

North Carolina

Department of Environmental Quality

Division of Water Resources

**Hearing Officer's Report and
Proposed Interbasin Transfer Certificate
for
Pender County and
the Towns of Burgaw, Topsail Beach,
Surf City, Wallace and Utilities, Inc.**

Environmental Management Commission

July 2018

Table of Contents

Part 1 – Hearing Officer’s Report	2
Part 2 – Response to Comments	8
Part 3 – Proposed Interbasin Transfer Certificate	11
Factors Considered.....	14
1) Necessity, Reasonableness, and Uses of the Proposed Transfer	14
2) Present and Reasonably Foreseeable Future Detrimental Effects on the Source River Basin	17
3) Cumulative Effects on the Source Major River Basin of Any Current or Projected Water Transfer or Consumptive Water Use	23
4) Present and Reasonably Foreseeable Future Beneficial and Detrimental Effects on the Receiving Basins	24
5) Reasonable Alternatives to the Proposed Transfer	26
6) Applicants’ Use of Impoundment Storage Capacity	28
7) Purposes of Any US Army Corps of Engineers Multi-Purpose Reservoir Relevant to the Petition	28
8) Whether Service Area is Located in Both the Source and Receiving River Basins	28
9) Any Other Facts or Circumstances Reasonably Necessary to Carry Out the Purposes of the Statute	29
Proposed Decision	30

List of Figures

Figure 1 – Pender County with River Basin Boundaries and Water/Sewer Districts.....	15
---	----

List of Tables

Table 1 – Pender County Population and Forecasted IBT Demand	16
Table 2 – Model Scenario Comparison – Cape Fear River Statistics Above L&D #1.....	20
Table 3 – Model Scenario Comparison – Cape Fear River Statistics Below L&D #1	21

Appendices

- Appendix A – NC Statutes and Administrative Rules for Water Transfers
- Appendix B – Public Comments Regarding Petition
- Appendix C – Distribution Lists for Public Notice

Hearing Officer's Report following a Public Hearing on the Petition to the EMC to Grant an Interbasin Transfer Certificate to Pender County and the Towns of Burgaw, Topsail Beach, Surf City, Wallace and Utilities, Inc.

Pender County Utilities (PCU) currently obtains its raw water supply from the Cape Fear River through a contract with the Lower Cape Fear Water and Sewer Authority (LCFWASA). LCFWASA's intake and associated Kings Bluff Raw Water Pumping Station are located just above Lock and Dam #1 (L&D #1) on the Cape Fear River. LCFWASA transmits raw water via its existing transmission main to PCU's water treatment plant (WTP), which is located within the Cape Fear River interbasin transfer (IBT) basin. Finished water crosses from the Cape Fear River IBT basin, where the WTP is located, to the receiving river basins in order to serve the county's customers. This surface water transfer has been occurring since PCU completed its WTP in 2012, but the amount of the transfer has been less than the 2 million gallons per day (mgd) threshold requiring an IBT certificate. The co-applicants for the IBT certificate all currently obtain their water supply from groundwater sources but are planning to interconnect with PCU to meet their future supply needs.

Population growth and water demand projections for Pender County and the co-applicants (the Towns of Burgaw, Topsail Beach, Surf City, Wallace and Utilities, Inc. (for water service to the Belvedere Plantation and Olde Pointe developments, as referenced in the Environmental Assessment and Petition) (Applicants) will require more than 2 mgd to be transferred from the Cape Fear River IBT basin in order to meet future needs. Therefore, the Applicants are requesting an IBT certificate in order to transfer up to 14.5 mgd. The Applicants are following the requirements pursuant to N.C.G.S. § 143-215.22L (w), for coastal counties seeking an IBT certificate since Pender County is one of the designated coastal counties pursuant to N.C.G.S. §113A-103. A copy of the North Carolina statutes and administrative rules governing surface water transfers is provided in Appendix A.

On March 31, 2016, the Applicants filed a notice of intent with the Environmental Management Commission (EMC or Commission) to request an IBT certificate.

On September 12, 2016, the Applicants submitted the draft Environmental Assessment (EA) to the Department of Environmental Quality (DEQ). As part of the EA, a hydrologic model was used to evaluate the direct impacts on the source river basin. The hydrologic model that was used was the CFNRBHM (combined Cape Fear River basin and Neuse River basin hydrologic model). The North Carolina Division of Water Resources (NCDWR) originally developed individual hydrologic models for the Cape Fear River and Neuse River basins. Recognizing the many interconnections between these two river basins, NCDWR contracted with Hydrologics, Inc. in 2012 to develop a combined basin hydrologic model. The resulting system is modeled using the OASIS water resources program. CH2M Hill, now Jacobs Engineering Group Inc., a consultant working for the Applicants, obtained the CFNRBHM OASIS model from NCDWR on May 14, 2016 to evaluate the hydrologic impacts of the proposed increase in IBT on water resources in the Cape Fear River basin. The model includes a number of scenarios used to represent current and future water demands, discharges, and

reservoir operations. The specific scenarios used for this hydrologic analysis were confirmed by NCDWR on June 13, 2016. NCDWR reviewed the inputs for the model runs, which consisted of future water demand forecasts for the Applicants, as documented in the EA, which was reviewed by NCDWR. NCDWR also reviewed and provided comments regarding the model output, which was documented in the technical memorandum, "Hydrologic Modeling Evaluation of the Effects of the Proposed Pender County Interbasin Transfer," included as Appendix F to the EA. Text for the technical memorandum was revised based on NCDWR comments, but additional model runs were not required.

On January 4, 2017, the final EA was submitted to DEQ, following revisions to incorporate NCDWR's review comments provided to the Applicants. DEQ issued a Finding of No Significant Impact (FONSI) for the EA, which was signed by the Director of the NCDWR on April 27, 2017. The EA and FONSI were submitted on May 3, 2017 to the State Environmental Review Clearinghouse for a 30-day public review and comment period.

On November 22, 2017, the Applicants submitted a petition for an IBT certificate (Petition) to the EMC. The requested IBT certificate is for a transfer of up to 14.5 million gallons of water per day (mgd), calculated as a daily average of a calendar month, from the Cape Fear River IBT basin based on water use projections to 2045. As identified in the Petition, the permitted transfer amounts shall not exceed a maximum of 2.1 mgd from the Cape Fear River IBT basin to the South River IBT basin; 3.2 mgd from the Cape Fear River IBT basin to the New River IBT basin; and 9.2 mgd from the Cape Fear River IBT basin to the Northeast Cape Fear River IBT basin.

On December 5, 2017, NCDWR submitted the Petition to the State Environmental Review Clearinghouse for a 30-day public review and comment period. That 30-day public comment period began on December 8, 2017 and ended on January 8, 2018. During the public comment period, seven comments were received and later forwarded to NCDWR by the State Environmental Review Clearinghouse.

On December 12, 2017, NCDWR provided 30-day notice for a public hearing to be held on January 18, 2018 regarding the Applicants' Petition. On January 17, 2018, inclement weather and hazardous driving conditions in central North Carolina, led to the postponement of the public hearing. As a result, on February 7, 2018, NCDWR provided a 30-day notice to reschedule the public hearing to March 22, 2018 in the Town of Burgaw, which is a location that is convenient to both the source and receiving IBT basins.

A total of four oral comments were received at the public hearing on March 22, 2018 and two individuals submitted written comments during the public comment period which extended from March 22 through April 23, 2018. This report includes a record of all the comments and written responses to questions posed in writing during the comment period as well as oral comments heard at the public hearing. Copies of the public comments received, including transcriptions of the oral comments offered at the public hearing, are available in Appendix B.

Of the combined oral and written public comments received, one comment opposed the proposed IBT while the other five comments were in support of the proposed IBT certificate. The comment in opposition to the proposed IBT cited concern over how much water can be removed

from the Cape Fear River without the river being compromised and a concern regarding the long-term effects of IBTs.

To assess any potential impacts associated with the removal and transfer of surface water out of the Cape Fear River IBT basin, hydrologic modeling was performed during the EA phase of the project, as discussed above. Results of the modeling showed that the proposed IBT increase will not significantly change Cape Fear River elevations above or below L&D #1, downstream river flows, or water quality. Hydrologic modeling has shown that any downstream flow impacts would be minimal, and during drought periods will be mitigated by several factors including the implementation of the State-required Water Shortage Response Plans. The predicted stage (river elevation) always remains above the dam crest elevation, allowing for continuous access to the fish ladder for fish passage at L&D #1. Modeling results further indicate that in-stream flow patterns will not be significantly impacted, which protects in-stream aquatic habitat and aquatic resources. Based on the small volume of water that the requested IBT certificate represents in comparison to the typical river flow and range of natural variability in flow, as well as the adjacent swamp/marsh and tidal influences downstream of L&D #1, the Hearing Officer concludes that there will not be a significant impact from the proposed transfer increase and it will not result in water levels inadequate to support existing and reasonably foreseeable future water supply needs of the Cape Fear River below the point of withdrawal at L&D #1.

There was also concern expressed regarding the long-term effects of IBTs. The EA serves to document any potential direct, secondary and cumulative impacts related to a proposed project, or whether no impacts are expected. In this case, the EA and the hydrologic modeling that was conducted in support of the EA evaluated the impacts of the proposed IBT increase over the 30-year project planning horizon. The modeling and assessment conducted for the EA evaluated the potential effects on both the source and three receiving basins over this 30-year timeframe. Based on the modeling results, the Hearing Officer found no significant impact to the source basin, as noted in the discussion related to the previous comment above. Regarding the receiving basins, while the increased IBT is expected to support the anticipated growth and development in those basins, leading to detrimental impacts associated with increased impervious surface area among other issues, the Hearing Officer found the detrimental effects will be mitigated or avoided with existing federal, state, and local regulations and protection programs which require implementation of mitigation measures.

The Hearing Officer notes that there were also comments of support for the Petition for the proposed IBT certificate, including comments from a Pender County Commissioner, co-applicant Town of Wallace, and representatives from environmental groups including The Conservation Fund and Pender Watch and Conservancy. The positive comments cited the following reasons for supporting the proposed IBT, which will provide: (1) a more reliable water source for the Applicants by expanding the service area to areas currently reliant on groundwater, and (2) greater system capacity in order to meet future water demands given the area's projected growth as well as the ongoing and planned expansion of the service area. The supportive comments also included the encouragement of the Applicants to partner with other large water users that depend on the Lower Cape Fear River and the conservation community to develop a source water protection plan to protect the water supply source above Lock and Dam #1, and to develop a conservation and restoration plan to further protect the water quality and quantity in the Lower Cape Fear River basin.

Having reviewed and considered the entire record, including the Petition, the EA, the oral comments received at the public hearing held on March 22, 2018, and written comments submitted during the public review process, the Hearing Officer recommends that the EMC promptly consider the Petition. In the opinion of the Hearing Officer, the Applicants' Petition for an IBT certificate should be approved.

In the event that the EMC takes action to approve the request, the Hearing Officer recommends that the EMC make the findings set forth in the proposed IBT certificate attached to this Report and, pursuant to N.C.G.S. § 143-215.22L (w), authorize the Applicants to transfer an amount of water not to exceed a maximum of 14.5 million gallons per day from the Cape Fear River IBT basin to the South River, Northeast Cape Fear River, and New River IBT basins, subject to the following conditions:

1. Within 90 days of receipt of the IBT Certificate, the Applicants shall prepare and submit a water conservation plan subject to approval by the North Carolina Division of Water Resources (NCDWR) that specifies the water conservation measures, including a rate pricing structure, to be implemented by the Applicants in the receiving river basins to ensure the efficient use of the transferred water. The Applicants submitted a water conservation plan for review April 6, 2017, which was approved by the NCDWR effective November 30, 2017 and distributed for a 30-day public review via the State Environmental Clearinghouse on December 8, 2017. Except in circumstances of technical or economic infeasibility or adverse environmental impact, the water conservation plan shall provide for the mandatory implementation of water conservation measures by the Applicants that equal or exceed the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin. The Towns of Burgaw, Topsail Beach, Surf City, and Wallace as well as Utilities, Inc. (for water service to the Belvedere Plantation and Olde Pointe developments), identified as co-applicants on this IBT Certificate, shall implement water conservation plans at least as stringent as the requirements imposed on Pender County in order to receive any surface water transferred under this Certificate. The Certificate Holder shall not transfer any water to any other unit of local government beyond those listed in the Certificate, unless approved by the EMC. All units of local government receiving any transferred water originating from the Cape Fear River IBT basin by the Applicants are bound by this condition in full.
2. Within 90 days of receipt of the IBT Certificate, the Applicants shall prepare and submit a drought management plan subject to approval by the NCDWR that specifies how the transfer shall be managed to protect the source river basin (Cape Fear River IBT basin) during drought conditions or other emergencies that occur within the source river basin. The Applicants submitted a drought management plan for review April 6, 2017, which was approved by the NCDWR effective November 30, 2017 and distributed for a 30-day public review via the State Environmental Clearinghouse on December 8, 2017. Except in circumstances of technical or economic infeasibility or adverse environmental impact, this drought management plan shall include mandatory reductions in the permitted amount of the transfer based on the severity and duration of a drought occurring within the source river basin and shall provide for the mandatory implementation of a drought management plan by the Applicants that equals or exceeds the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin. All co-applicants to this IBT Certificate shall implement a drought management plan at least as stringent as the requirements imposed on Pender County. The

Certificate Holder shall not transfer any water to any other unit of local government unless that unit of local government agrees to be bound by this condition in full.

3. Within 90 days of receipt of the IBT Certificate, the Applicants shall submit a quarterly compliance and monitoring plan subject to approval by the NCDWR. The plan shall include methodologies and reporting schedules for reporting the following information: daily transfer amount calculated as the average daily over the maximum month, compliance with certificate conditions, progress on mitigation measures, drought management, and reporting. A copy of the approved plan shall be kept on file with the NCDWR for public inspection. The NCDWR shall have the authority to make modifications to the compliance and monitoring plan as necessary to assess compliance with the certificate. The NCDWR will monitor the transfer from the Cape Fear River IBT basin to the South River, Northeast Cape Fear River, and New River IBT basins, as regulated by the IBT certificate. The quarterly compliance and monitoring report shall be submitted to the Commission no later than 30 days after the end of the quarter. The Applicants shall employ any methods or install and operate any devices required to measure the amount of water that is transferred during each calendar quarter, calculated as a daily average of a calendar month.
4. The Commission may amend the certificate to reduce the maximum amount of water authorized to be transferred whenever it appears that an alternative source of water is available to the certificate holder from within the receiving river basins, including, but not limited to, the purchase of water from another water supplier within the receiving basins or to the transfer of water from another sub-basin within the receiving major river basin.
5. The Commission shall amend the certificate to reduce the maximum amount of water authorized to be transferred if the Commission finds that the Applicants' current projected water needs are significantly less than the Applicants' projected water needs at the time the certificate was granted.
6. The Applicants will not resell the water that would be transferred pursuant to the certificate to another public water system. This limitation shall not apply in the case of a proposed resale or transfer among public water systems within the receiving river basin as part of an inter-local agreement or other regional water supply arrangement, provided that each participant in the inter-local agreement or regional water supply arrangement is a co-applicant for the certificate and will be subject to all the terms, conditions, and limitations made applicable to any lead or primary applicant. The Towns of Burgaw, Topsail Beach, Surf City, and Wallace as well as Utilities, Inc. (for water service to the Belvedere Plantation and Olde Pointe developments) are co-applicants to this IBT certificate.
7. The Commission may reopen and modify or revoke this Certificate to ensure continued compliance with N.C.G.S. Chapter 143, Article 21, Part 2A.

NOTICE: The holders of this certificate are jointly and severally responsible for compliance with the terms, conditions and requirements stated herein, and are therefore jointly and severally liable for all penalties assessed to enforce such terms, conditions and requirements as provided in N.C.G.S. §143-215.6A.

