Hydropower in Central North Carolina: The Battle for the Yadkin

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Introduction

Alcoa and North Carolina have been locked in a licensing dispute for the better part of a decade. At stake is control over a 38-mile segment of the Yadkin River, four dams, and the profits earned by selling the electricity generated by those dams. Alcoa is seeking renewal of its operating license for its four dams on the Yadkin River. In 1958, the Federal Power Commission granted Alcoa a 50-year operating license for the dams. At the time, Alcoa was a major employer in Stanly County where it operated an aluminum smelting complex. That smelting complex is now closed and Alcoa is no longer a major employer in North Carolina. The state does not support allowing Alcoa to operate these dams for 50 more years without substantial economic benefits flowing back to the people of North Carolina in return.

The dispute raises issues of private property rights, ownership of submerged land, management of public waterways for the public benefit, and the obligations owed by private corporations to the public in exchange for the use of a public resource like the Yadkin River. This last issue is of particular significance when a corporation moves its operations from one location to another, yet continues to benefit from a public resource in its former location. This is the context in which the dispute between Alcoa and North Carolina arises.

History of Yadkin Dams

Alcoa began development of its Badin, NC operations in 1915 by purchasing an unfinished aluminum smelting complex.¹ By 1917, a dam constructed over the Yadkin River adjacent to the Badin Works at a location known as the Narrows powered the aluminum

operations. Production increases necessitated the construction of a second dam in 1919 over an area known as The Falls. Two more dams, High Rock (1927) and Tuckertown (1962), were built to power the growing aluminum smelting operations at the Badin complex.

The four dams, collectively known as the Yadkin Project, are located along a 38-mile stretch of the Yadkin River flowing through Davie, Davidson, Rowan, Stanly, and Montgomery Counties. Each of the dams created reservoirs of varying sizes: High Rock covers more than 15,000 acres, Tuckertown 2,500 acres, Badin Lake (Narrows) 5,300 acres, and Falls 200 acres. The reservoirs have 43 public access points facilitating public use for recreational activities. In addition to their recreation uses, the reservoirs are a critical source of drinking water for nearby cities including Albemarle, which alone draws four million gallons a day from Badin Lake.

History of the Badin Works

At its peak, Alcoa’s smelting operations in Badin employed nearly 1,000 people. According to Alcoa, employment began to decline in the 1960’s due to technological advances. Facing a weak economy and a drive to lower production costs, Alcoa closed the smelter in 2002 and ceased all production at the site in 2007. In April 2010, Alcoa officially closed the Badin

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2 Id.
3 Id.
4 Id.
7 See Alcoa-Yadkin History, supra note 1.
Works plant with the intent to redevelop the site for other industrial uses. The closure of the Badin Works severely impacted the local economy, eliminating not just the primary source of employment but also one third of the town’s tax base. Alcoa still maintains offices in Badin and employs about 30 people in the area.

Although Alcoa no longer produces aluminum at the Badin Works, its four dams still produce electricity. Alcoa sells this electricity on the open market at a profit. However, the extent of this profit is disputed. According to Alcoa’s audited financial statements, it earned $8 million in profit on $31 million in electricity sales in 2006. In 2008, staff from the Federal Energy Regulatory Commission (FERC) estimated Alcoa’s profit from the dams at $10.5 million off of revenue of about $35.3 million. The North Carolina Department of Administration (DOA) floats an even higher number claiming Alcoa generates a profit of $19 million per year from the electricity produced by its Yadkin dams. A 2012 report by NPR Charlotte stated that Alcoa earns $44 million a year from its electricity sales. This report appears to be consistent with Alcoa’s 2006 license application to FERC in which it estimated the annual value of the electricity produced by the dams at $43.6 million. In the same document, Alcoa estimated its annual operating costs at $28.3 million implying an estimated annual profit of $15.3 million.

