrounding community, including members of the Yadkin Riverkeeper, Inc. and local residents.
- 26) While paddling, I found that the Yadkin River carried multiple boats simultaneously across its width.
- 27) I paddled the entire length of the Yadkin River from the W. Kerr Scott Dam and Reservoir to Morrow Mountain State Park, with the exception of those points at which I had to portage around the dams.
- 28) Other than portages around dams, there were no obstacles to paddling down the Yadkin River in boats.
- 29) Each day, I paddled consecutive sections of the Yadkin River in order to traverse a 185 mile span of the Yadkin River on a schedule.
- 30) On Sunday, April 3, 2011 at 9:30 AM I began the Tour de Yadkin with my fellow participants, paddling from Ferguson to Kerr Scott Reservoir.
- 31) On Monday, April 4, 2011 we paddled about 6 miles along the Kerr Scott Reservoir.
- 32) On Tuesday, April 5, 2011 we paddled about 7 miles of the Yadkin River from the Kerr Scott Tail waters to Smoot Park in North Wilkesboro.
- 33) On Friday, April 8, 2011 we paddled 6.8 miles of the Yadkin River from Ronda to Elkin.
- 34) On Saturday, April 9, 2011 we paddled 6 miles of the Yadkin River from Elkin to Mitchell River.
- 35) On Monday, April 11, 2011 we paddled 5 miles of the Yadkin River from Yadkin Shores to Rockford.
- 36) On Friday, April 15, 2011 we paddled 6.6 miles of the Yadkin River from Donnaha to Old 421.
- 37) On Saturday, April 16, 2011 we paddled 5.4 miles of the Yadkin River from Old 421 River Access to Huntsville/Shallowford.
- 38) On Sunday, April 17, 2011 we paddled 10.8 miles of the Yadkin River from Huntsville to

Tanglewood Park in Winston-Salem.


- 39) On Tuesday, April 19, 2011 we paddled 12.8 miles of the Yadkin River from US 64 to Boones Cave Park.
- 40) On Wednesday, April 20, 2011 we paddled 9.5 miles of the Yadkin River from Boones Cave to York Hill.
- 41) On April 21, 2011 we paddled 11 miles of the Yadkin River from York Hill to Tamarack Marina.
- 42) On Saturday, April 23, 2011 we paddled of the Yadkin River from Tamarack Marina to Bringle Ferry Road and portaged High Rock, covering 4 miles of the Yadkin River.
- 43) On Sunday, April 24, 2011 we paddled 7 miles of the Yadkin River from Bringle Ferry Road to Hwy 49.
- 44) On Monday, April 25, 2011 we paddled from Hwy 49 to Old Whitney and portaged over Badin Lake, covering 5 miles of the Yadkin River.
- 45) On April 26, 2011 we paddled 6 miles of the Yadkin River from Old Whitney to Badin.
- 46) On Saturday, April 30, 2011 we paddled 11 miles of the Yadkin River from the Uwharrie River to Morrow Mountain.
- 47) On Saturday, April 30, 2011 we paddled along the Uwharrie River to Morrow Mountain State Park.
- 48) Each paddled section was easily navigable by amateur canoe paddlers, including young children.
- 49) Each paddled section could be traversed by multiple boats, including boats much larger than the canoes and kayaks used during the Tour de Yadkin. The kayak I used on the Tour de Yadkin was 15 feet long.
- 50) During the paddle, I and my companions exercised our public trust rights. Including boating, swimming and fishing.
- 51) The only impediment to the exercise of our public trust rights which we encountered were due to the presence and operation of dams on the River.
- 52) The Riverkeeper maintains that the Yadkin River is owned by the State of North Carolina in trust for its people.
- 53) Any infringement of the public trust harms the interests of the Riverkeeper.
- 54) The continued operation of the Yadkin Project by Alcoa Power Generating Inc. harms the public trust uses of the Yadkin River by impairing boating, swimming and fishing uses of the Yadkin River.