This is the 15 day of June, 2018.

A handwritten signature in blue ink, appearing to read "Steve Keen", written over a horizontal line.

Steve Keen, Hearing Officer
North Carolina Environmental Management Commission

PART 2 – RESPONSE TO COMMENTS

Pender County IBT Certificate Request – Public Comments

Hearing Held March 22, 2018 – Comments Received through April 23, 2018

#	Comment	Commenter(s)	Response
1	No scientific knowledge of long-term effects of IBTs.	1	<p>As part of the process of applying for an IBT certificate, Pender County prepared an Environmental Assessment (EA). One purpose of an EA is to document any direct, secondary and cumulative impacts related to a proposed project, or to document whether no impacts are expected. In this case, the EA, and the hydrologic modeling that was conducted in support of the EA, evaluated the potential impacts of the proposed IBT increase over the 30-year project planning horizon. The modeling and assessment conducted for the EA evaluated the potential effects on both the source and three receiving basins over this 30-year timeframe. Based on the modeling results, there is no significant impact anticipated for the source basin. The modeling showed that the proposed IBT increase will not significantly change Cape Fear River elevations above or below L&D #1, downstream river flows, or water quality. Hydrologic modeling indicated that any downstream flow impacts would be limited to times of severe drought. During these drought periods, any potential impacts will be mitigated by the implementation of the State-required Water Shortage Response Plans, which mandate specified reductions of withdrawals. The predicted stage (river elevation) always remained above the dam crest elevation, allowing for continuous access to the fish ladder for fish passage at L&D #1. Modeling results further indicated that in-stream flow patterns would not be significantly impacted, which protects in-stream aquatic habitat and aquatic resources. Regarding the receiving basins, while the increased IBT is expected to support the anticipated growth and development in those basins, this will potentially lead to detrimental impacts associated with an increasing population. The EA document outlines specific measures by which potential detrimental effects will be mitigated or avoided with existing federal, state, and local regulations and protection programs.</p>
2	How much water can be removed from the Cape Fear River without the river being compromised?	1	<p>The DWR uses 20 percent of the 7Q10 (lowest average discharge over a 7-day period with a recurrence interval of 10 years) as planning guidance for run-of-the-river water supplies. The maximum allowable withdrawal for the Cape Fear River at the proposed withdrawal location is 106.6 million gallons per day (MGD). To assess any potential impacts associated with the removal and transfer of surface water out of the Cape Fear River IBT basin, hydrologic modeling was performed during the Environmental Assessment (EA) phase of the project. Results of the modeling showed that the proposed IBT increase will not significantly change Cape Fear River elevations above or below L&D #1, downstream river flows, or water quality. Hydrologic modeling showed that any downstream flow impacts would be limited to times of severe drought. During these</p>

			drought periods, any potential impacts will be mitigated by the implementation of the State-required Water Shortage Response Plans, which mandate specified reductions of withdrawals. The predicted stage (river elevation) always remained above the dam crest elevation, allowing for continuous access to the fish ladder for fish passage at L&D #1. Modeling results further indicated that in-stream flow patterns would not be significantly impacted, which protects in-stream aquatic habitat and aquatic resources. Based on the small volume of water that the requested IBT certificate represents in comparison to the typical river flow and range of natural variability in flow, as well as the adjacent swamp/marsh and tidal influences downstream of L&D #1, there will not be a significant impact from the proposed transfer increase and it will not result in water levels inadequate to support existing and reasonably foreseeable future needs of the Cape Fear River below the point of withdrawal at L&D #1.
3	Develop a source water protection plan to protect the water supply of the Lower Cape Fear River.	3, 4	The Department agrees that a Source Water Protection Plan is a prudent planning tool to help safeguard drinking water sources. The General Assembly passed GS 130A-320 in 2014, requiring public water systems supplying water from surface sources to create and implement a source water protection plan. The Public Water Supply Section in the Department's Division of Water Resources is now actively engaged in the rulemaking process to develop a standardized plan format, schedules for creating a plan, and reporting requirements. As such, the Public Water Supply Section is currently advising public water systems to delay the development of Source Water Protection Plans until the rules have been developed and approved.
4	Develop conservation and restoration plans to protect the water quality and quantity in the Lower Cape Fear River basin.	3, 4	The Department agrees that conservation and restoration plans can be prudent tools to help protect the water quality and quantity in the Lower Cape Fear River basin and should be developed if conditions demonstrate that such plans are needed.
5	Proposed IBT increase will provide a more reliable water source for co-applicants and parts of Pender County currently reliant on groundwater.	2, 3, 4, 5, 6	Comment noted.
6	Proposed IBT increase will provide greater system capacity to meet future water demands given the area's projected growth as well as the ongoing and planned expansion of the service area.	2, 3, 4, 5, 6	Comment noted.

**PART 3 – PROPOSED INTERBASIN TRANSFER
CERTIFICATE**

Following is a Proposed Interbasin Transfer Certificate Prepared by the Hearing Officer and NCDWR staff for consideration by the EMC. Pursuant to N.C.G.S. §143-215.22L(w), the Commission may grant the certificate in whole or in part, or deny the certificate.

**PROPOSED CERTIFICATE AUTHORIZING PENDER COUNTY AND
THE TOWNS OF BURGAW, TOPSAIL BEACH, SURF CITY, WALLACE
AND UTILITIES, INC.
TO TRANSFER WATER FROM THE CAPE FEAR RIVER IBT BASIN
TO THE SOUTH RIVER, NORTHEAST CAPE FEAR RIVER,
AND NEW RIVER IBT BASINS
UNDER THE PROVISIONS OF N.C.G.S. §143-215.22L (w)**

On March 31, 2016, the Applicants filed a notice of intent with the Environmental Management Commission (EMC or Commission) to request an Interbasin Transfer (IBT) certificate.

On September 12, 2016, the Applicants submitted the draft Environmental Assessment (EA) to the Department of Environmental Quality (DEQ). As part of the EA, a hydrologic model was used to evaluate the direct impacts on the source river basin. The hydrologic model that was used was the CFNRBHM (combined Cape Fear River basin and Neuse River basin hydrologic model). The North Carolina Division of Water Resources (NCDWR) originally developed individual hydrologic models for the Cape Fear River and Neuse River basins. Recognizing the many interconnections between these two river basins, NCDWR contracted with Hydrologics, Inc. in 2012 to develop a combined basin hydrologic model. The resulting system is modeled using the OASIS water resources program. CH2M Hill, now Jacobs Engineering Group Inc., a consultant working for the Applicants, obtained the CFNRBHM OASIS model from NCDWR on May 14, 2016 to evaluate the hydrologic impacts of the proposed increase in IBT on water resources in the Cape Fear River basin. The model includes a number of scenarios used to represent current and future water demands, discharges, and reservoir operations. The specific scenarios used for this hydrologic analysis were confirmed by NCDWR on June 13, 2016. NCDWR reviewed the inputs for the model runs, which consisted of future water demand forecasts for the Applicants, as documented in the EA, which was reviewed by NCDWR. NCDWR also reviewed and provided comments regarding the model output, which was documented in the technical memorandum, "Hydrologic Modeling Evaluation of the Effects of the Proposed Pender County Interbasin Transfer," included as Appendix F to the EA. Text for the technical memorandum was revised based on NCDWR comments, but additional model runs were not required.

On January 4, 2017, the final EA was submitted to DEQ, following revisions to incorporate NCDWR's review comments provided to the Applicants. DEQ issued a Finding of No Significant Impact (FONSI) for the EA, which was signed by the Director of the NCDWR on April 27, 2017. The EA and FONSI were submitted on May 3, 2017 to the State Environmental Review Clearinghouse for a 30-day public review and comment period.

On November 22, 2017, the Applicants submitted a petition for an IBT certificate (Petition) to the EMC. The requested IBT certificate is for a transfer of up to 14.5 million gallons of water per day (mgd), calculated as a daily average of a calendar month, from the Cape Fear River IBT basin based on water use projections to 2045. As identified in the Petition, the permitted transfer amounts shall not exceed a maximum of 2.1 mgd from the Cape Fear River IBT basin to the South River IBT basin; 3.2 mgd from the Cape Fear River IBT basin to the New River IBT basin; and 9.2 mgd from the Cape Fear River IBT basin to the Northeast Cape Fear River IBT basin.

On December 5, 2017, NCDWR submitted the Petition to the State Environmental Review Clearinghouse for a 30-day public review and comment period. That 30-day public comment period began on December 8, 2017 and ended on January 8, 2018. During the public comment period, seven comments were received and later forwarded to NCDWR by the State Environmental Review Clearinghouse.

On December 12, 2017, NCDWR provided 30-day notice for a public hearing to be held on January 18, 2018 regarding the Applicants' Petition. On January 17, 2018, inclement weather and hazardous driving conditions in central North Carolina, led to the postponement of the public hearing. As a result, on February 7, 2018, NCDWR provided a 30-day notice to reschedule the public hearing to March 22, 2018 in the Town of Burgaw, which is a location that is convenient to both the source and receiving IBT basins.

A total of four oral comments were received at the public hearing on March 22, 2018 and two individuals submitted written comments during the public comment period which extended from March 22 through April 23, 2018. A record of all public comments received and responses from the Hearing Officer are provided in Part 2.

The EMC reviewed and considered the entire record, including the Applicants' notice of intent, EA, Petition, proposed certificate, and all other sources of information required by N.C.G.S. §143-215.22L(w). Upon review of the entire record, the EMC considered the statutory factors set forth in N.C.G.S. 143-215.22L(k) and makes the following findings of fact and conclusions of law:

Factors Considered

(1) The Necessity, Reasonableness, and Uses of the Proposed Transfer.

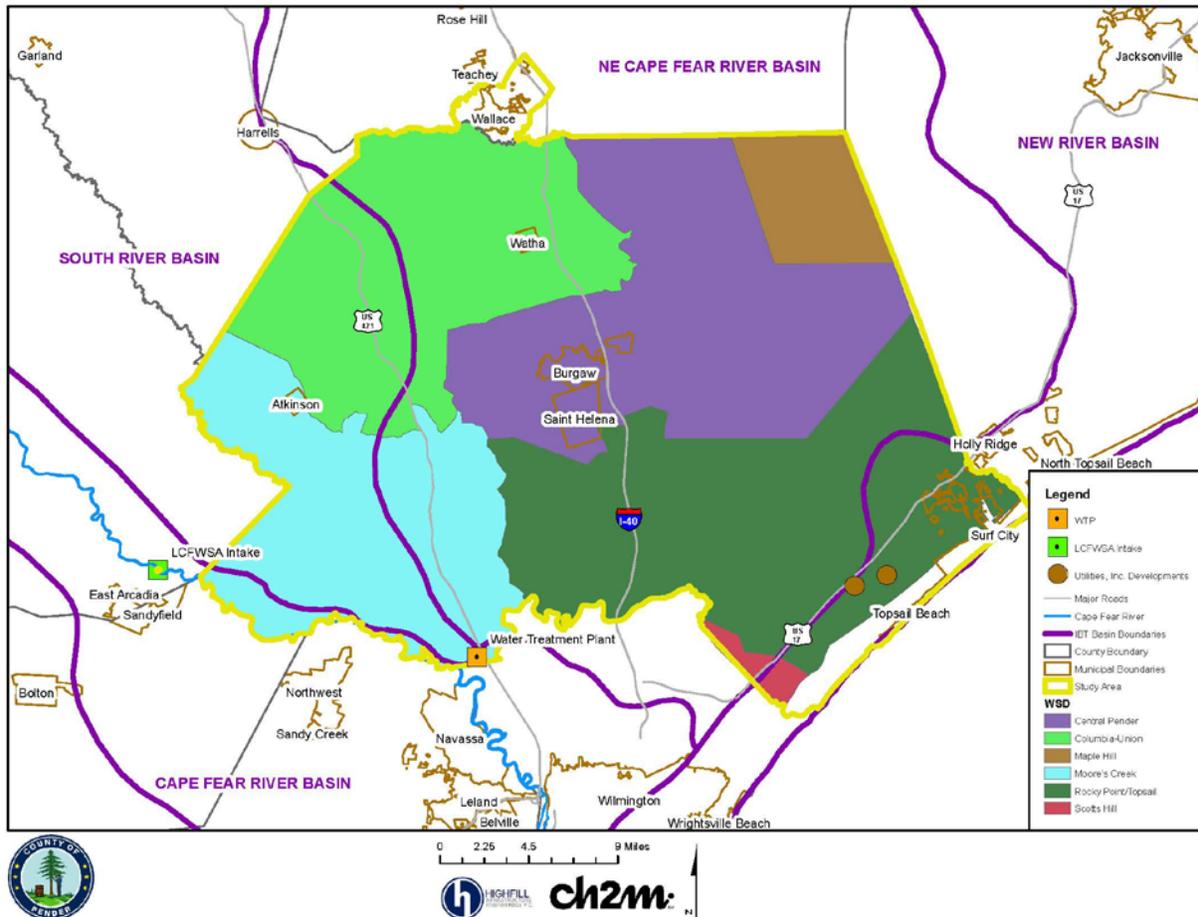
Based on the record and in accordance with requirements of G.S. § 143-215.22L(k)(1), the Commission finds that the Applicants' current water supply sources are insufficient to meet the projected demands of the Applicants' service areas over a 30-year planning horizon beginning in the year 2015 through the year 2045. The Commission finds that following an evaluation of the data provided in the Applicants' Local Water Supply Plans, NCDWR concluded that the water demand projections are reasonable given the comparison of future projections to historical water use data and considering current use for both residential and non-residential uses. Providing water for the anticipated population growth that is expected to occur based on growth projections, as well as prudent planned expansions of the county's service area, is necessary to avoid potential water supply shortfalls and support the anticipated continued growth and development of the county. Thus, the Commission concludes that the requested IBT certificate for the transfer of 14.5 mgd daily average for a calendar month is a necessary and reasonable amount to support the growing residential, commercial, and industrial needs of this area.

Analysis:

Pender County Utilities (PCU) currently obtains its raw water supply from the Cape Fear River through a contract with the Lower Cape Fear Water and Sewer Authority (LCFWASA). The LCFWASA intake and associated Kings Bluff Raw Water Pumping Station are located just above Lock and Dam 1 (L&D #1) on the Cape Fear River. LCFWASA transmits raw water via its existing transmission main to PCU's water treatment plant (WTP), which is located within the Cape Fear River IBT basin.

PCU currently provides potable water to approximately 7,500 customers in two of the county's six water and sewer districts (Rocky Point/Topsail and Scotts Hill WSDs). Figure 1 outlines the river basin boundaries and the county's six water and sewer districts. Finished water crosses from the Cape Fear River IBT basin, where the WTP is located, to the receiving river basins in order to serve the county's customers. This surface water transfer has been occurring since PCU completed its WTP in 2012, but the amount of the transfer has been less than the 2 mgd threshold requiring an IBT certificate. The co-applicants for the IBT certificate all currently obtain their water supply from groundwater sources but are planning to interconnect with PCU to meet their future supply needs.

Figure 1. Pender County with River Basin Boundaries and Water/Sewer Districts



The projected increase in the Applicants’ water demand is attributed to anticipated county population growth, commercial and industrial growth, and service area expansion by extending services to those currently served by private wells. In 2015, the total county population was 55,900 with an average day maximum month demand (MMD) for the population served of 1.3 mgd; by 2045 the county population is projected to grow to 109,900 with a MMD of 14.5 mgd. The increased water demand will be primarily fueled by increasing population growth and a greater percentage of the existing county population served with water from PCU as residents move off private groundwater wells onto the county’s water distribution system. Concerns related to the reliability of the groundwater as a potable drinking water source, as well as groundwater quality variability, led voters in the Moore’s Creek and Central Pender WSDs to approve a bond referendum to expand PCU’s water system into areas of these WSDs that are not currently served. As a result of this vote, in 2017 PCU began constructing over 70 miles of water lines in those WSDs, with more than 200 miles of water infrastructure planned over the next 20 years. Population growth and development is fueled by coastal access in Pender County,

proximity to the City of Wilmington, and the Pender County Commerce Park on US Highway 421.