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14 Otterbourg, supra at note 9.
17 Esther Whieldon, Staff Issues Final Environmental Review of Hydropower Projects on Yadkin, Pee Dee Rivers, INSIDE FERC (Apr. 28, 2008).
19 Power Struggles, supra note 15.
21 Id.
**Relicensing Considerations: Federal Power Act**

Part I of the Federal Power Act of 1935 (FPA) created a federal licensing process for hydropower projects. Under the terms of the FPA, hydroelectric licenses are granted by FERC for terms of between 30 to 50 years.\(^{22}\) In issuing a hydropower license, FERC is charged by the FPA to assess whether the proposed project represents a comprehensive development plan for the waterway.\(^{23}\) The FPA specifically requires FERC to give equal consideration to electricity generation, environmental protection and public use.\(^{24}\) Public use, as contemplated by the FPA, is best understood as encompassing all “beneficial public uses [of a hydropower project], including irrigation, flood control, water supply, and recreational and other purposes . . . .”\(^{25}\) A narrow reading of the statute seems to imply public use is limited to considerations of water supply and public access to reservoirs for recreational activities.

**Relicensing Considerations: Clean Water Act**

In granting a hydropower operating license, FERC is bound by the requirements of both the FPA and the Clean Water Act (CWA). A hydropower project’s impact on water quality is a key environmental consideration and FERC must follow CWA requirements in the licensing approval process.

Before FERC can issue a hydropower license, the CWA requires applicants to obtain a water quality certification from the State in which the project is located.\(^{26}\) A Section 401 certification, as this certification is frequently called, verifies that the project meets both the


water quality standards set forth in the CWA\textsuperscript{27} and those adopted by the state pursuant to the CWA.\textsuperscript{28} The Supreme Court ruled unanimously in \textit{S. D. Warren Co. v. Maine Bd. of Environmental Protection} that all hydroelectric dams require a Section 401 certification and consequently federal hydropower licenses are conditioned upon state approval.\textsuperscript{29}

\textit{Relicensing Settlements}

FERC’s licensing proceedings, as required by Part I of the FPA, “involve the balancing of many public interest factors, as well as consideration of the views of all interested groups and individuals.”\textsuperscript{30} Accordingly, FERC greatly encourages licensing settlements among the impacted parties in the interest of efficiency and fairness.\textsuperscript{31} Settlements are not, however, automatically binding upon FERC, but factor into the decision process.\textsuperscript{32} All aspects of settlement offers are codified in Title 18 of the \textit{Code of Federal Regulations}.\textsuperscript{33}

Settlement agreements help FERC to balance the varying public interests in the proposed project, but FERC does not limit its consideration to the parties of the agreement. FERC’s policy is to consider “the greater public interest” by judging whether the settlement terms comply with the previously mentioned “comprehensive plan” legislative mandate in the FPA.\textsuperscript{34} Whether the terms of a proposed settlement agreement are incorporated into a final issued license depends on FERC’s conclusion regarding “the public interest determination required by the FPA.”\textsuperscript{35}

\begin{itemize}
\item \textsuperscript{27} \textit{Id}.
\item \textsuperscript{28} \textit{Id.} at § 1313.
\item \textsuperscript{29} \textit{S. D. Warren Co. v. Maine Bd. of Environmental Protection}, 547 U.S. 370 (2006).
\item \textsuperscript{30} \textit{Policy Statement on Hydropower Licensing Settlements}, 71 Fed. Reg. 56,520 (Sept. 27, 2006).
\item \textsuperscript{31} \textit{See id}.
\item \textsuperscript{32} \textit{Id.} at 56,520–21.
\item \textsuperscript{33} \textit{Submission of Settlement Offers}, 18 C.F.R. § 385.602 (2013).
\item \textsuperscript{34} \textit{Policy Statement on Hydropower Licensing Settlements}, 71 Fed. Reg. at 56,521.
\item \textsuperscript{35} \textit{Id}.
\end{itemize}
Relicensing Outcomes: Federal Power Act

At the expiration of an operating license, three potential outcomes are provided for in the FPA: (1) relicensing to the existing licensee;\(^{36}\) relicensing to a competing license applicant;\(^{37}\) or federal takeover of the project.\(^{38}\) While Section 800(c) grants Congress the power to take over any project “for public purposes” upon recommendation by FERC, this has never occurred.\(^{39}\) If an existing license were to be given to a competing applicant or taken over by Congress, Section 807(a) provides that the existing licensee be compensated for “the net investment of the licensee in the project or projects taken, not to exceed the fair value of the property taken, plus such reasonable damages . . . .”\(^{40}\) It is not clear how this amount would be determined in practice given such an action is unprecedented. A net investment approach might imply a much lower amount than the actual fair market value of a hydropower project.