Dean Naujoks

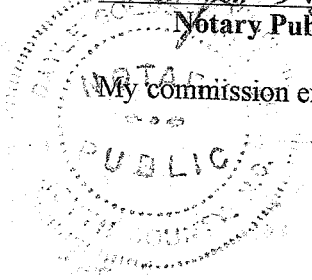
NORTH CAROLINA
FORSYTH COUNTY

Sworn to and subscribed before me this the 2ND day of
DECEMBER, 2011.

 (SEAL)
Notary Public

My commission expires:

GAYLE GOLDSMITH TUCH
Notary Public
Forsyth County, NC
My Commission Expires September 16, 2012



C H A P. V.

A. D. 1758.

An Act for encouraging the building of Public Mills, and directing the Duty of Millers.

I. **B**E it Enacted, by the Governor, Council, and Assembly, and by the Authority of the same, That every Water Grift-Mill already built, or which shall hereafter be built, that hath, or shall at any Time grind for Toll, shall be held and deemed, and is hereby declared to be a Public Mill.

Mills grinding for
Toll, declared
Public Mills.

II. **B**E it further Enacted, by the Authority aforesaid, That it shall not be lawful for any Person or Persons hereafter to erect or build any Public Water Grift-Mill, without first obtaining an Order of the County Court for that Purpose, in Manner by this Act directed, that is to say: Any Person willing to build such Mill on some convenient Run, who hath Land on both Sides thereof, shall exhibit a Petition to the County Court for Leave to build such Mill; which Court is hereby empowered to examine into the Allegations of such Petition, and to grant or deny such Leave to the said Petitioner, as to them shall seem just and reasonable.

No Water Mill to
be built, but by
Order of Court.

Manner of ob-
taining it.

III. **A**ND be it further Enacted, by the Authority aforesaid, That any Person willing to build such Mill, who hath Land only on one Side of a Run, shall exhibit his Petition to the County Court in Manner aforesaid, and therein shew who is the Proprietor of the Land on the opposite Side of the Run; whereupon a Summons shall issue to such Proprietor to appear at the next Court, and answer the Allegations of such Petition; and the Court also, at the same Time, shall order Four honest Freeholders to lay off, view, and value, on Oath, an Acre of the Land of such Proprietor, and also an Acre of the Land of the Petitioner, opposite thereto, and to report their Opinion and Proceedings thereon to the next Court, and thereupon the Court shall order the said Report to be recorded; and if it take not away Houses, Orchards, Gardens, or other immediate Conveniences, shall and may, and are hereby empowered and authorized, to grant Leave to the Petitioner, or such Proprietor, to erect such Mill at the Place proposed, as in their Discretion shall seem reasonable, and to order the Costs of such Petition to be paid by the Person to whom such Leave shall be granted.

Manner of ob-
taining Order for
building Mills
where Persons
own Land on one
Side of a Run
only.

IV. **P**ROVIDED always, That the Person to whom such Leave is granted, shall pay down in Court, for the Acre of Land he shall obtain thereby, the Valuation Money, and procure a Record to be made thereof; which shall be a good and effectual Seisen in Law, to create to such Person, his Heirs and Assigns, a Fee-Simple in such Acre of Land.

Valuation Money
to be paid down
in Court.

V. **P**ROVIDED nevertheless, That it shall not be lawful for any Court to grant Leave to any Person to erect a Mill within Two Miles above, and Two Miles below, or so as to overflow any other Mill erected on the same Run; any Thing herein contained, to the contrary, notwithstanding.

No Mill to be
built so as to o-
verflow another.

VI. **P**ROVIDED also, That the Person so being seized shall, within One Year, begin to build a Water-Mill, and finish the same within Three Years, and shall thereafter keep up the same for the Use and Ease of all such as shall be Customers to it, otherwise the said Land shall return to the Person from whom it was taken, or to such other Persons as shall have his Right; unless the Time for finishing the same, for Reasons shewn to, and approved of by the Court, be enlarged.

Time of begin-
ning to build,
and finishing such
Mills.

VII. **P**ROVIDED likewise, That if any Water-Mill belonging to any Person within the Age of Twenty One Years, Feme Covert, *Non compos Mentis*, or imprisoned, be let fall, burnt, or destroyed, that then such Person or Persons, and their Heir or Heirs, shall have Three Years to rebuild and repair such Mill, after his or their full Age, Discoverture, coming of sound Mind, or Enlargement out of Prison.