Table 1 presents the projected population growth for Pender County and increased IBT demand through 2045. The population in the table represents estimated county population projections, not the service area population for the Applicants; population projections for municipalities within the county are not included in these values. Additionally, the IBT forecast represents the projected water transfer needed in order to satisfy anticipated demand from all sectors, including commercial, industrial, residential, nonrevenue water, and operational requirements for the Applicants. The current water supply for Pender County is provided by a surface water transfer from the Cape Fear River IBT basin, which has remained below the 2 mgd threshold requiring an IBT certificate from the EMC. The co-applicants for the IBT certificate all currently obtain their water supply from groundwater sources but are planning to interconnect with PCU to meet their future supply needs.

Table 1. Pender County Population and Forecasted IBT Demand

Year	Total Population for Pender County	Forecast of IBT from the Cape Fear River basin to the Northeast Cape Fear River, South River, and New River basins, Maximum Month Average Day (in MGD)
2015	55,900	1.3
2020	68,600	3.0
2025	77,800	4.3
2030	86,400	6.6
2035	94,000	9.6
2040	101,800	12.3
2045	109,900	14.5

PCU’s current water system annual average daily residential water usage is approximately 40 gallons per capita per day (GPCD). Neighboring Brunswick County reported 67 GPCD for its year-round population in 2016. Onslow Water and Sewer Authority reported 51 GPCD for the same period, Warsaw (in Duplin County) reported 64 GPCD, and East Bladen County Water District reported 115 GPCD. As additional customers are added to PCU’s system, the unit consumption values are expected to remain relatively steady. Factors driving this expectation are the prevalence of low-flow fixtures and newer technologies for household appliances in newly constructed houses, along with a reduced need for distribution system flushing as customers are added to the system. These factors will help to balance the addition of services for potentially less efficient existing homes as the system is expanded.

Pender County recently updated its Water Shortage Response Plan (WSRP). Drought surcharges are implemented in stages 3, 4, and 5 of the WSRP; PCU staff have the authority to issue citations for violations to the WSRP based on the number of previous violations and the level of

water shortage. Additionally, the Pender County Water and Sewer Ordinance provides enforceable requirements to ensure the efficient use of water during water emergencies. PCU utilizes a combination of high uniform rates with a conservation rate structure to encourage water conservation. Residential customers are subject to a uniform rate structure, while commercial, industrial, institutional, and irrigation customers are subject to an increasing block rate structure.

In accordance with the requirements of G.S. § 143-215.22L(k)(1) the necessity and reasonableness of the amount of the proposed transfer and its proposed uses were considered, and the county's existing water supply was found to be insufficient to meet projected near-term and long-term future water demands.

More information about the future population growth and water demand projections may be found in Section 2.2 of the EA.

The proposed certificate will allow for the transfer of up to 14.5 mgd daily average for a calendar month, for the month in which IBT is expected to be the highest. This increase is needed in order to support the projected population growth and expanded area serviced by the Applicants through the year 2045.

(2) Present and Reasonably Foreseeable Future Detrimental Effects on the Source River Basin.

Based on the record, the Commission finds and concludes that the detrimental effects on the source basin described in N.C.G.S. § 143-215.22L(k)(2) will be minimal. Additionally, the Commission finds that the Applicants must minimize the impacts of secondary effects caused by growth in Pender County through the continued implementation of existing federal, state, and local regulations and protection programs as described in the EA, Sections 6.1 and 6.2. The provisions for drought management, water conservation, and monitoring and compliance reporting will provide additional protection to the source basin and serve to mitigate impacts; therefore, those conditions are incorporated into this certificate.

Analysis:

To evaluate the direct impacts on the source basin resulting from the proposed IBT certificate, the primary tool used was the CFNRBHM (combined Cape Fear River basin and Neuse River basin hydrologic model). The NCDWR originally developed individual hydrologic models for the Cape Fear River and Neuse River basins. Recognizing the many interconnections between these two river basins, NCDWR contracted with Hydrologics, Inc. in 2012 to develop a combined basin hydrologic model. The resulting system is modeled using the OASIS water resources program.

CH2M Hill, now Jacobs Engineering Group Inc., a consultant working for the Applicants, obtained the CFNRBHM OASIS model from NCDWR on May 14, 2016 to evaluate the hydrologic impacts of the proposed increase in IBT on water resources in the Cape Fear River basin. The model includes a number of scenarios used to represent current and future water demands, discharges, and reservoir operations. The specific scenarios used for this hydrologic

analysis were confirmed by NCDWR on June 13, 2016. NCDWR reviewed the inputs for the model runs, which consisted of future water demand forecasts for the Applicants, as documented in the EA, which was reviewed by NCDWR. NCDWR also reviewed and provided comments regarding the model output, which was documented in the technical memorandum, “Hydrologic Modeling Evaluation of the Effects of the Proposed Pender County Interbasin Transfer,” included as Appendix F to the EA. Text for the technical memorandum was revised based on NCDWR comments, but additional model runs were not required.

The CFNRBHM includes all known withdrawals and discharges in both river basins greater than 100,000 gallons per day. The model extends from the headwaters of the Cape Fear and Neuse Rivers in north-central North Carolina to Lock and Dam #1 (L&D #1), northwest of Wilmington. The Cape Fear River is tidally influenced below L&D #1; therefore, river flow cannot be accurately calculated for these conditions by a water balance model such as OASIS. The LCFWASA intake, and source for Pender County’s water supply, is directly upstream of L&D #1 in the pool created by the lock and dam structure. The CFNRBHM simulates river flow during the period of record from January 1930 through September 2011, which includes two of North Carolina’s most extreme droughts on record (in 2002 and 2007). NCDWR incorporated future water demands to create several future scenarios. Estimates of existing demands and discharges, as well as projections to the year 2045, were developed by NCDWR by using Local Water Supply Plans (LWSPs) provided directly from public water supply systems.

In accordance with the requirements of N.C.G.S. § 143-215.22L(k)(2), four different model scenarios were run in order to evaluate potential effects of the proposed IBT on the source river basin under both current (2010) and future (2045) conditions. The model scenarios were:

- **2010 Baseline:** Current IBT where the Applicants’ net demands from the Cape Fear River remain below 2 mgd with current (2010) basin-wide water demands (withdrawals/returns) for the Cape Fear River and Neuse River basins
- **2045 Baseline:** Current IBT where the Applicants’ net demands from the Cape Fear River remain below 2 mgd with future (2045) basin-wide water demands (withdrawals/returns) for the Cape Fear River and Neuse River basins
- **2045 Requested IBT:** The Applicants’ requested 14.5 mgd IBT with future (2045) basin-wide water demands (withdrawals/returns) for the Cape Fear River and Neuse River basins
- **2045 Maximum Withdrawal:** Maximum allowable withdrawal at L&D #1 (106.6 mgd, which includes the Applicants’ requested 14.5 mgd), full allocation (100%) of Jordan Lake water supply pool, and future (2045) basin-wide water demands (withdrawals/returns) for the Cape Fear River and Neuse River basins

Water flow statistics were reviewed for each of the model scenarios described above. The flow statistics included average and median flows, which are representative of normal climatic conditions, and 10th and 5th percentile flows, which are representative of severe and extreme droughts, respectively.

Units of local government that provide public water service and large community water systems in North Carolina are required to develop and implement a Water Shortage Response Plan

(WSRP). A WSRP requires the reduction of water use during drought conditions, and is reviewed and approved by NCDWR. WSRPs must include an expected reduction in demand resulting from water use restrictions which are implemented by the water system, based on a set of triggers established by the water system. WSRPs for public water suppliers in the Cape Fear River and Neuse River basins were incorporated into the CFNRBHM model during the model development when the triggers were based on physical conditions tracked by the model such as stream flow or reservoir level. However, many WSRP triggers for public water suppliers in the Cape Fear and Neuse River basins are not tied to physical conditions and therefore cannot be explicitly represented in the model. Such is the case for all water withdrawals downstream of Jordan Lake on the Cape Fear River, above the withdrawal point for Pender County's water supply above L&D #1. Therefore, the modeling results for the proposed IBT certificate do not include the effects on the river flow at L&D #1 from the implementation of the State required WSRPs.

A more detailed presentation of the results and analysis of the modeling are presented in Appendix F of the EA for comparison purposes to assess the impacts of an IBT on the source basin, as compared to "baseline" conditions under both current and future water demands throughout the Cape Fear River basin.

The effect of the proposed IBT certificate on the surface water resources of the Cape Fear River was evaluated using the CFNRBHM. The greatest potential impact associated with an IBT in a river system is typically water flow changes resulting from the transfer of surface water. Results of the modeling showed that the proposed IBT certificate will not significantly change Cape Fear River elevations above or below L&D #1, downstream river flows, or water quality.

River flow above or upstream from L&D #1 is not expected to be affected by the proposed IBT certificate since the LCFWASA intake, and source of Pender County's water, is located at L&D #1. The modeling assessment point is located upstream of the LCFWASA intake. River flow and low flow frequency at this modeling assessment point were analyzed to provide an estimate of water availability for the withdrawals at L&D #1.

The greatest difference in average, median, 10th percentile, and 5th percentile flows is found between the different time periods, 2010 and 2045, not between the various 2045 scenarios, see Table 2. The pronounced difference in the 2010 and 2045 flows is attributed to the increased future withdrawals within the Cape Fear River basin to meet future water demands. Note that the model does not predict any change in flow between the 2045 Baseline and 2045 Requested IBT scenarios, as expected since the modeling assessment point is above the intake. The decreases in flow from the 2045 Baseline scenario to the 2045 Maximum Withdrawal scenario are primarily attributed to the 100 percent utilization of the Jordan Lake water supply pool. The slight increase in flow seen between the 2045 Baseline and 2045 Maximum Withdrawal scenarios for the 10th and 5th percentile flows could be attributed to increased returns to the basin downstream of Jordan Lake. These increased returns would be associated with the full utilization of the water supply pool of Jordan Lake for the 2045 Maximum Withdrawal scenario, and the only change in the model at this evaluation point between these two scenarios.

Table 2. Model Scenario Comparison – Cape Fear River Statistics Above L&D #1

Scenario	Average	Median	10th Percentile	5th Percentile
2010 Baseline – River Flow (cfs)	5,355	3,114	917	767
2045 Baseline – River Flow (cfs)	5,289	3,050	904	748
2045 Requested IBT – River Flow (cfs)	5,289	3,050	904	748
Difference from 2010 Baseline (cfs)	-66	-64	-13	-19
Difference from 2010 Baseline (%)	-1.2	-2.0	-1.4	-2.4
Difference from 2045 Baseline (cfs)	0	0	0	0
Difference from 2045 Baseline (%)	0.0	0.0	0.0	0.0
2045 Max Withdrawal – River Flow (cfs)	5,261	3,036	907	757
Difference from 2010 Baseline (cfs)	-94	-78	-10	-10
Difference from 2010 Baseline (%)	-1.7	-2.5	-1.0	-1.3
Difference from 2045 Baseline (cfs)	-28	-14	3	9
Difference from 2045 Baseline (%)	-0.5	-0.5	0.3	1.2

Below or downstream from L&D #1, after withdrawals from LCFWASA (including the Applicants’ requested IBT) and Cape Fear Public Utility Authority (CFPUA), modeling results again show differences in flow between the 2010 and 2045-time periods, attributed to increased withdrawals to meet projected demands basin wide. Decreases in flow are observed between the 2045 Baseline and the other 2045 scenarios, reflecting the additional withdrawals from the Cape Fear River represented by those scenarios. The reduction in flow between the 2045 Baseline and 2045 Requested IBT scenarios is relatively small since the only difference is the requested IBT increase from the Applicants. The reduction in flow is much more pronounced between the 2045 Baseline and 2045 Maximum Withdrawal scenarios because the 2045 Maximum Withdrawal scenario simulates the maximum allowable withdrawal at L&D #1 (106.6 mgd, which includes the Applicants’ requested 14.5 mgd) and a full allocation of the Jordan Lake water supply pool. Table 3 presents Cape Fear River flow statistics below L&D #1.

Table 3. Model Scenario Comparison – Cape Fear River Statistics Below L&D #1

Scenario	Average	Median	10th Percentile	5th Percentile
2010 Baseline – River Flow (cfs)	5,297	3,055	858	649
2045 Baseline – River Flow (cfs)	5,214	2,971	825	606
2045 Requested IBT – River Flow (cfs)	5,196	2,953	805	585
Difference from 2010 Baseline (cfs)	-101	-102	-53	-64
Difference from 2010 Baseline (%)	-1.9	-3.3	-6.2	-9.9
Difference from 2045 Baseline (cfs)	-19	-18	-20	-21
Difference from 2045 Baseline (%)	-0.4	-0.6	-2.5	-3.5
2045 Max Withdrawal – River Flow (cfs)	5,112	2,881	747	538
Difference from 2010 Baseline (cfs)	-185	-174	-111	-111
Difference from 2010 Baseline (%)	-3.5	-5.7	-12.9	-17.1
Difference from 2045 Baseline (cfs)	-103	-90	-78	-68
Difference from 2045 Baseline (%)	-2.0	-3.0	-9.7	-11.6

During periods of extreme low flow, represented by the 10th and 5th percentile flows, each of the 2045 scenarios exhibits a reduction in flow below L&D #1 compared to the 2010 Baseline scenario. The differences between the 2010 and 2045-time periods can be attributed to increased withdrawals upstream of L&D #1 to meet greater projected basin wide demands in 2045. A comparison of the modeling results for the 2045 Baseline and 2045 Requested IBT scenarios shows little difference between the two scenarios in relation to the magnitude, duration and frequency of river flow and stage elevations (see Appendix F of the EA, Figure 14). The magnitude of predicted flow changes is provided above in Table 3. For the 2045 Requested IBT scenario, average flows decrease by less than 0.5 percent whereas the 10th and 5th percentiles flows decrease by 2.5 and 3.5 percent, respectively when compared to the 2045 Baseline. Even with a 3.5 percent reduction in the 5th percentile flow for the period of record (95 percent of flows during this period are greater) there is still 585 cubic feet per second (cfs), or 378 MGD, of flow passing at L&D #1. For the 2045 Maximum Withdrawal scenario, there is a 2.0 percent reduction for the average flow period and up to an 11.6 percent reduction for extreme low flow periods, as indicated by the 5th percentile flow, when compared to the 2045 Baseline flows. At this most extreme low flow event modeled, there is still 538 cfs (348 MGD) of flow passing at L&D #1. The modeled changes in flow in 2045 will not impact the water withdrawal ability for International Paper, which also supplies the Town of Riegelwood, the only intake downstream of L&D #1. International Paper’s demand in 2016, including water provided to Riegelwood, was 33.2 MGD average day and 42.4 MGD maximum day; the pumping capacity is 49 MGD.

The effect below L&D #1 from public water suppliers withdrawing water from the Cape Fear River, including the Applicants' requested IBT increase, during drought periods will be mitigated by the implementation of the State-required WSRPs, which mandate specified reductions of withdrawals. Pursuant to 15A NCAC 02E .0600, during exceptional drought designation "water users shall reduce water use by at least 20% below the amount used in the month prior." As stated previously, the WSRPs for public water supplies downstream of Jordan Lake are not built into the CFNRBHM due to a lack of triggers based on physical conditions tracked by the model.