Federal Licensing Timeline: Yadkin Project

The Federal Power Commission granted Alcoa a 50-year operating license on May 1, 1958 for its three existing Yadkin dams and its proposed Tuckertown dam.\(^{41}\) In September 2002, Alcoa began holding public meetings regarding its upcoming relicensing request.\(^{42}\) Alcoa filed an application with FERC on April 25, 2006 for the renewal of its operating license set to expire in 2008.\(^{43}\) In order to expedite approval of this application, Alcoa filed a Relicensing Settlement Agreement (RSA) with FERC on May 7, 2007 which was the result of two years of meetings and

\(^{37}\) Id.
\(^{38}\) Id. at § 807(a).
\(^{40}\) 16 U.S.C. § 807(a).
\(^{42}\) Relicensing Timeline, supra note 13.
\(^{43}\) Id.
negotiations with nearly 30 organizations representing local stakeholders in the Yadkin Project.\textsuperscript{44} Twenty-three of these organizations originally signed the RSA.\textsuperscript{45} Key holdouts included several counties in which the Yadkin Project is located including Stanly and Davidson Counties.\textsuperscript{46} Both counties would eventually sign on to the RSA.\textsuperscript{47}

On May 10, 2007, Alcoa requested a water quality certification from the North Carolina Department of Environment and Natural Resources (NCDENR) in compliance with Section 401(a)(1) of the CWA.\textsuperscript{48} This certification was granted by NCDENR’s Division of Water Quality (DWQ) on Nov. 16, 2007,\textsuperscript{49} but was later revoked on Apr. 16, 2008 for failure to provide adequate notice for public comment.\textsuperscript{50} FERC staff issued its final environmental impact statement of the Yadkin Project on Apr. 18, 2008 and recommended inclusion of a number of environmental upgrades to the dams as part of any relicensing.\textsuperscript{51} Alcoa’s original 50-year license expired on Apr. 30, 2008\textsuperscript{52} and the project began operating under an annual license pending final decision by FERC on issuing a new license.\textsuperscript{53}

On May 8, 2008 Alcoa re-filed its water quality certification request with NCDENR.\textsuperscript{54} The requested certification was again issued on May 7, 2009 with the condition that Alcoa post a

\begin{footnotes}
\footnote{44} Id.
\footnote{45} Id.
\footnote{48} Alcoa Power Generating, Inc. v. FERC, 643 F.3d 963, 965 (D.C. Cir. 2011).
\footnote{49} Id.
\footnote{50} Id.
\footnote{52} Alcoa Power Generating, Inc. v. FERC, 643 F.3d 963, 965 (D.C. Cir. 2011).
\footnote{53} Annual Licenses for Project Subject to Sections 14 and 15 of the Federal Power Act, 18 C.F.R. § 16.18 (2013).
\footnote{54} Alcoa Power Generating, Inc. v. FERC, 643 F.3d 963, 965 (D.C. Cir. 2011).
\end{footnotes}
$240 million surety bond for required upgrades to the dam facilities. A North Carolina Administrative Law Judge issued a preliminary injunction on May 27 on behalf of Stanly County staying the water quality certification. With the certification on hold, Alcoa filed a petition with FERC on Set. 17, 2009 for a declaratory order from FERC that North Carolina had waived its water quality certification right by failing to issue an effective certification within one year as required by the CWA citing the difficulty in acquiring the $240 million bond. FERC denied Alcoa’s petition on Oct. 15 holding that the CWA only required NCDENR to “act” on Alcoa’s request and the requirement of a surety bond did not prevent FERC from issuing a license.

NCDENR revoked the May 2009 water quality certificate after company emails submitted as evidence in the administrative injunction hearings showed that Alcoa withheld material information concerning dissolved oxygen levels in water discharged from its dams. Alcoa appealed NCDENR’s revocation on Jan. 28, 2011. On May 3, 2011, the U.S. Court of Appeals for the District of Columbia Circuit upheld FERC’s denial of Alcoa’s request for a declaratory order that North Carolina had waived its water quality certification authority for the relicensing of the company’s Yadkin Project. NCDENR had issued the requested certification and any disputes over the substance of the certification were a matter of state law.