Time allowed
Feme Coverts,
&c.

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EXHIBIT

IV a

A. D. 1758.

Persons aggrieved by the Order of any County Court, may appeal to the Supreme Court of the District.

VIII. *AND be it further Enacted, by the Authority aforesaid,* That if any Person shall think himself aggrieved by the Order or Determination of the County Court, he may appeal therefrom to the next Supreme Court of Justice, Oyer and Terminer, and General Gaol Delivery, for the District in which the said Land doth lie, giving Bond and Security as usual; which Court shall, and is hereby authorized and empowered, to take Cognizance of the same, and to affirm such Order, or reverse the same, and to give such Judgment therein as the County Court ought to have rendered.

Persons who have built Mills in Virtue of any Order of Court, and complied with the Conditions, quieted in the Possession of such Mills.

IX. *AND* whereas it hath heretofore frequently happened that a Person desirous of building a Water-Mill, and having Land on one Side of a Run only, hath, by Order of the County Court, obtained an Acre of the Land on the opposite Side of the Run for that Purpose, which Order is held not to be warranted by the Laws now in Force: For quieting the Owners of such Mills in the peaceable Possession thereof, *Be it further Enacted, by the Authority aforesaid,* That every Person who hath built any such Mill in Consequence of any such Order, and hath actually paid the Money according to the Valuation of such Acre of Land, shall be, and is hereby declared to stand seized thereof, to him, his Heirs and Assigns, in Fee-Simple, in the same Manner, and under the same Restrictions, Limitations, and Conditions, as if the same had been originally granted by Virtue of the Powers and Authorities of this Act.

Owners of Mills injured by the building other Mills, may have their Action for Damages.

X. *PROVIDED also,* That where any Owner or Owners of a Mill already built, or that shall hereafter be built, shall conceive himself injured by the building of any other Water-Mill by any Person or Persons on the same Stream, it shall and may be lawful for the Party injured to bring his Action on the Case against the Owner or Owners of such latter built Mill, in the same Manner as he might have done before the passing of this Act; any Thing herein contained, to the contrary, in any wise, notwithstanding.

Millers to grind according to Turn, and what Toll they are to take.

XI. *AND* to prevent Abuses by evil-minded, covetous, and exacting Millers, or Owners of Mills; *Be it Enacted, by the Authority aforesaid,* That all Millers shall grind according to Turn; and shall well and sufficiently grind the Grain brought to their Mills, if Water will permit; and shall take no more Toll for grinding than One Eighth Part of the Wheat, and One Sixth Part of the *Indian* Corn: And every Miller, or Keeper of a Mill, making Default herein, *viz.* not grinding according to Turn, not well and sufficiently grinding the Grain, if Water will permit as aforesaid, or exacting or taking more Toll than herein is set down and allowed, shall, for every such Offence, forfeit and pay Fifteen Shillings, Proclamation Money, to the Party injured; to be recovered before a Justice of the Peace of the County wherein such Offence is committed, with Costs.

Penalty for Default.

Owner to grind his own Grain at any Time.

XII. *PROVIDED always,* That it shall be in the Power of the Owner of any such Mill to grind, or cause to be ground, his own Grain, at any Time he thinks fit; any Thing in this Act, to the contrary, notwithstanding.

What Measures they are to keep in their Mills.

XIII. *AND* for the better Discovery of such exacting Millers; *Be it Enacted, by the Authority aforesaid, and it is hereby Enacted,* That all Millers shall keep in their Mills the following Measures; *viz.* An Half Bushel, and Peck, tried and stamped by the Keeper of the Standard of the County wherein such Mill is; and Two Toll-Dishes for each Measure, one for Wheat, that shall not hold more than One Eighth Part of each Measure, and one for *Indian* Corn, that shall not hold more than One Sixth Part of each Measure: And every Owner by himself, Servant or Slave, keeping any Mill, and shall be lawfully convicted of keeping false Toll-Dishes, contrary to the Intent and Meaning of this Act, shall forfeit and pay the Party injured Fifteen Shillings, Proclamation Money, to be recovered by a Warrant from a Justice of the Peace as aforesaid: And if in Case such a Miller is a free Person, and keeps such a Mill for a Share, or for Hire, and is guilty of any of the

Penalty for keeping false Measures.