Modeling metrics can capture not only the potential for low flows to occur with the proposed increase in IBT, but also the length of period of these low flows (duration) and the potential for reoccurrence of low flow events (frequency). River stage and timing of low flow periods are also important metrics, most specifically as they relate to the flow over L&D #1 and the functionality of its fish ladder, particularly during spawning periods. The largest modeled change in flow duration resulting from the proposed IBT certificate is an additional four days in January (a non-spawning month) with the flow potentially less than 1,000 cfs. The model results also predict a potential increase of five days in December for a river stage between 11.0 and 11.5 feet above MSL (dam crest is 11.0 feet above MSL). The model shows these potential additional low flow/lower stage days occurring in non-spawning months; however, the predicted stage always remains above the dam crest elevation, allowing for continuous access to the fish ladder for passage at L&D #1.

The maintenance of downstream flow is important to anadromous fish, especially with regard to flows during the spawning period from late winter through spring (February through June). Anadromous fish including the Shortnose Sturgeon, American Shad, and Striped Bass travel from the Cape Fear estuary to areas above L&D #1 during their spawning periods. A rock arch fish ladder was built at L&D #1 by the U.S. Army Corps of Engineers to provide passage for spawning fish. To mitigate the effect of low flows during the spawning period, the center of the fish ladder was designed to be between one and two feet lower than the rest of the ladder. This allows the concentration of flow in the middle of the fish ladder to allow continued fish passage during low flow events.

The design of the fish ladder includes an assumed "spawning flow" of 5,000 cfs. The average simulated flow using the CFNRBHM during the spawning period for the 2010 Baseline model scenario is 6,927 cfs, and the median flow is 4,450 cfs. A frequency analysis was performed to quantify the percent of time the Cape Fear River was at or below the spawning flow of 5,000 cfs. The increase in the frequency of flows below 5,000 cfs between the 2010 Baseline and the 2045 Maximum Withdrawal scenarios is 0.9 percent above L&D #1 and 1.7 percent below L&D #1. These percent changes are small in comparison to the natural variability of the flow in the Cape Fear River during this period of the year. Modeling results indicate that during the spawning period, there could be a 2.4% decrease in river flow from the 2045 Baseline (846 cfs) to the 2045 Proposed IBT (825 cfs) for the 5th percentile flow level.

It is not anticipated that the requested IBT certificate will have a significant effect on the natural factors that control the water quality in the Lower Cape Fear River. This is due to the small volume of water that the requested IBT certificate represents in comparison to the typical river flow and range of natural variability in flow, as well as the adjacent swamp/marsh and tidal influences downstream of L&D #1.

(3) Cumulative Effects on the Source Major River Basin of Any Current or Projected Water Transfer or Consumptive Water Use.

Based on the record, the Commission finds and concludes that the proposed IBT represents a small water transfer within a large river system and that the cumulative effects of this proposed water transfer and consumptive water uses as described in N.C.G.S. § 143-215.22L(k)(3) will not have a significant effect on the source basin. The provisions for drought management, water conservation, and monitoring and compliance reporting will provide additional protection to the source basin and, therefore, those conditions are incorporated into this certificate.

Analysis:

Current and projected water use and water transfer data were used to develop the input data sets for the Cape Fear Neuse River Basin Hydrologic Model (CFNRBHM). The model was used to evaluate both current and future scenarios of basin water use, including the IBT increase proposed by the Applicants' IBT certificate request. Complete results of the modeling are presented in Appendix F of the EA.

The total amount of water leaving the Cape Fear River basin is considered as part of the cumulative impacts analysis for the proposed IBT certificate. Currently, there is one existing IBT certificate issued by North Carolina to regulate water transfers from the Cape Fear River IBT basin. Brunswick County has an IBT certificate allowing the transfer of up to 17 mgd from the Cape Fear River IBT basin to the Shallotte and Waccamaw River IBT basins. Additional water uses from the Cape Fear River IBT basin include many public water systems, registered water withdrawals, and industrial and agricultural users. The registered North Carolina municipal public water systems and registered water withdrawals are listed in Appendix C, the Distribution Lists for Public Notices. In accordance with the requirements of G.S. § 143-215.22L(k)(3), registered North Carolina municipal public water systems were considered and included in the CFNRBHM model to evaluate water resource impacts.

Within the Cape Fear River IBT basin, the potential secondary effects associated with the proposed transfer would primarily be attributed to withdrawals from the LCFWASA intake located just above L&D #1, potentially reducing flows in the Cape Fear River downstream of L&D #1. However, hydrologic modeling has shown that any downstream flow impacts would be minimal, and during drought periods will be mitigated by the implementation of the State-required Water Shortage Response Plans (WSRPs). The only difference between the 2045 Baseline and 2045 Requested IBT modeling scenarios is the requested IBT increase from the Applicants; the reduction in flow between these model scenarios is relatively small. For the 2045 Requested IBT scenario, average flows decrease by less than 0.5 percent whereas the 10th and 5th percentiles flows decrease by 2.5 and 3.5 percent, respectively when compared to the

2045 Baseline. Even with a 3.5 percent reduction for the 5th percentile flow over the period of record, there is still 585 cubic feet per second (cfs), or 378 MGD, of flow passing at L&D #1. The Applicants' IBT certificate request of 14.5 MGD represents less than 4% of the flow volume during those extreme and infrequent low flow conditions.

Modeling results indicate the potential for additional low flow/lower stage days occurring in non-spawning months. However, the predicted stage always remains above the dam crest elevation, allowing for continuous access to the fish ladder for passage at L&D #1. Modeling results further indicate that in-stream flow patterns will not be significantly impacted, which protect in-stream aquatic habitat, aquatic resources and water quality, as well as fish passage access, which will not be inhibited by the proposed IBT increase. It is not anticipated that the requested IBT certificate will have a significant effect on the natural factors that control the water quality in the Lower Cape Fear River. This is due to the small volume of water that the requested IBT certificate represents in comparison to the typical river flow and range of natural variability in flow, as well as the adjacent swamp/marsh and tidal influences downstream of L&D #1.

(4) Present and Reasonably Foreseeable Future Beneficial and Detrimental Effects on the Receiving Basins.

Based on the record, the Commission finds and concludes that present and reasonably foreseeable future beneficial effects on the receiving basins will include supporting the projected population growth and associated development. The transfer will also enable Pender County's water system service area to extend to portions of the county not currently served and will enable the co-applicants to move off groundwater as their primary water supply.

The Commission finds that the transfer will support population growth and service area expansion by extending county water services to those currently served by private wells and that growth and expansion will result in reasonably foreseeable future indirect and cumulative impacts, including effects on wastewater assimilation, fish and wildlife habitat, and water quality impacts resulting from development and increased impervious area. However, the Commission finds and concludes that present and reasonably foreseeable future detrimental effects on the receiving basins will be mitigated or avoided with existing federal, state, and local regulations and protection programs as described in the EA, Sections 6.1 and 6.2.

Analysis:

The New River, Northeast Cape Fear River, and South River IBT basins are the receiving basins to which water is currently transferred from the Cape Fear River IBT basin; the IBT certificate requested by the Applicants seeks to increase the amount of the transfer. In accordance with the requirements of N.C.G.S. § 143-215.22L(k)(4), the present and reasonably foreseeable future beneficial and detrimental effects on the receiving basins were considered. See factor (k)(1) for reasonably foreseeable future beneficial effects on the New River, Cape Fear River, and South River IBT basins, which includes supporting the projected population growth and associated development, as well as the planned expansion of the area serviced by Pender County through the year 2045.

Future infrastructure and facility construction needed in order to facilitate the proposed increase in water transferred to meet projected 2045 water demands will undergo a separate environmental permitting process and assessment of potential environmental impacts which will also address specific measures necessary to mitigate or avoid detrimental impacts on the receiving basins.

Potential Secondary and Cumulative Impacts

Within the receiving basins, the potential secondary and cumulative impacts associated with the proposed IBT certificate would primarily be attributed to Pender County's projected growth and land use changes associated with population increases and expansion of the service area. The potential for secondary and cumulative impacts to occur is greatest along major, existing transportation corridors such as US 17 and NC 210 and along the coast. Population growth will occur at a slower pace throughout the more rural portions of the county, and therefore, the likelihood of any secondary and cumulative impacts in these areas is expected to be limited. Any development within the county is subject to coastal area protection programs that are designed to both protect natural resources and protect development from the hazards of the coastal region. Further mitigation for secondary and cumulative impacts related to stormwater, floodplains, riparian buffers, surface waters, wetlands, open spaces and parks, water usage, land management, historic preservation, tree preservation, endangered species protection, wastewater treatment, and regional transportation planning measures will be provided, as directed by the state and federal programs and local ordinances, where applicable.

While water service is being expanded, Pender County is not planning large-scale addition of a centralized sanitary sewer system. The continuation of onsite wastewater treatment, either with septic systems or small community systems, will generally keep development densities lower than with a centralized system. The majority of water distributed within the PCU water and sewer districts will be treated and infiltrated within the receiving river basins in which the water is utilized. The county currently has a combination of public and private wastewater treatment systems that are in use or under construction. Wastewater collection and treatment requirements for future development will be governed by the current County Unified Development Ordinance requirements for septic systems and community/public wastewater disposal, which will mitigate for or remediate any detrimental impacts on the receiving basins.

Secondary and cumulative impacts to surface water resources have the potential to occur across the county as development occurs and water distribution infrastructure is added. Increased development will lead to more impermeable surface area, which will result in increased stormwater runoff during rain events. Without practices in place to control runoff rates, scouring of receiving stream channels will increase, exacerbating erosion and degrading water quality with increased sediment loads. The increase in runoff may increase loads of other pollutants as well, which could cause a decline in water quality and create subsequent secondary impacts to aquatic habitat, wetlands, and sensitive aquatic and amphibian species in the county. Water resources protection programs are in place at the local level, along with the coastal stormwater rules and the Coastal Area Management Act (CAMA). Implementation and enforcement of

these programs will prevent and mitigate any significant secondary and cumulative impacts to Pender County's water resources.

(5) Reasonable Alternatives to the Proposed Transfer.

Based on the record and in accordance with the requirements of N.C.G.S. § 143-215.22L(k)(5), the Commission finds and concludes that reasonable alternatives to the proposed IBT certificate were considered. The Commission finds and concludes that recommended alternative (Alternative 2) is the most feasible and cost effective for meeting the Applicants' water supply needs while minimizing detrimental environmental impacts. The Commission further finds and concludes that the other alternatives considered either did not meet the projected water supply needs for the Applicants through 2045, had greater environmental impacts, and/or were significantly costlier than the recommended alternative. The Applicants' water supply needs cannot be satisfied by alternatives within the receiving basins due to either inadequate supply or lack of a surface freshwater source.

Analysis:

In accordance with the requirements of G.S. § 143-215.22L(k)(5), the availability of reasonable alternatives to the proposed transfer was considered. The following seven water supply alternatives were defined and evaluated for their ability to meet the Applicants' water supply needs through 2045. The following information regarding water supply alternatives is from Section 3 of the EA. The EA provides a full discussion; a brief summary of the alternatives is provided below:

Alternative 1: No Action Alternative. No increase in IBT would occur and no alternatives to meeting projected demands would be implemented. No additional water would be transferred from the Cape Fear River IBT basin; the transfer amount would remain less than 2 MGD, calculated as a daily average of a calendar month. This alternative would preclude PCU and its co-applicants from fully meeting future water needs of their customers.

Alternative 2 (preferred alternative): Increase the purchase of raw water from the Cape Fear River via the existing contract with LCFWASA consistent with future water demand projections. PCU would expand the existing water treatment plant capacity, use existing water infrastructure, and continue water resources management measures to minimize the IBT. PCU is currently constructing a 0.5 MGD WWTP in the US421 corridor, which can be expanded to 4 MGD. The WWTP would discharge treated wastewater effluent to the Cape Fear River basin, thereby minimizing IBT.

Alternative 3: The water supply would continue to be from the Cape Fear River, similar to Alternative 2, but treated wastewater effluent would be returned to the Cape Fear River basin to ultimately avoid or minimize IBT. Currently, PCU provides a limited amount of wastewater collection and treatment. In the near future, PCU will have the potential to discharge up to 4.25 MGD to the Cape Fear River Basin, with no plans for large scale addition of a centralized sanitary sewer collection system. In order to return wastewater to the Cape Fear River to avoid

an IBT, significant investment in wastewater collection, pumping, and treatment infrastructure would be required since the majority of the wastewater generated in the county is treated onsite. The source basin is geographically removed from almost all of the existing and anticipated development; the cost for the wastewater collection and treatment facilities required to avoid the IBT would be significant, estimated at over \$350 million in 2006.

Alternative 4: Use surface water sources in the South River, Northeast Cape Fear River, and New River basins to meet future demands. The estimated available water supply for the Northeast Cape Fear River was evaluated based on a study conducted by the U.S. Geological Survey; it was found to have insufficient flow to create a run-of-river intake to meet the future needs of PCU and its co-applicants. The South River basin is smaller than the Northeast Cape Fear River basin, so it is assumed that the availability of a run-of-river intake is even more limited than the Northeast Cape Fear River. The New River Basin is on the coast and there is no surface freshwater source from which to withdraw water, so development of a surface water source within that IBT basin is not an option.

Alternative 5: Utilize the Atlantic Ocean as a water supply to meet future demands. The water would need to undergo a desalination treatment process before it could be used as a drinking water source. The existing WTP is incapable of treating saline water, so a new desalination facility would need to be constructed, leaving the existing WTP under-utilized. An attempt to fully utilize the existing WTP with the saline water source would require a new pretreatment facility that would be larger and more expensive to construct and operate than the existing WTP itself. The source water would need to be pumped to the pretreatment facility and the WTP, requiring a significant amount of additional infrastructure, energy and ongoing operational costs, especially since saline waters are highly corrosive. Since the higher water demands are currently along the coast, this scenario would also result in pumping the water across nearly the entire width of the county twice. Another challenge with desalination plants concerns what to do with the highly concentrated brine that is generated by the treatment process. Because this alternative would add a new desalination WTP, significant transmission infrastructure modifications and a different pumping scheme would be required to interconnect with the existing distribution system and serve the demands across the county. This alternative would result in increased environmental impacts related to construction and the additional pumping and treatment would result in increased energy demand, leading to higher cost and greenhouse gas emissions.

Alternative 6: New groundwater sources would reduce use of surface water from the Cape Fear River basin and avoid or minimize the need for IBT. This alternative would require the development of a groundwater supply by PCU or the purchase of groundwater from other systems. PCU's co-applicants are all currently reliant on groundwater for their potable water needs. While some of these utilities may have some limited additional supply capacity to provide to PCU, they are not able to supply the full needs of PCU, and will need to supplement their own water source through the planning period of 2045. Saltwater intrusion has been observed to be moving inland, making reliance on groundwater supplies risky. The poor water quality in areas of saltwater intrusion would likely necessitate membrane treatment, which is

significantly more expensive and requires more energy than traditional water treatment. If the Capacity Use regulations were extended to Pender County in the future because of continuing indications of aquifer overuse in the area, PCU and its co-applicants would be required to significantly reduce their withdrawal and dependency on groundwater. PCU has already developed an expandable surface WTP to limit its reliance on groundwater. This facility is not capable of treating brackish groundwater with increasing chloride concentrations without a complete change in treatment processes such as the utilization of membranes.

Alternative 7: PCU would use water resource management tools to reduce water demands, thereby reducing the required IBT. These tools may include new policies and regulations, financial incentives, rate structure modifications, reclaimed water use, water efficiency improvements, and conservation. With the growth that Pender County is experiencing and the need for PCU to extend their system to unserved parts of the county, as well as the current level of unit consumption and water management tools, PCU does not expect that implementing additional water resources management tools alone will reliably and predictably reduce future potable water supply demands enough to avoid an increase in IBT. This alternative is not a feasible solution by itself for meeting the county's long-term water supply needs.

(6) Applicants' Use of Impoundment Storage Capacity.

Based on the record, the Commission finds and concludes that the factor set forth in N.C.G.S. § 143-215.22L(k)(6) is not applicable to this IBT request.