On Sept. 27, 2012, a state administrative law judge granted Alcoa’s request to dismiss its appeal of the Dec. 1, 2010 revocation and ruled Alcoa could submit a new application for a

55 Id.
56 Id.
57 Id.
59 Relicensing Timeline, supra note 13.
60 Id.
61 Alcoa Power Generating, Inc. v. FERC, 643 F.3d 963, 965 (D.C. Cir. 2011).
62 Relicensing Timeline, supra note 13.
water quality certificate. Alcoa filed a new application for a Section 401 water quality
certification with NCDENR on Sept. 28, 2012. After further negotiations, Davidson County
voted to support the RSA on Mar. 28, 2013 and Stanly County followed in May.

The DOA filed a lawsuit on Aug. 2, 2013 claiming ownership of the riverbeds beneath
Alcoa’s dams and therefore an ownership interest in the dams. The same day, NCDENR denied
Alcoa’s Sept. 2012 request for a Section 401 water quality certification. Alcoa appealed this
denial on Sept. 25.

Section 401 Water Quality Dispute

The protracted dispute between North Carolina and Alcoa over the denial of a water
quality certificate is grounded in the CWA. Before FERC can issue an operating license for a
hydropower project, the applicant must obtain a Section 401 certification for the dams. Alcoa’s
dams fall within the scope of Section 401 of the CWA because they discharge water into the
Yadkin River. In S.D. Warren Co. the Supreme Court held that “discharge,” as used in Section
401 of the CWA, is not a term of art and simply refers to the water flowing out of a dam.

Both private organizations and government agencies have voiced concerns about
pollutants in the reservoirs formed by the Yadkin Project. In revoking its 2009 water quality

63 Bruce Henderson, Alcoa Gets New Shot at Yadkin Permit, CHARLOTTE OBSERVER (Oct. 5, 2012), available at 
http://www.charlotteobserver.com/2012/10/05/3579776/alcoa-gets-new-shot-at-yadkin.html#.UmcFgFCsg69.
64 Relicensing Timeline, supra note 13.
65 Nash Dunn, County Signs Settlement Agreement, THE DISPATCH (Mar. 28, 2013), available at 
66 NC County Votes to End Alcoa Dam Licensing Fight, ASSOCIATED PRESS (May 7, 2013), available at 
67 Dalesio, supra at note 10.
68 Id.
69 Bruce Henderson, Alcoa Continues Fight over Hydro License, CHARLOTTE OBSERVER, (Sept. 26, 2013), available
at http://www.charlotteobserver.com/2013/09/26/4344889/alcoa-continues-fight-over-hydro.html#.UmcFCICsg6-
71 Jeff Michael, Alcoa and the Yadkin River: What’s Next?, UNC CHARLOTTE URBAN INSTITUTE (May 12, 2011),
certification, NCDENR cited the levels of dissolved oxygen in the tailwaters of the dams. The
dams pull water from the bottom of the reservoir where oxygen levels are low and discharge this
water into the river below. Alcoa has already installed modifications to the turbines in the dams
which increases the dissolved oxygen levels downstream, but the State questions the
effectiveness of these modifications citing employee emails that raise doubts as to their
effectiveness. FERC’s final environmental impact statement from 2008 also cited dissolved
oxygen levels as a concern but suggested that Alcoa’s proposed modifications would largely
remedy the issue. FERC staff proposed a dissolved oxygen monitoring plan and noted licenses
contain “standard reopener provisions” in the event the modifications do not succeed in meeting
dissolved oxygen standards, the implication being that this concern should not bar licensing.

The level of polychlorinated biphenyls (PCBs) in Badin Lake are also a concern. The
North Carolina Department of Health and Human Services (NCDHHS) issued a warning in 2009
against eating fish caught in Badin Lake due to concentration of PCBs. Alcoa has
acknowledged that its smelting operations on Badin Lake are probably the source of the PCBs
found in lake sediment. However, NCDHHS published an opinion in 2010 that the source of
the PCBs cannot be traced to one source such as the Badin Works but could be the result of
runoff from anywhere in the watershed. Since PCB pollution is not a direct result of the dams’

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73 Id.
74 Id.
75 See Project FEIS, supra note 51.
76 Id.
78 Id.
operation, it is likely outside the scope of the Section 401 certification and governed by the EPA instead.