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above

above Offences, it shall be lawful for the Owner to stop so much of his Share or Hire as will be sufficient to reimburse himself for such Fine or Fines as he shall become answerable for, with all the Charges that shall become due thereon. A. D. 1758.

XIV. *AND be it further Enacted, by the Authority aforesaid,* That all other Act or Acts, heretofore made, as far as they relate to Public Mills, are hereby from henceforth repealed, and made null and void. Repealing Clause

C H A P. VI.

An Act for establishing a Warehouse for the Inspection of Tobacco on the Land of Thomas Barnes, in the County of Halifax, and other Purposes. Provided for by the Inspection Act.

C H A P. VII.

An additional Act to an Act, intituled, An Act concerning Servants and Slaves.

I. **W**HEREAS many great Charges have arisen to the Province by Punishment of Slaves, who having Liberty from their Owners to hire themselves out, and have committed Robberies; by the Importation of Slaves from foreign Parts, for Crimes by them committed; by the Condemnation of Slaves to Death for capital Crimes, for Want of a Punishment adequate to the Crimes they have been guilty of; and by the high Valuation of Slaves condemned to Death, or killed by Virtue of an Outlawry: Preamble

II. *BE it Enacted, by the Governor, Council, and Assembly, and by the Authority of the same,* That no Person who shall permit any Slave to hire himself or herself out, shall be intitled to receive any Pay from the Public, should they be punished for any Crimes by them committed during the Time of such Permission; any Usage or Custom, to the contrary, notwithstanding. Masters permitting Slaves to hire themselves out, not to be allowed for them, should they be punished for any Crime.

III. *AND be it further Enacted, by the Authority aforesaid,* That no Person hereafter purchasing any Slave, transported for Crimes from foreign Parts into this Province, shall be intitled to receive any Payment from the Public, should such Slave afterwards be convicted and punished for any Crimes committed within this Province; unless he first made Oath, in the Court appointed for trying such Slave, that he did not, at the Time of his purchasing, know that such Slave had been transported here for any Crimes committed in foreign Parts. (a) Persons knowingly purchasing Slaves transported for Crimes committed abroad, not to be allowed for them if punished for Crimes here.

C H A P. VIII.

An Act for altering the Method of working on the Roads, and appointing Public Ferries within the Counties of Craven, Carteret, Johnston, Beaufort, Orange, and Onslow. Repealed by the Road Act.

C H A P. IX.

An Act for appointing a proper Place for holding the Supreme Court of Justice, Oyer and Terminer, and General Gaol Delivery, for the District of Northampton, Edgcomb, and Granville.

I. **W**HEREAS it hath been represented to the Assembly by the Inhabitants of Northampton, Edgcomb, and Granville, that Enfield, the Place where the Supreme Court of Justice, Oyer and Terminer, and General Gaol Delivery, for the Preamble.

(a) The three last Sections of this Act repealed, by Act October 1764, Chap. 2.

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CERTIFICATE OF SERVICE

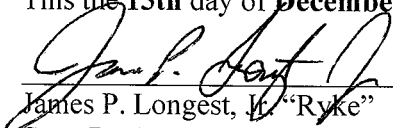
The undersigned hereby certifies that a copy of the foregoing Appendix of Exhibits to Support its Request for Declaratory Ruling have been be served by being mailed via U.S.P.S. to the following addressees:

Secretary of Administration,
116 West Jones Street
Raleigh, North Carolina 27611
(per rule 01 NCAC 01B.0602)

Moses Carey, Jr.
Secretary of Administration
1301 Mail Service Center
Raleigh, NC 27699-1301

Roy Cooper
Attorney General of North Carolina
9001 Mail Service Center
Raleigh, N.C. 27699-9001

This the **13th** day of **December, 2011**


James P. Longest, Jr. "Ryke"
State Bar No. 18297