(7) Purposes of Any US Army Corps of Engineers Multipurpose Reservoir Relevant to the Petition.

Based on the record, the Commission finds and concludes that the factor set forth in N.C.G.S. § 143-215.22L(k)(7) is not applicable to this IBT request.

(8) Whether the Applicants' Service Area is Located in Both the Source and Receiving River Basins.

In accordance with the requirements of N.C.G.S. § 143-215.22L(k)(8), the Commission finds and concludes that the Applicants' service area population is located within both the source and receiving basins, thereby avoiding the removal or receipt of water in a basin not contained within the existing service area.

Analysis:

Pender County Utilities currently serves customers in the Rocky Point/Topsail and Scotts Hill water and sewer districts (WSDs), see Figure 1. PCU also currently serves customers in St. Helena and Watha. PCU constructed over 70 miles of water lines in the Moore's Creek and Central Pender WSDs in 2017. Future service expansion within all six of the county's WSDs is expected over the next 30 years. The co-applicants' service area populations are all within the receiving river basins.

(9) Any Other Facts or Circumstances Reasonably Necessary to Carry Out the Purposes of the Statute.

In accordance with the requirements of N.C.G.S. § 143-215.22L(k)(9), the Commission finds and concludes that to protect the source basin during drought conditions, and to mitigate the future need for allocations of the limited resources of this basin, a drought management plan is appropriate. The plan shall describe the actions that the Applicants will take to protect the Cape Fear River IBT Basin during drought conditions. The provisions for drought management, water conservation, and monitoring and compliance reporting as specifically incorporated into this certificate will provide additional protection to the source basin.

Proposed Decision

The Commission reviewed the entire record, including the Petition, the EA, all oral and written comments, and all accompanying materials or evidence submitted during the relevant comment periods and considered the factors set forth in N.C.G.S 143-215.22L(k). Based on the record and its consideration of the statutory factors, the Commission finds that the Applicants, Pender County, the Towns of Burgaw, Topsail Beach, Surf City, and Wallace as well as Utilities, Inc. (for water service to the Belvedere Plantation and Olde Pointe developments, as referenced in the EA and Petition), have established by a preponderance of the evidence that:

1. the benefits of the proposed transfer outweigh the detriments of the proposed transfer;
2. the detriments have been or will be mitigated to the maximum degree practicable;
3. the amount of the transfer does not exceed the amount of the projected shortfall under the Applicants' water supply plans after first taking into account all other sources of water that are available to the Applicants; and
4. there are no reasonable alternatives to the proposed transfer.

Therefore, and by duly made motion, the Commission grants the Applicants' request to transfer a maximum of 14.5 million gallons per day (mgd), calculated as a daily average of a calendar month basis from the Cape Fear River IBT Basin. The permitted transfer amounts shall not exceed a maximum of 2.1 mgd from the Cape Fear River IBT basin to the South River IBT basin; 3.2 mgd from the Cape Fear River IBT basin to the New River IBT basin; and 9.2 mgd from the Cape Fear River IBT basin to the Northeast Cape Fear River IBT basin.

Pursuant to N.C.G.S. § 143-215.22L (w), the certificate is subject to the conditions below. The Applicants shall comply with any plan that is approved pursuant to this Certificate and any approved amendments to such plan. A violation of any plan approved pursuant to this Certificate will be considered a violation of the terms and conditions of this Certificate.

1. Within 90 days of receipt of the IBT Certificate, the Applicants shall prepare and submit a water conservation plan subject to approval by the North Carolina Division of Water Resources (NCDWR) that specifies the water conservation measures, including a rate pricing structure, to be implemented by the Applicants in the receiving river basins to ensure the efficient use of the transferred water. The Applicants submitted a water conservation plan for review April 6, 2017, which was approved by the NCDWR effective November 30, 2017 and distributed for a 30-day public review via the State Environmental Clearinghouse on December 8, 2017. Except in circumstances of technical or economic infeasibility or adverse environmental impact, the water conservation plan shall provide for the mandatory implementation of water conservation measures by the Applicants that equal or exceed the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin. The Towns of Burgaw, Topsail Beach, Surf City, and Wallace as well as Utilities, Inc. (for water service to the Belvedere Plantation and Olde Pointe developments), identified as co-applicants on this IBT Certificate, shall implement water conservation plans at least as stringent as the requirements imposed on Pender County in order to

receive any surface water transferred under this Certificate. The Certificate Holder shall not transfer any water to any other unit of local government beyond those listed in the Certificate, unless approved by the EMC. All units of local government receiving any transferred water originating from the Cape Fear River IBT basin by the Applicants are bound by this condition in full.

2. Within 90 days of receipt of the IBT Certificate, the Applicants shall prepare and submit a drought management plan subject to approval by the NCDWR that specifies how the transfer shall be managed to protect the source river basin (Cape Fear River IBT basin) during drought conditions or other emergencies that occur within the source river basin. The Applicants submitted a drought management plan for review April 6, 2017, which was approved by the NCDWR effective November 30, 2017 and distributed for a 30-day public review via the State Environmental Clearinghouse on December 8, 2017. Except in circumstances of technical or economic infeasibility or adverse environmental impact, this drought management plan shall include mandatory reductions in the permitted amount of the transfer based on the severity and duration of a drought occurring within the source river basin and shall provide for the mandatory implementation of a drought management plan by the Applicants that equals or exceeds the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin. All co-applicants to this IBT Certificate shall implement a drought management plan at least as stringent as the requirements imposed on Pender County. The Certificate Holder shall not transfer any water to any other unit of local government unless that unit of local government agrees to be bound by this condition in full.
3. Within 90 days of receipt of the IBT Certificate, the Applicants shall submit a quarterly compliance and monitoring plan subject to approval by the NCDWR. The plan shall include methodologies and reporting schedules for reporting the following information: daily transfer amount calculated as the average daily over the maximum month, compliance with certificate conditions, progress on mitigation measures, drought management, and reporting. A copy of the approved plan shall be kept on file with the NCDWR for public inspection. The NCDWR shall have the authority to make modifications to the compliance and monitoring plan as necessary to assess compliance with the certificate. The NCDWR will monitor the transfer from the Cape Fear River IBT basin to the South River, Northeast Cape Fear River, and New River IBT basins, as regulated by the IBT certificate. The quarterly compliance and monitoring report shall be submitted to the Commission no later than 30 days after the end of the quarter. The Applicants shall employ any methods or install and operate any devices required to measure the amount of water that is transferred during each calendar quarter, calculated as a daily average of a calendar month.
4. The Commission may amend the certificate to reduce the maximum amount of water authorized to be transferred whenever it appears that an alternative source of water is available to the certificate holder from within the receiving river basins, including, but not limited to, the purchase of water from another water supplier within the receiving basins or to the transfer of water from another sub-basin within the receiving major river basin.

5. The Commission shall amend the certificate to reduce the maximum amount of water authorized to be transferred if the Commission finds that the Applicants' current projected water needs are significantly less than the Applicants' projected water needs at the time the certificate was granted.
6. The Applicants will not resell the water that would be transferred pursuant to the certificate to another public water system. This limitation shall not apply in the case of a proposed resale or transfer among public water systems within the receiving river basin as part of an inter-local agreement or other regional water supply arrangement, provided that each participant in the inter-local agreement or regional water supply arrangement is a co-applicant for the certificate and will be subject to all the terms, conditions, and limitations made applicable to any lead or primary applicant. The Towns of Burgaw, Topsail Beach, Surf City, and Wallace as well as Utilities, Inc. (for water service to the Belvedere Plantation and Olde Pointe developments) are co-applicants to this IBT certificate.
7. The Commission may reopen and modify or revoke this Certificate to ensure continued compliance with N.C.G.S. Chapter 143, Article 21, Part 2A.

NOTICE: The holders of this certificate are jointly and severally responsible for compliance with the terms, conditions and requirements stated herein, and are therefore jointly and severally liable for all penalties assessed to enforce such terms, conditions and requirements as provided in N.C.G.S. §143-215.6A.

This is the _____ day of _____, 2018.

J.D. Solomon, Chairman

Appendix A

NC Statutes and Administrative Rules for Water Transfers

§ 143-215.22L. Regulation of surface water transfers.

(a) Certificate Required. – No person, without first obtaining a certificate from the Commission, may:

- (1) Initiate a transfer of 2,000,000 gallons of water or more per day, calculated as a daily average of a calendar month and not to exceed 3,000,000 gallons per day in any one day, from one river basin to another.
- (2) Increase the amount of an existing transfer of water from one river basin to another by twenty-five percent (25%) or more above the average daily amount transferred during the year ending 1 July 1993 if the total transfer including the increase is 2,000,000 gallons or more per day.
- (3) Increase an existing transfer of water from one river basin to another above the amount approved by the Commission in a certificate issued under G.S. 162A-7 prior to 1 July 1993.

(b) Exception. – Notwithstanding the provisions of subsection (a) of this section, a certificate shall not be required to transfer water from one river basin to another up to the full capacity of a facility to transfer water from one basin to another if the facility was in existence or under construction on 1 July 1993.

(c) Notice of Intent to File a Petition. – An applicant shall prepare a notice of intent to file a petition that includes a nontechnical description of the applicant's request and an identification of the proposed water source. Within 90 days after the applicant files a notice of intent to file a petition, the applicant shall hold at least one public meeting in the source river basin upstream from the proposed point of withdrawal, at least one public meeting in the source river basin downstream from the proposed point of withdrawal, and at least one public meeting in the receiving river basin to provide information to interested parties and the public regarding the nature and extent of the proposed transfer and to receive comment on the scope of the environmental documents. Written notice of the public meetings shall be provided at least 30 days before the public meetings. At the time the applicant gives notice of the public meetings, the applicant shall request comment on the alternatives and issues that should be addressed in the environmental documents required by this section. The applicant shall accept written comment on the scope of the environmental documents for a minimum of 30 days following the last public meeting. Notice of the public meetings and opportunity to comment on the scope of the environmental documents shall be provided as follows:

- (1) By publishing notice in the North Carolina Register.
- (2) By publishing notice in a newspaper of general circulation in:
 - a. Each county in this State located in whole or in part of the area of the source river basin upstream from the proposed point of withdrawal.
 - b. Each city or county located in a state located in whole or in part of the surface drainage basin area of the source river basin that also falls within, in whole or in part, the area denoted by one of the following eight-digit cataloging units as organized by the United States Geological Survey:
 - 03050105 (Broad River: NC and SC);
 - 03050106 (Broad River: SC);
 - 03050107 (Broad River: SC);
 - 03050108 (Broad River: SC);
 - 05050001 (New River: NC and VA);
 - 05050002 (New River: VA and WV);
 - 03050101 (Catawba River: NC and SC);
 - 03050103 (Catawba River: NC and SC);

03050104 (Catawba River: SC);
 03010203 (Chowan River: NC and VA);
 03010204 (Chowan River: NC and VA);
 06010105 (French Broad River: NC and TN);
 06010106 (French Broad River: NC and TN);
 06010107 (French Broad River: TN);
 06010108 (French Broad River: NC and TN);
 06020001 (Hiwassee River: AL, GA, TN);
 06020002 (Hiwassee River: GA, NC, TN);
 06010201 (Little Tennessee River: TN);
 06010202 (Little Tennessee River: TN, GA, and NC);
 06010204 (Little Tennessee River: NC and TN);
 03060101 (Savannah River: NC and SC);
 03060102 (Savannah River: GA, NC, and SC);
 03060103 (Savannah River: GA and SC);
 03060104 (Savannah River: GA);
 03060105 (Savannah River: GA);
 03040203 (Lumber River: NC and SC);
 03040204 (Lumber River: NC and SC);
 03040206 (Lumber River: NC and SC);
 03040207 (Lumber River: NC and SC);
 03010205 (Albemarle Sound: NC and VA);
 06020003 (Ocoee River: GA, NC, and TN);
 03010101 (Roanoke River: VA);
 03010102 (Roanoke River: NC and VA);
 03010103 (Roanoke River: NC and VA);
 03010104 (Roanoke River: NC and VA);
 03010105 (Roanoke River: VA);
 03010106 (Roanoke River: NC and VA);
 06010102 (Watauga River: TN and VA);
 06010103 (Watauga River: NC and TN);
 03040101 (Yadkin River: VA and NC);
 03040104 (Yadkin River: NC and SC);
 03040105 (Yadkin River: NC and SC);
 03040201 (Yadkin River: NC and SC);
 03040202 (Yadkin River: NC and SC).

- c. Each county in this State located in whole or in part of the area of the source river basin downstream from the proposed point of withdrawal.
 - d. Any area in the State in a river basin for which the source river basin has been identified as a future source of water in a local water supply plan prepared pursuant to G.S. 143-355(l).
 - e. Each county in the State located in whole or in part of the receiving river basin.
- (3) By giving notice by first-class mail or electronic mail to each of the following:
- a. The board of commissioners of each county in this State or the governing body of any county or city that is politically independent of a county in any state that is located entirely or partially within the

source river basin of the proposed transfer and that also falls within, in whole or in part, the area denoted by one of the eight-digit cataloging units listed in sub-subdivision b. of subdivision (2) of this subsection.

- b. The board of commissioners of each county in this State or the governing body of any county or city that is politically independent of a county in any state that is located entirely or partially within the receiving river basin of the proposed transfer and that also falls within, in whole or in part, the area denoted by one of the eight-digit cataloging units listed in sub-subdivision b. of subdivision (2) of this subsection.
- c. The governing body of any public water system that withdraws water upstream or downstream from the withdrawal point of the proposed transfer.
- d. If any portion of the source or receiving river basins is located in another state, all state water management or use agencies, environmental protection agencies, and the office of the governor in that state upstream or downstream from the withdrawal point of the proposed transfer.
- e. All persons who have registered a water withdrawal or transfer from the proposed source river basin under this Part or under similar law in an another state.
- f. All persons who hold a certificate for a transfer of water from the proposed source river basin under this Part or under similar law in an another state.
- g. All persons who hold a National Pollutant Discharge Elimination System (NPDES) wastewater discharge permit for a discharge of 100,000 gallons per day or more upstream or downstream from the proposed point of withdrawal.
- h. To any other person who submits to the applicant a written request to receive all notices relating to the petition.

(d) Environmental Documents. – The definitions set out in G.S. 113A-9 apply to this section. The Department shall conduct a study of the environmental impacts of any proposed transfer of water for which a certificate is required under this section. The study shall meet all of the requirements set forth in G.S. 113A-4 and rules adopted pursuant to G.S. 113A-4. An environmental assessment shall be prepared for any petition for a certificate under this section. The determination of whether an environmental impact statement shall also be required shall be made in accordance with the provisions of Article 1 of Chapter 113A of the General Statutes; except that an environmental impact statement shall be prepared for every proposed transfer of water from one major river basin to another for which a certificate is required under this section. The applicant who petitions the Commission for a certificate under this section shall pay the cost of special studies necessary to comply with Article 1 of Chapter 113A of the General Statutes. An environmental impact statement prepared pursuant to this subsection shall include all of the following:

- (1) A comprehensive analysis of the impacts that would occur in the source river basin and the receiving river basin if the petition for a certificate is granted.
- (2) An evaluation of alternatives to the proposed interbasin transfer, including water supply sources that do not require an interbasin transfer and use of water conservation measures.

- (3) A description of measures to mitigate any adverse impacts that may arise from the proposed interbasin transfer.

(e) Public Hearing on the Draft Environmental Document. – The Commission shall hold a public hearing on the draft environmental document for a proposed interbasin transfer after giving at least 30 days' written notice of the hearing in the Environmental Bulletin and as provided in subdivisions (2) and (3) of subsection (c) of this section. The notice shall indicate where a copy of the environmental document can be reviewed and the procedure to be followed by anyone wishing to submit written comments and questions on the environmental document. The Commission shall prepare a record of all comments and written responses to questions posed in writing. The record shall include complete copies of scientific or technical comments related to the potential impact of the interbasin transfer. The Commission shall accept written comment on the draft environmental document for a minimum of 30 days following the last public hearing. The applicant who petitions the Commission for a certificate under this section shall pay the costs associated with the notice and public hearing on the draft environmental document.