In the RSA, Alcoa made provisions to correct both these water quality issues, among others.\textsuperscript{80} Alcoa agreed in Sept. 2012 to cap the sediment in Badin Lake to remediate the contamination issues.\textsuperscript{81} The sediment remediation project was completed in January 2013.\textsuperscript{82}

Alcoa does not dispute its need to obtain a Section 401 certification from NCDENR. However, Alcoa does dispute the grounds on which the NCDENR denied its second application for a Section 401 certification on August 2, 2013. That same day, DOA filed suit in state court alleging ownership of the riverbeds beneath Alcoa’s Yadkin dams. Citing this ownership dispute, NCDENR rejected Alcoa’s application for a water quality certification.

Prior to denying Alcoa’s certification request, NCDENR released a July 29 report containing a recommendation by one of the agency’s hearing officers that the state grant Alcoa’s water quality certification.\textsuperscript{83} The hearing officer recommended approval be granted contingent upon Alcoa posting a surety bond for $47.6 million for required upgrades and monitoring over the next 20 years to ensure compliance with water quality standards.\textsuperscript{84} Alcoa looks to this report as proof that its denial of water quality certification was not based on any violation of water quality standards.

However, according to an NCDENR spokesman, “The hearing officer recommended the 401 [water quality certification] be granted, but he did that without the knowledge of the Department of Administration’s lawsuit the put ownership into question.” NCDENR rules

\textsuperscript{80} Relicensing Settlement Agreement, supra note 46.
\textsuperscript{81} Bruce Henderson, Badin Lake Sediment to be Capped, CHARLOTTE OBSERVER (Sept. 21, 2012).
\textsuperscript{84} Id.
require that applicants for certification own the land in question or be authorized by the owner to apply for certification.85 Both of these actions by the state further delay Alcoa’s application for an operating license from FERC. The Commission’s expressed policy is to defer its license decision until state proceedings on the matter of water quality certification are concluded.86

Ownership of Submerged Land

Amid this protracted water quality dispute, the lawsuit filed by DOA in Wake County Superior Court on August 2, 2013 further muddied the waters. In its complaint, DOA asserts that North Carolina owns the riverbeds beneath Alcoa’s dams and therefore has an ownership stake in the dams constructed on top of that land.87

State ownership of the submerged lands beneath rivers that are navigable at the time of statehood is well established by the Supreme Court and was recently reaffirmed in PPL Montana, LLC v. Montana.88 At issue was an order by a Montana trial court that a power company pay the State $41 million in back rent for the use of the riverbeds beneath its dams.89 The Supreme Court reversed that ruling, holding that the Montana Supreme Court erred in its determination of navigability. The Montana Supreme Court held that the entire rivers in question were navigable and the locations of the dams were merely “short interruptions in navigability” that did not negate the determination that the river as a whole was navigable.90 In overturning this ruling, the Supreme Court held this application of navigability to be too broad and that title to a riverbed is made on a segment-by-segment basis.91 That is, the court must

87 Complaint of Plaintiff at 10, Alcoa I, No. 13-CVS-10477.
89 Id. at 1219.
90 Id.
91 Id. at 1229.
determine whether the relevant segment of the river—the location of the dams—was “navigable in fact” at the time of statehood.92

State ownership of the land beneath navigable rivers is a constitutional matter under the equal-footing doctrine, and consequently questions of navigability and title are a federal matter.93 States administer these submerged lands in accordance with the public trust doctrine.94

According to PPL Montana, public trust typically entails providing access to the water above State-owned riverbeds for navigation, recreation, or other similar uses.95 However, a state’s definition of the scope of the public trust is a matter of state law in regulating its waterways.96

Interestingly, the Supreme Court did not affirmatively state that had the riverbeds in dispute been found to be navigable Montana would not be permitted to collect rent from the power company.

In its complaint, DOA contends that the 38-mile stretch of the Yadkin River upon which Alcoa built its dams was navigable when North Carolina became a state in 1789.97 Alcoa denied this allegation in its answer to DOA’s complaint as well as all ownership claims by the State.98

Further, Alcoa removed the case to federal court on Sept. 3 alleging the case turns on the question of the navigability of the Yadkin River which is a federal constitutional issue.99 As in PPL Montana, the question of navigability is crucial to the outcome of this lawsuit.

Questions of Public Benefit

While the DOA’s lawsuit turns on the legal question of navigability, the motivation for the lawsuit is grounded in an attempt by the State to expand the interpretation of the public trust

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92 Id. at 1228.
93 Id. at 1235.
94 Id.
95 Id. at 1234.
96 Id. at 1235.
97 Complaint of Plaintiff at 6, Alcoa I, No. 13-CVS-10477.
98 Answer of Defendant at 4, Alcoa II, No. 5:13-CV-0063-BO.
99 Def.’s Notice of Removal at 4, Alcoa II, No. 5:13-CV-0063-BO
doctrine. According to the State, Alcoa was originally granted use of the Yadkin River, a public resource, in exchange for providing a benefit to the people of North Carolina in the form of “high quality jobs” and economic development.\(^\text{100}\) Now that Alcoa has closed its smelting operations at Badin, the State believes the original quid pro quo no longer exists and Alcoa is earning substantial profits without providing any economic benefit in return.\(^\text{101}\)

According to DOA’s complaint, granting Alcoa another operating license would amount to an exclusive emolument and monopoly to generate electricity on this section of the Yadkin River.\(^\text{102}\) Doing so would violate Section 32 of North Carolina’s Constitution which forbids such grants except “in consideration of public services.”\(^\text{103}\) Governor Pat McCrory echoed this argument stating, “The benefits of the Yadkin River belong to North Carolina’s people.”\(^\text{104}\)

Governor McCrory is continuing former Gov. Bev Perdue’s fight to recapture Alcoa’s license to operate the dams. Former Gov. Perdue’s efforts were focused on passing state legislation creating a public entity which would administer the dams for the benefit of the people of North Carolina.\(^\text{105}\) This effort ultimately failed to pass the North Carolina House of Representatives.\(^\text{106}\) Former Gov. Perdue also petitioned FERC in April 2009 to recapture Alcoa’s operating license and transfer it to the state.\(^\text{107}\) As stated previously, FERC’s policy is to stay any action until state

\(^{100}\) Complaint of Plaintiff at 3, Alcoa I, No. 13-CVS-10477.
\(^{101}\) Complaint of Plaintiff at 5, Alcoa I, No. 13-CVS-10477.
\(^{102}\) Complaint of Plaintiff at 7–8, Alcoa I, No. 13-CVS-10477.
\(^{103}\) N.C. CONST. art. I, § 32.
\(^{104}\) Dalesio, supra at note 10.
\(^{106}\) Id.
proceedings are resolved and thus, this petition remains outstanding. However, given such an act by FERC is unprecedented, the likelihood of this request is doubtful.  

**Potential Outcomes: Economic and Environmental Impacts**

In summary, the present state of the dispute between Alcoa and the State of North Carolina allows only for speculation as to future outcomes. If DOA fails in its suit for ownership of the riverbeds lying beneath the Yadkin dams, Alcoa still must obtain a water quality certification from NCDENR. The denial of its most recent request is currently on appeal. Should DOA prevail in its lawsuit, it is currently unclear whether the State would attempt to wrest control of the dams from Alcoa. At the very least it would give the State significant leverage in negotiating more favorable terms under the (RSA).

The current RSA has been widely accepted by local stakeholders as an acceptable compromise providing for environmental stewardship of the Yadkin River and its reservoirs, recreation enhancements, and increased water withdrawal rights for the surrounding population. A separate agreement provides millions of dollars in economic development aid, among other benefits, to Stanly County, the site of the former Badin Works. Future events will no doubt shape the final compromise between Alcoa and North Carolina.

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108 *Id.*

109 *Relicensing Settlement Agreement, supra* note 46.

110 *NC County Votes to End Alcoa Dam Licensing Fight, supra* note 66.