(f) Determination of Adequacy of Environmental Document. – The Commission shall not act on any petition for an interbasin transfer until the Commission has determined that the environmental document is complete and adequate. A decision on the adequacy of the environmental document is subject to review in a contested case on the decision of the Commission to issue or deny a certificate under this section.

(g) Petition. – An applicant for a certificate shall petition the Commission for the certificate. The petition shall be in writing and shall include all of the following:

- (1) A general description of the facilities to be used to transfer the water, including current and projected areas to be served by the transfer, current and projected capacities of intakes, and other relevant facilities.
- (2) A description of all the proposed consumptive and nonconsumptive uses of the water to be transferred.
- (3) A description of the water quality of the source river and receiving river, including information on aquatic habitat for rare, threatened, and endangered species; in-stream flow data for segments of the source and receiving rivers that may be affected by the transfer; and any waters that are impaired pursuant to section 303(d) of the federal Clean Water Act (33 U.S.C. § 1313(d)).
- (4) A description of the water conservation measures used by the applicant at the time of the petition and any additional water conservation measures that the applicant will implement if the certificate is granted.
- (5) A description of all sources of water within the receiving river basin, including surface water impoundments, groundwater wells, reinjection storage, and purchase of water from another source within the river basin, that is a practicable alternative to the proposed transfer that would meet the applicant's water supply needs. The description of water sources shall include sources available at the time of the petition for a certificate and any planned or potential water sources.
- (6) A description of water transfers and withdrawals registered under G.S. 143-215.22H or included in a local water supply plan prepared pursuant to G.S. 143-355(l) from the source river basin, including transfers and withdrawals at the time of the petition for a certificate and any planned or reasonably foreseeable transfers or withdrawals by a public water system with service area located within the source river basin.

- (7) A demonstration that the proposed transfer, if added to all other transfers and withdrawals required to be registered under G.S. 143-215.22H or included in any local water supply plan prepared by a public water system with service area located within the source basin pursuant to G.S. 143-355(l) from the source river basin at the time of the petition for a certificate, would not reduce the amount of water available for use in the source river basin to a degree that would impair existing uses, pursuant to the antidegradation policy set out in 40 Code of Federal Regulation § 131.12 (Antidegradation Policy) (1 July 2006 Edition) and the statewide antidegradation policy adopted pursuant thereto, or existing and planned consumptive and nonconsumptive uses of the water in the source river basin. If the proposed transfer would impact a reservoir within the source river basin, the demonstration must include a finding that the transfer would not result in a water level in the reservoir that is inadequate to support existing uses of the reservoir, including recreational uses.
- (8) The applicant's future water supply needs and the present and reasonably foreseeable future water supply needs for public water systems with service area located within the source river basin. The analysis of future water supply needs shall include agricultural, recreational, and industrial uses, and electric power generation. Local water supply plans prepared pursuant to G.S. 143-355(l) for water systems with service area located within the source river basin shall be used to evaluate the projected future water needs in the source river basin that will be met by public water systems.
- (9) The applicant's water supply plan prepared pursuant to G.S. 143-355(l). If the applicant's water supply plan is more than two years old at the time of the petition, then the applicant shall include with the petition an updated water supply plan.
- (10) Any other information deemed necessary by the Commission for review of the proposed water transfer.

(h) Settlement Discussions. – Upon the request of the applicant, any interested party, or the Department, or upon its own motion, the Commission may appoint a mediation officer. The mediation officer may be a member of the Commission, an employee of the Department, or a neutral third party but shall not be a hearing officer under subsections (e) or (j) of this section. The mediation officer shall make a reasonable effort to initiate settlement discussions between the applicant and all other interested parties. Evidence of statements made and conduct that occurs in a settlement discussion conducted under this subsection, whether attributable to a party, a mediation officer, or other person shall not be subject to discovery and shall be inadmissible in any subsequent proceeding on the petition for a certificate. The Commission may adopt rules to govern the conduct of the mediation process.

(i) Draft Determination. – Within 90 days after the Commission determines that the environmental document prepared in accordance with subsection (d) of this section is adequate or the applicant submits its petition for a certificate, whichever occurs later, the Commission shall issue a draft determination on whether to grant the certificate. The draft determination shall be based on the criteria set out in this section and shall include the conditions and limitations, findings of fact, and conclusions of law that would be required in a final determination. Notice of the draft determination shall be given as provided in subsection (c) of this section.

(j) Public Hearing on the Draft Determination. – Within 60 days of the issuance of the draft determination as provided in subsection (i) of this section, the Commission shall hold

public hearings on the draft determination. At least one hearing shall be held in the affected area of the source river basin, and at least one hearing shall be held in the affected area of the receiving river basin. In determining whether more than one public hearing should be held within either the source or receiving river basins, the Commission shall consider the differing or conflicting interests that may exist within the river basins, including the interests of both upstream and downstream parties potentially affected by the proposed transfer. The public hearings shall be conducted by one or more hearing officers appointed by the Chair of the Commission. The hearing officers may be members of the Commission or employees of the Department. The Commission shall give at least 30 days' written notice of the public hearing as provided in subsection (c) of this section. The Commission shall accept written comment on the draft determination for a minimum of 30 days following the last public hearing. The Commission shall prepare a record of all comments and written responses to questions posed in writing. The record shall include complete copies of scientific or technical comments related to the potential impact of the interbasin transfer. The applicant who petitions the Commission for a certificate under this section shall pay the costs associated with the notice and public hearing on the draft determination.

(k) Final Determination: Factors to be Considered. – In determining whether a certificate may be issued for the transfer, the Commission shall specifically consider each of the following items and state in writing its findings of fact and conclusions of law with regard to each item:

- (1) The necessity and reasonableness of the amount of surface water proposed to be transferred and its proposed uses.
- (2) The present and reasonably foreseeable future detrimental effects on the source river basin, including present and future effects on public, industrial, economic, recreational, and agricultural water supply needs, wastewater assimilation, water quality, fish and wildlife habitat, electric power generation, navigation, and recreation. Local water supply plans for public water systems with service area located within the source river basin prepared pursuant to G.S. 143-355(1) shall be used to evaluate the projected future water needs in the source river basin that will be met by public water systems. Information on projected future water needs for public water systems with service area located within the source river basin that is more recent than the local water supply plans may be used if the Commission finds the information to be reliable. The determination shall include a specific finding as to measures that are necessary or advisable to mitigate or avoid detrimental impacts on the source river basin.
- (3) The cumulative effect on the source major river basin of any water transfer or consumptive water use that, at the time the Commission considers the petition for a certificate is occurring, is authorized under this section, or is projected in any local water supply plan for public water systems with service area located within the source river basin that has been submitted to the Department in accordance with G.S. 143-355(1).
- (4) The present and reasonably foreseeable future beneficial and detrimental effects on the receiving river basin, including present and future effects on public, industrial, economic, recreational, and agricultural water supply needs, wastewater assimilation, water quality, fish and wildlife habitat, electric power generation, navigation, and recreation. Local water supply plans prepared pursuant to G.S. 143-355(1) that affect the receiving river basin shall be used to evaluate the projected future water needs in the

receiving river basin that will be met by public water systems. Information on projected future water needs that is more recent than the local water supply plans may be used if the Commission finds the information to be reliable. The determination shall include a specific finding as to measures that are necessary or advisable to mitigate or avoid detrimental impacts on the receiving river basin.

- (5) The availability of reasonable alternatives to the proposed transfer, including the potential capacity of alternative sources of water, the potential of each alternative to reduce the amount of or avoid the proposed transfer, probable costs, and environmental impacts. In considering alternatives, the Commission is not limited to consideration of alternatives that have been proposed, studied, or considered by the applicant. The determination shall include a specific finding as to why the applicant's need for water cannot be satisfied by alternatives within the receiving basin, including unused capacity under a transfer for which a certificate is in effect or that is otherwise authorized by law at the time the applicant submits the petition. The determination shall consider the extent to which access to potential sources of surface water or groundwater within the receiving river basin is no longer available due to depletion, contamination, or the declaration of a capacity use area under Part 2 of Article 21 of Chapter 143 of the General Statutes. The determination shall consider the feasibility of the applicant's purchase of water from other water suppliers within the receiving basin and of the transfer of water from another sub-basin within the receiving major river basin. Except in circumstances of technical or economic infeasibility or adverse environmental impact, the Commission's determination as to reasonable alternatives shall give preference to alternatives that would involve a transfer from one sub-basin to another within the major receiving river basin over alternatives that would involve a transfer from one major river basin to another major river basin.
- (6) If applicable to the proposed project, the applicant's present and proposed use of impoundment storage capacity to store water during high-flow periods for use during low-flow periods and the applicant's right of withdrawal under G.S. 143-215.44 through G.S. 143-215.50.
- (7) If the water to be withdrawn or transferred is stored in a multipurpose reservoir constructed by the United States Army Corps of Engineers, the purposes and water storage allocations established for the reservoir at the time the reservoir was authorized by the Congress of the United States.
- (8) Whether the service area of the applicant is located in both the source river basin and the receiving river basin.
- (9) Any other facts and circumstances that are reasonably necessary to carry out the purposes of this Part.

(l) Final Determination: Information to be Considered. – In determining whether a certificate may be issued for the transfer, the Commission shall consider all of the following sources of information:

- (1) The petition.
- (2) The environmental document prepared pursuant to subsection (d) of this section.
- (3) All oral and written comment and all accompanying materials or evidence submitted pursuant to subsections (e) and (j) of this section.

- (4) Information developed by or available to the Department on the water quality of the source river basin and the receiving river basin, including waters that are identified as impaired pursuant to section 303(d) of the federal Clean Water Act (33 U.S.C. § 1313(d)), that are subject to a total maximum daily load (TMDL) limit under subsections (d) and (e) of section 303 of the federal Clean Water Act, or that would have their assimilative capacity impaired if the certificate is issued.
- (5) Any other information that the Commission determines to be relevant and useful.

(m) Final Determination: Burden and Standard of Proof; Specific Findings. – The Commission shall grant a certificate for a water transfer if the Commission finds that the applicant has established by a preponderance of the evidence all of the following:

- (1) The benefits of the proposed transfer outweigh the detriments of the proposed transfer. In making this determination, the Commission shall be guided by the approved environmental document and the policy set out in subsection (t) of this section.
- (2) The detriments have been or will be mitigated to the maximum degree practicable.
- (3) The amount of the transfer does not exceed the amount of the projected shortfall under the applicant's water supply plan after first taking into account all other sources of water that are available to the applicant.
- (4) There are no reasonable alternatives to the proposed transfer.

(n) Final Determination: Certificate Conditions and Limitations. – The Commission may grant the certificate in whole or in part, or deny the certificate. The Commission may impose any conditions or limitations on a certificate that the Commission finds necessary to achieve the purposes of this Part including a limit on the period for which the certificate is valid. The conditions and limitations shall include any mitigation measures proposed by the applicant to minimize any detrimental effects within the source and receiving river basins. In addition, the certificate shall require all of the following conditions and limitations:

- (1) A water conservation plan that specifies the water conservation measures that will be implemented by the applicant in the receiving river basin to ensure the efficient use of the transferred water. Except in circumstances of technical or economic infeasibility or adverse environmental impact, the water conservation plan shall provide for the mandatory implementation of water conservation measures by the applicant that equal or exceed the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin.
- (2) A drought management plan that specifies how the transfer shall be managed to protect the source river basin during drought conditions or other emergencies that occur within the source river basin. Except in circumstances of technical or economic infeasibility or adverse environmental impact, this drought management plan shall include mandatory reductions in the permitted amount of the transfer based on the severity and duration of a drought occurring within the source river basin and shall provide for the mandatory implementation of a drought management plan by the applicant that equals or exceeds the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin.

- (3) The maximum amount of water that may be transferred, calculated as a daily average of a calendar month, and methods or devices required to be installed and operated that measure the amount of water that is transferred.
- (4) A provision that the Commission may amend a certificate to reduce the maximum amount of water authorized to be transferred whenever it appears that an alternative source of water is available to the certificate holder from within the receiving river basin, including, but not limited to, the purchase of water from another water supplier within the receiving basin or to the transfer of water from another sub-basin within the receiving major river basin.
- (5) A provision that the Commission shall amend the certificate to reduce the maximum amount of water authorized to be transferred if the Commission finds that the applicant's current projected water needs are significantly less than the applicant's projected water needs at the time the certificate was granted.
- (6) A requirement that the certificate holder report the quantity of water transferred during each calendar quarter. The report required by this subdivision shall be submitted to the Commission no later than 30 days after the end of the quarter.
- (7) Except as provided in this subdivision, a provision that the applicant will not resell the water that would be transferred pursuant to the certificate to another public water system. This limitation shall not apply in the case of a proposed resale or transfer among public water systems within the receiving river basin as part of an interlocal agreement or other regional water supply arrangement, provided that each participant in the interlocal agreement or regional water supply arrangement is a co-applicant for the certificate and will be subject to all the terms, conditions, and limitations made applicable to any lead or primary applicant.

(o) Administrative and Judicial Review. – Administrative and judicial review of a final decision on a petition for a certificate under this section shall be governed by Chapter 150B of the General Statutes.

(p) Certain Preexisting Transfers. – In cases where an applicant requests approval to increase a transfer that existed on 1 July 1993, the Commission may approve or disapprove only the amount of the increase. If the Commission approves the increase, the certificate shall be issued for the amount of the preexisting transfer plus any increase approved by the Commission. A certificate for a transfer approved by the Commission under G.S. 162A-7 shall remain in effect as approved by the Commission and shall have the same effect as a certificate issued under this Part. A certificate for the increase of a preexisting transfer shall contain all of the conditions and limitations required by subsection (m) of this section.

(q) Emergency Transfers. – In the case of water supply problems caused by drought, a pollution incident, temporary failure of a water plant, or any other temporary condition in which the public health, safety, or welfare requires a transfer of water, the Secretary of Environment and Natural Resources may grant approval for a temporary transfer. Prior to approving a temporary transfer, the Secretary shall consult with those parties listed in subdivision (3) of subsection (c) of this section that are likely to be affected by the proposed transfer. However, the Secretary shall not be required to satisfy the public notice requirements of this section or make written findings of fact and conclusions of law in approving a temporary transfer under this subsection. If the Secretary approves a temporary transfer under this subsection, the Secretary shall specify conditions to protect other water users. A temporary

transfer shall not exceed six months in duration, but the approval may be renewed for a period of six months by the Secretary based on demonstrated need as set forth in this subsection.

(r) Relationship to Federal Law. – The substantive restrictions, conditions, and limitations upon surface water transfers authorized in this section may be imposed pursuant to any federal law that permits the State to certify, restrict, or condition any new or continuing transfers or related activities licensed, relicensed, or otherwise authorized by the federal government. This section shall govern the transfer of water from one river basin to another unless preempted by federal law.

(s) Planning Requirements. – When any transfer for which a certificate was issued under this section equals or exceeds eighty percent (80%) of the maximum amount authorized in the certificate, the applicant shall submit to the Department a detailed plan that specifies how the applicant intends to address future foreseeable water needs. If the applicant is required to have a local water supply plan, then this plan shall be an amendment to the local water supply plan required by G.S.143-355(l). When the transfer equals or exceeds ninety percent (90%) of the maximum amount authorized in the certificate, the applicant shall begin implementation of the plan submitted to the Department.

(t) Statement of Policy. – It is the public policy of the State to maintain, protect, and enhance water quality within North Carolina. It is the public policy of this State that the reasonably foreseeable future water needs of a public water system with its service area located primarily in the receiving river basin are subordinate to the reasonably foreseeable future water needs of a public water system with its service area located primarily in the source river basin. Further, it is the public policy of the State that the cumulative impact of transfers from a source river basin shall not result in a violation of the antidegradation policy set out in 40 Code of Federal Regulations § 131.12 (1 July 2006 Edition) and the statewide antidegradation policy adopted pursuant thereto.

(u) Repealed by Session Laws 2013-388, s. 2, effective August 23, 2013.

(v) Modification of Certificate. – A certificate may be modified as provided in this subsection:

- (1) The Commission or the Department may make any of the following modifications to a certificate after providing electronic notice to persons who have identified themselves in writing as interested parties:
 - a. Correction of typographical errors.
 - b. Clarification of existing conditions or language.
 - c. Updates, requested by the certificate holder, to a conservation plan, drought management plan, or compliance and monitoring plan.
 - d. Modifications requested by the certificate holder to reflect altered requirements due to the amendment of this section.
- (2) A person who holds a certificate for an interbasin transfer of water may request that the Commission modify the certificate. The request shall be considered and a determination made according to the following procedures:
 - a. The certificate must have been issued pursuant to G.S. 162A-7, 143-215.22I, or 143-215.22L and the certificate holder must be in substantial compliance with the certificate.
 - b. The certificate holder shall file a notice of intent to file a request for modification that includes a nontechnical description of the certificate holder's request and identification of the proposed water source.
 - c. The certificate holder shall prepare an environmental document pursuant to subsection (d) of this section, except that an

environmental impact statement shall not be required for the modification of a certificate unless it would otherwise be required by Article 1 of Chapter 113A of the General Statutes.

- d. Upon determining that the documentation submitted by the certificate holder is adequate to satisfy the requirements of this subsection, the Department shall publish a notice of the request for modification in the North Carolina Register and shall hold a public hearing at a location convenient to both the source and receiving river basins. The Department shall provide written notice of the request for the modification and the public hearing in the Environmental Bulletin, a newspaper of general circulation in the source river basin, a newspaper of general circulation in the receiving river basin, and as provided in subdivision (3) of subsection (c) of this section. The certificate holder who petitions the Commission for a modification under this subdivision shall pay the costs associated with the notice and public hearing.
- e. The Department shall accept comments on the requested modification for a minimum of 30 days following the public hearing.
- f. The Commission or the Department may require the certificate holder to provide any additional information or documentation it deems reasonably necessary in order to make a final determination.
- g. The Commission shall make a final determination whether to grant the requested modification based on the factors set out in subsection (k) of this section, information provided by the certificate holder, and any other information the Commission deems relevant. The Commission shall state in writing its findings of fact and conclusions of law with regard to each factor.
- h. The Commission shall grant the requested modification if it finds that the certificate holder has established by a preponderance of the evidence that the requested modification satisfies the requirements of subsection (m) of this section. The Commission may grant the requested modification in whole or in part, or deny the request, and may impose such limitations and conditions on the modified certificate as it deems necessary and relevant to the modification.
- i. The Commission shall not grant a request for modification if the modification would result in the transfer of water to an additional major river basin.
- j. The Commission shall not grant a request for modification if the modification would be inconsistent with the December 3, 2010 Settlement Agreement entered into between the State of North Carolina, the State of South Carolina, Duke Energy Carolinas, and the Catawba River Water Supply Project.

(w) Requirements for Coastal Counties and Reservoirs Constructed by the United States Army Corps of Engineers. – A petition for a certificate (i) to transfer surface water to supplement ground water supplies in the 15 counties designated as the Central Capacity Use Area under 15A NCAC 2E.0501, (ii) to transfer surface water withdrawn from the mainstem of a river to provide service to one of the coastal area counties designated pursuant to G.S. 113A-103, or (iii) to withdraw or transfer water stored in any multipurpose reservoir constructed by the United States Army Corps of Engineers and partially located in a state

adjacent to North Carolina, provided the United States Army Corps of Engineers approved the withdrawal or transfer on or before July 1, 2014, shall be considered and a determination made according to the following procedures:

- (1) The applicant shall file a notice of intent that includes a nontechnical description of the applicant's request and identification of the proposed water source.
- (2) The applicant shall prepare an environmental document pursuant to subsection (d) of this section, except that an environmental impact statement shall not be required unless it would otherwise be required by Article 1 of Chapter 113A of the General Statutes.
- (3) Upon determining that the documentation submitted by the applicant is adequate to satisfy the requirements of this subsection, the Department shall publish a notice of the petition in the North Carolina Register and shall hold a public hearing at a location convenient to both the source and receiving river basins. The Department shall provide written notice of the petition and the public hearing in the Environmental Bulletin, a newspaper of general circulation in the source river basin, a newspaper of general circulation in the receiving river basin, and as provided in subdivision (3) of subsection (c) of this section. The applicant who petitions the Commission for a certificate under this subdivision shall pay the costs associated with the notice and public hearing.
- (4) The Department shall accept comments on the petition for a minimum of 30 days following the public hearing.
- (5) The Commission or the Department may require the applicant to provide any additional information or documentation it deems reasonably necessary in order to make a final determination.
- (6) The Commission shall make a final determination whether to grant the certificate based on the factors set out in subsection (k) of this section, information provided by the applicant, and any other information the Commission deems relevant. The Commission shall state in writing its findings of fact and conclusions of law with regard to each factor.
- (7) The Commission shall grant the certificate if it finds that the applicant has established by a preponderance of the evidence that the petition satisfies the requirements of subsection (m) of this section. The Commission may grant the certificate in whole or in part, or deny the request, and may impose such limitations and conditions on the certificate as it deems necessary and relevant. (1993, c. 348, s. 1; 1997-443, ss. 11A.119(a), 15.48(c); 1997-524, s. 1; 1998-168, s. 4; 2001-474, s. 28; 2007-484, s. 43.7C; 2007-518, s. 3; 2008-125, s. 1; 2008-198, s. 11.5; 2010-155, ss. 2, 3; 2011-398, s. 50; 2013-388, s. 2; 2014-120, s. 37.)

SECTION .0400 - REGULATION OF SURFACE WATER TRANSFERS

15A NCAC 02E .0401 APPLICABILITY

(a) Pursuant to G.S. 143-215.22G(3), the amount of a transfer shall be determined by the amount of water moved from the source basin to the receiving basin, less the amount of the water returned to the source basin.

(b) Pursuant to G.S. 143-215.22G(3)(a) and 143-215.22G(3)(b), and notwithstanding the definition of basin in G.S. 143-215.22G(1), the following are not transfers:

- (1) The discharge point is situated upstream of the withdrawal point such that the water discharged will naturally flow past the withdrawal point.
- (2) The discharge point is situated downstream of the withdrawal point such that water flowing past the withdrawal point will naturally flow past the discharge point.

(c) The withdrawal of surface water from one river basin by one person and the purchase of all or any part of this water by another party, resulting in a discharge to another river basin, shall be considered a transfer. The person owning the pipe or other conveyance that carries the water across the basin boundary shall be responsible for obtaining a certificate from the Commission. Another person involved in the transfer may assume responsibility for obtaining the certificate, subject to approval by the Division of Water Resources.

(d) Under G.S. 143-215.22I(b), a certificate is not required to transfer water from one river basin to another up to the full capacity of a facility to transfer water from one basin to another if the facility was existing or under construction on July 1, 1993. The full capacity of a facility to transfer water shall be determined as the capacity of the combined system of withdrawal, treatment, transmission, and discharge of water, limited by the element of this system with the least capacity as existing or under construction on July 1, 1993.

History Note: Authority G.S. 143-215.22G; 143-215.22I; 143B-282(a)(2);
Eff. September 1, 1994.

Appendix B

Public Comments Regarding Petition

Pender County Proposed Interbasin Transfer Certificate
Public Comments Received
Hearing Officer's Report - Appendix B

#	Name	Affiliation	Date Submitted	Format
1	Bebb, Scott	Citizen	4/11/2018	Email
2	Colon, Anthony	Public Services Director, Town of Wallace	3/22/2018	Hearing Transcript
3	Holman, Bill	State Director, The Conservation Fund	3/22/2018	Hearing Transcript
4	Holman, Bill	State Director, The Conservation Fund	4/23/2018	Letter
5	Newton, Jackie	Pender County Commissioner	3/22/2018	Hearing Transcript
6	Sheffield, Allie	President, Pender Watch and Conservancy	3/22/2018	Hearing Transcript

Nimmer, Kim

From: Edwin Bebb <BEBB1@msn.com>
Sent: Wednesday, April 11, 2018 12:20 PM
To: DWR.IBT
Subject: [External] Cape Fear Interbasin Transfer

CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to [Report Spam](#).

This is shameful proposal, especially now in light of the recent contamination, and no scientific basis regarding actual long-term effects of interbasin transfers. Rivers are systems. Remove something from a system and the system is compromised. Pender County should realize the basic concept of carrying capacity.

While it may make sense economically, how can one legitimately spin it so as to appear to make sense environmentally? It's painfully obvious what drives the Conservation Fund of NC, and it ain't conservation.

How much more can the Cape Fear River take?

-Scott-

Transcription for Burgaw public hearing – Pender County IBT (3/22/2018)

Anthony Colon – Good night to everyone. My name is Anthony Colon. I'm the public services director for the Town of Wallace. I'm here to give you a brief background of what I've been through for the last couple of months. As you can tell, I have an accent; I'm from San Juan, Puerto Rico. Recently, my family has been three months without water. This has been a devastating situation. I started in water and sewer in 1995 and since 1997 I've been an advocate for water system interconnections. I've been working for Onslow County for seven years, Wilmington for 10 years, Burgaw for three years, and now I'm in the Town of Wallace. I can tell, over the years, the growth of the population is actually putting the utilities at a point where they have to figure out how they're going to meet these demands. In the Town of Wallace right now, I have 10 wells, it's a groundwater system. I recently lost one of the wells. It's making a huge difference; I have to very quickly locate a piece of land to put a new well to meet the demand that I'm having right now. As you know in small little towns, the landscaping ain't there, so I'm kind of running out of room. So, I want to take the opportunity now to congratulate Pender County Utilities for such a proactive move. This is very proactive and very significant to Wallace. I mean, this is insurance that in 2045 if we have no more room to build more wells and no room to build a water treatment plant, that we have this source of water that we can always tap into. I wish that everybody in the whole state of North Carolina would do something like this, because this is something that really helps towns and counties. This is what we should be doing, we should be working together. This is a great movement, we accept the challenge, we are co-applicants, and we look forward to working with you guys in the future. Thank you.

Transcription for Burgaw public hearing – Pender County IBT (3/22/2018)

Bill Holman – Good evening. I'm Bill Holman, I'm state director for The Conservation Fund. A little bit about The Conservation Fund, it's a conservation organization, and we were spun out of the Nature Conservancy about 32 years ago. What we primarily do is help counties, cities, state agencies, and sometimes federal agencies acquire properties for conservation purposes. We have some other business units that help support that, and a conservation group that works primarily with local governments on conservation planning. We even have a green business group. I want to speak tonight about, we'll call this constructive criticism, I know Pender County Utilities has been working for many years on a very thoughtful, regional approach. I think Commissioner Keen, I know the Commission sees a lot of struggling small communities dealing with water and wastewater issues and we all know these regional-scale systems are more efficient, usually provide better public health outcomes and prepare the communities for economic growth. I commend the approach that the county is taking and its ability to bring in smaller systems and communities into a county-wide system. That's a great step. I have also reviewed the Environmental Assessment that was prepared last year and I agree with the conclusions of your staff, looking at the environmental and economic, technical issues, that the preferred alternative is the best alternative to meet the future needs of the county and its communities. What I want to ask the county to consider, and I think it's important for the neighbors to consider as well, is that the county is really betting its future on the Cape Fear River. That's where the sure supply of water is going to be. The county is also making a number of investments with the water treatment plant and water distribution system to help the county grow. I want to also encourage you to also work with the conservation community and invest in the protection of that source water. There are good examples of that around North Carolina and around the country. For southeastern North Carolina, for someone outside the region talking about source water protection, I think there's heightened awareness about source water protection in southeastern North Carolina because of Gen X. I know that's a public health issue that's got to be a top priority, and I greatly respect that. I just came from a national meeting with states and EPA. There was a lot of discussion, you have a lot of company unfortunately, around the country dealing with these perfluorinated compounds. Before Gen X, there were issues with toxic algae blooms in the Lower Cape Fear; fortunately, we haven't experienced those lately, but those could re-occur. After Gen X, there's always going to be emerging compounds and things we need to be proactive on, and having an aggressive source water protection strategy to reduce those kinds of risks. I also note in the Cape Fear, some of your neighboring basins have more regulations in place to protect water quality. The Neuse and Tar-Pamlico have riparian buffer regulations and nutrient management regulations; there's not a similar kind of minimal state level protection in the Cape Fear that some of your neighboring basins enjoy. I also think fundamentally that regulations, at least it's been my experience and I'm a recovering regulator from a few years ago, regulations themselves are not sufficient to deliver the kind of public health and environmental protection that we need. To really deliver effective environmental programs, you need some regulations, but you also need incentives and education; you need a comprehensive approach. I think a lot of source water protection efforts can be more incentive-based. I'm in the conservation business, but they're not all about conservation, restoration is an important strategy as well. That's the benefit of working with your neighbors and the conservation community, trying to figure out what will have the most positive impact on protecting the Lower Cape Fear watershed above Lock and Dam #1. Commissioner Keen, I was encouraged, before this

meeting I reached out to Pender County Utilities and they expressed a willingness to meet with me and my colleagues, and Don Betz who staffs the Lower Cape Fear Water and Sewer Authority extended an invitation for me to come and deliver a presentation to the Board there and to start these conversations. For this to be effective, it's really got to involve the three major utilities that draw water from the Lower Cape Fear, which is Pender County Utilities that's before us tonight, and also the Cape Fear Public Utilities that serves Wilmington and New Hanover County, and Brunswick Utilities. Some benefits that I would tout to this kind of source water protection approach, with the experience that we've had working in a place like Raleigh and Falls Lake is that the City of Raleigh sets aside some money every year for source water protection, and has developed a conservation plan along with Durham and some other communities, and that really guides where the funds go. Frankly, the water utilities are largely setting the conservation agenda for their watersheds and they've also been able to leverage local government funds and state funds like the Clean Water Management Trust Fund. I don't have to tell folks here, but for the long haul, we need more collaboration at the river basin scale. Great examples in our state: in the Upper Neuse and the Lower Neuse, there are associations of local governments and water utilities. In the Catawba-Wateree Management Group, water utilities and Duke Energy work together to manage that system. Frankly, we've had more conflict in the Cape Fear than in some of the other basins, but these kind of source water protection efforts can be a starting point for collaboration on a basin-wide scale. Thank you for the opportunity to speak tonight. I will follow up with some written comments within 30 days, and I look forward to interacting with members of the Commission and Pender County Utilities and Brunswick and the Lower Cape Fear Water and Sewer Authority. We'll keep you posted on our efforts. Thank you.

THE
CONSERVATION FUND

77 Vilcom Center Drive #340 Chapel Hill, North Carolina 27514 | (919) 967-2223
www.conservationfund.org

April 23, 2018

Mr. Steve Keen
Hearing Officer
Environmental Management Commission
1617 Mail Service Center
Raleigh, North Carolina 27699

Re: Pender County Utilities IBT Certificate

Dear Mr. Keen:

I am writing on behalf of The Conservation Fund (the Fund) to provide written comments on Pender County Utilities (PCU) request to the Environmental Management Commission (EMC) for a certificate for an Interbasin Transfer (IBT) of water from the Cape Fear River to the Northeast Cape Fear, South and New River Basins. These written comments supplement the oral comments that I made at the EMC's March 22, 2018 public hearing in Burgaw.

The Fund agrees that the IBT requested by PCU is the best environmental and economic alternative for PCU to serve its growing customer base. The Fund believes that PCU and Pender County's future environmental and economic health will depend upon the water quantity and quality of the Cape Fear River.

The Fund respectfully urges the EMC and NC Department of Environmental Quality (DEQ) to strongly encourage PCU, Lower Cape Fear Water & Sewer Authority (LCFWASA), Cape Fear Public Utilities, Brunswick Utilities and other large water users that depend upon the Lower Cape Fear River for assured supplies of clean water to partner with the conservation community to develop conservation and restoration plans for the Lower Cape Fear River to protect their source water supply above Lock & Dam 1 and to establish a Lower Cape Fear Water Fund to implement the plans.

The Fund respectfully urges the EMC to require PCU to develop a source water protection plan in collaboration with LCFWASA and the conservation community one year after the IBT certificate becomes effective.

PCU's Request

PCU is requesting an increase from 2 MGD IBT to 14.5 MGD IBT from the Cape Fear River Basin to the Northeast Cape Fear, South and New River Basins: 1) to become less reliant on groundwater resources, and 2) to plan for expected growth in the region through 2045. The water will be provided by the Lower Cape Fear Water and Sewer Authority's (LCFWASA) King's Bluff Raw Water Pump Station above Lock & Dam 1 on the Cape Fear River.

The Fund commends PCU and Pender County for planning for future water resource needs. With appropriate planning, management, protection and mitigation withdrawing water from the Lower Cape Fear River via LCFWASA appears to be the most economically and environmentally sound alternative available to PCU and Pender County.

PCU's request needs to be evaluated in context of total expected withdrawals and growth in the region. The LCFWASA serves a large region of southeastern North Carolina, including portions of Bladen County, Brunswick County, Columbus County, New Hanover County, and Pender County. According to the 2017 Environmental Assessment the LCFWASA expects a cumulative projected demand of 96 MGD at the King's Bluff intake— very close to the DWR's maximum planning guidance of 106.6 MGD for run-of-the-river water supply.

The Fund commends the EMC and DWR for using science-based hydrologic models to project future water demand and assure adequate water supplies. The model used by DWR is a valuable tool. However, it does not model major land use changes and climate change. Conversion of forest and farm land upstream from Lock & Dam #1 will increase runoff during storms and will likely decrease base flows. Land use change will also increase nutrient and sediment loading in the Cape Fear River Basin.

The Fund also commends the progress that water utilities in the Central Coastal Plain Capacity Use Area (CCPCUA) have made in making the coastal region's reliance on groundwater more sustainable. However, we urge that as former groundwater users switch to surface water supplies (including PCU), DEQ and local governments put strong protections in place to protect the quality and quantity of surface water supplies. Otherwise the problem of sustainable water supply for the growing NC coastal community is simply displaced, putting current and future economic investment and environmental health in the region at risk.

IBT Certificate Should Address Source Water Protection

North Carolina's Source Water Assessment Program in the Division of Water Resources considers the Cape Fear River Kings Bluff intake above Lock & Dam #1 to have *higher* vulnerability rating; *lower* contaminant rating; and *moderate* susceptibility rating.

A variety of preventable disasters threatened drinking water supply across the United States in 2014, including toxic algae blooms in Lake Erie and the Lower Cape Fear. In response Representative Rick Catlin of New Hanover County and others sponsored HB 894, An Act to Improve Source Water Protection Planning. The General Assembly enacted and Governor McCrory signed SL 2014-41. GS 130A-320 now *requires* public water suppliers to develop source water protection plans.

The Fund notes that neither the 2017 EA/FONSI nor the application for an IBT Certificate address water quality problems or risks to water supplies upstream from Lock & Dam 1 and the LCFWASA intake at Kings Bluff. Most of the discussion centers on the receiving basin, and aside from local conditions at Lock and Dam 1 (the diversion point) the upstream watershed conditions or impacts were not assessed.

The State Water Supply-IV classification of the Lower Cape Fear above Lock & Dam 1 provides minimal protection to water quality.

The Fund notes that unlike the Neuse and Tar River Basins riparian buffers are not protected in the Lower Cape Fear River Basin. Development of nutrient management strategies by the State for the Upper Cape Fear, Middle Cape Fear and Lower Cape Fear have been delayed by the General Assembly.

The Fund believes incentive-based water quantity & quantity initiatives are needed to complement regulatory approaches. The Fund recommends development of conservation and restoration plans for the Lower Cape Fear to help protect water quantity and quality. The Fund also recommends stronger local and regional leadership to protect the Lower Cape Fear River.

EMC May Require Mitigation for IBT

The EMC may require applicants for IBT certificates to mitigate impacts of the IBT pursuant to GS 143-215.22L (m). For example, in its July 2001 decision to approve a temporary increase in IBT from Jordan Lake in the Haw River Basin to the Neuse River Basin, the EMC set out a number of conditions to mitigate the impacts of the IBT. The EMC also gave the applicants credits for their policies and programs that exceeded state minimum standards.

Multiple Benefits from Watershed Protection

Watershed protection and source water protection provide multiple public and environmental benefits, including reducing risks to public health, reducing toxic algae blooms, reducing water treatment costs, mitigating risks associated with floods and droughts, sustaining fish and wildlife populations, and maintaining and increasing recreational opportunities.

Many utilities in North Carolina and across the country are investing in watershed protection. Raleigh's Watershed Protection Program in the Upper Neuse River Basin/Falls Lake Watershed invests about \$2,000,000 per year in conservation projects to protect water quality and quantity. Raleigh has substantially leveraged its funds with other public and private funds. As of April 2018, Raleigh had invested \$9,000,000, protected 98 miles of streams, and conserved 9096 acres of land valued at \$79,000,000 in the Upper Neuse River Basin.

The Catawba-Wateree Water Management Group (CWWMG) includes 18 water utilities and Duke Energy. CWWMG is currently modeling the impacts of land use change and climate change and evaluating the benefits of land conservation in maintaining stream flows and in reducing sedimentation and preserving capacity in its reservoirs.

Build Upon Regional Collaboration & Past Work

Both PCU and LCFWASA are models of regional collaboration. Both could be platforms for collaboration on source water protection on the Lower Cape Fear River and for much needed collaboration on water quality and quantity with other upstream water users and stakeholders in the Cape Fear River Basin.

LCFWASA provides five counties (three of which are coastal) with raw water. In addition to PCU, LCFWASA serves Brunswick County Public Utilities, H2Go Brunswick Regional Water and Sewer, the Town of Leland Public Utilities, Cape Fear Public Utility Authority (CFPUA, serving the City of Wilmington and New Hanover County residents), as well as industrial clients Praxair and Invista. Other large private water users such as International Paper Company's mill at Riegelwood and Duke Energy's Sutton Plant depend upon the Lower Cape Fear River.

The NC Clean Water Management Trust Fund, Duke Energy Water Resource Funds, and other funds would be available to match water utility funds for high priority conservation and restoration projects. In addition to the Fund, both the NC Coastal Land Trust and the Nature Conservancy are active and effective in conserving and restoring land in Southeastern North Carolina.

Investments in Growth

The Fund notes that PCU has made substantial recent investments in water treatment and distribution infrastructure centered on the Cape Fear River. Specifically, PCU invested in \$28 million dollars for the new Surface Water Treatment Plant and Finished Water Transmission Main to treat 2 MGD from the Cape Fear River, finished in 2012. It was built to be expandable to 6 MGD. Additionally, residents of Moore's Creek and Pender Central water districts approved \$45 million and \$25 million bond referendums, for the "expansion and availability of a reliable potable water supply." LCFWASA recently invested over \$2,000,000 in a 60" water distribution, 1200 linear feet of 60" parallel intake line and three 27.5 MGD wedge-wire screens.

Many millions of public funds have been invested in water infrastructure in the Lower Cape Fear Region. These substantial public investments in water treatment and distribution infrastructure in support of public health, environmental protection and future economic growth should be protected with investments in protecting the source of water in the Lower Cape Fear.

The Pender County Comprehensive Land Use Plan states:

The availability of public infrastructure has a tremendous impact on the pattern of land use and development. There is probably no other single public expenditure that influences growth and development as much as the infusion of public money into the extension or improvement of public infrastructure. Where the County chooses to invest public money in future water and wastewater extensions will be the major determining factor on where, when, and how development occurs.¹

2017 Environmental Assessment

The Fund provided similar comments on the 2017 EA/FONSI on the PCU's IBT request. A copy of the Fund's June 2, 2017 comments are attached.

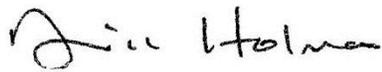
Conclusion

The Fund urges the EMC and DEQ to strongly recommend that PCU, LCFWASA, and others that depend upon the King's Bluff Raw Water Intake & Pumping Station above Lock & Dam 1 partner with the conservation community to develop a conservation and restoration plan for to protect water quality and quantity in the Lower Cape Fear River Basin.

The Fund respectfully urges the EMC and DEQ to require PCU submit a draft source water protection plan developed in collaboration with LCFWASA and the conservation community one year after the IBT Certificate becomes effective.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Bill Holman". The signature is written in a cursive style with a large initial "B".

Bill Holman
North Carolina Director

C: Kim Nimmer, DWR
Bryan McCabe, Director, PCU
Don Betz, Executive Director, LCFWASA

Attachment

Good Evening:

My name is Jackie Newton. I am a County Commissioner representing Pender County, NC. I stand this evening to speak on behalf of the Pender County Board of Commissioners and the customers served by Pender County Utilities (PCU) to encourage approval of the Pender County Interbasin Transfer (IBT) Certificate application. The requested IBT Certificate is critical to the County's ability to meet future demands for water in its service area. PCU currently serves six water and sewer districts (WSDs) and customers in the towns of St. Helena and Watha.

- Growth: Pender County is a fast-growing coastal county providing water for current residents, new developments, and along the US 17 corridor
- Expansion: Pender County has planned to provide water to residents not currently connected to the system to address concerns with groundwater reliability and variability, as well as all of the co-applicants who are currently supplied by groundwater including Burgaw, Surf City, Topsail Beach, Wallace, and Utilities Inc.
- Investment in infrastructure: Pender County has made significant capital investment in water infrastructure.
 - Construction of the Rocky Point/Topsail Water and Sewer District began in 1996 and was completed in 2010.
 - Construction of the Scotts Hill Water and Sewer District was completed in 2011.
 - Water system expansion of over 70 miles of water lines is now underway in the Central Pender and Moore's Creek WSDs, with more than 200 miles of water infrastructure planned over the next 20 years.
 - For increasing demands along the US 17 corridor PCU is planning for a larger water main along North Carolina Highway 210 (NC 210) that will enable distribution of more than 2 MGD across multiple designated IBT river basins, and the need for this increased transmission capacity is driving the timing of PCU's IBT request
 - Future service expansions within the six WSDs are also expected over the next 30 years
- I am also a Board Member of the LCFWASA which provides raw water to meet our County's supply needs. LCFWASA has planned to provide raw water capacity to meet the long-term raw water demands of Pender County Utilities, and has passed resolution in support of this IBT request.
- The proposed IBT certificate will not significantly change Cape Fear River elevations above and below Lock and Dam 1, downstream flows, or water quality. Therefore, the water supply needs of other public water systems are not expected to be affected by the proposed transfer.

In closing, I urge the approval of the requested IBT Certificate for Pender County. The County has thoughtfully engaged in long-range planning efforts to meet growing water demands throughout their water and sewer districts, and as a regional provider of surface water to the co-applicants who have decided to partner with PCU. We pledge to continue to work together to be good stewards of our water resources and provide a reliable source to meet the water demands of our service areas. The favorable consideration and approval of the Pender County IBT Certificate application is greatly appreciated.

Thank you

Jackie Newton
3/22/18

Transcription for Burgaw public hearing – Pender County IBT (3/22/2018)

Allie Sheffield – Good evening. I'm Allie Sheffield and I'm the president of Pender Watch and Conservancy, which is an environmental organization founded in 1986, 32 years ago to protect the environment of Pender County. We have a wonderful relationship with the county. We consider ourselves allies and definitely friends, we do not have a hostile relationship at all. We agree with what Mr. Holman just said going forward, and we would be willing to participate with his organization and with the county. We've had no problem with the county being proactive and things of the sort that Mr. Holman was talking about. For my presentation I want to back up some and talk about why we need the water plan that the county has proposed, and why we need the water that we're here tonight talking about. Our organization learned a whole lot about water in Pender County, we didn't really mean to learn about it, we had to with fighting the Titan Cement Plant. The cement plant was going to be on the border of Pender County and it was going to pump 14-15 million gallons per day out of the aquifer to mine limestone. When you're talking about that and you don't know the first thing in the world about hydrology, you start finding out about it, and that's why I'm here tonight. I want to talk about what we have in this current water situation with Pender County, and why it's so important we go with the plan the county has proposed, not involving the shallow wells that everyone has now, but piped-in water that the county can regulate and oversee. Currently, about 78% of Pender County's population lives in a band along the coast. Because most of that area is unincorporated, it's Hampstead, greater Hampstead and surrounds, it's where most of the population lives, and everybody there's on wells. Most of them are on shallow wells, individual wells, but some communities and little developments have a well system for the development that provides water to the development. What we found out dealing with the Titan situation, is that is completely inadequate for the area's needs. We started this in 2008, the Titan learning process, and I think we all realized the current system is totally unsustainable and could lead to catastrophe. When you have shallow wells, they are subject to so many problems, one of which is a quarry 5 miles away pumping 15 million gallons a day out of that very aquifer. If that were to happen, many of the wells would go dry. Pender County, or New Hanover County, does not have the ability to stop that cement operation just because it would affect our water. The state determines it. I will tell you now that Titan withdrew on its own. There was every reason to believe that DEQ back under Mr. van der Vaart was going to grant them a permit to do what they wanted to do. If that had happened, I can't imagine what our situation in the eastern part of Pender County would have been like today. With a private company, not paying a dime, pumping 15 million gallons a day of water out of the aquifer that everybody uses to get their water for their houses, and nobody ever did know where it was going. We cannot control that, and because we cannot control it, we have to have an alternative that keeps our residents having water. Even if worst case scenario somebody does get a permit to pump 15 million gallons per day. That is one reason we support this. The other reason is because of saltwater intrusion; that is a really serious problem that we have going forward. I know the state employees are not supposed to talk about climate change, but the United States Geological Survey talks about it, and they talk about saltwater intrusion. And there already is saltwater intrusion. It's not horrible, but it's here. I think the report they did in 2011-2012, it was not a formal, official report, but they asked for volunteers. Everybody in Pender County had wells then, and they wanted to test wells to see, just random, it wasn't scientific, they just wanted to see what problems there already were with saltwater intrusion. They found saltwater intrusion in some wells. Again, it's not scientific, but it was very troubling for us. It's

only going to get worse. We live on the coast; we know the tides are getting higher, we know more land is being covered by water. If saltwater intrusion gets into the wells along that tiny narrow strip along the ocean, we will have people whose wells would be useless. That is an urgent situation that we need to address. The county is proactively addressing it, and we really appreciate that. The other thing, of course, is drought. Individual well owners do not have water management plans or drought management plans. The last time we had a drought, which I think was in 2004-2005, a ton of people's wells went dry. At that point, what do you do? We have shallow wells; if you could dig all the way through the Castle Hayne aquifer, which is where all the local people drill their wells, if you drill through that and had a water source in the Pee Dee aquifer, you would be safer. But people don't do that, it's too expensive. And so, for all these reasons, and the other thing is toxic spills. We have two major highways that go through the county. There's just no way to know when some catastrophe is going to happen either on Highway 17 or I-40, that results in a major spill and some sort of catastrophic amount of toxic pollution in our aquifer. When everybody depends on water from an aquifer, you just have a whole lot to worry about, as we found out. At this point, our organization's number one priority is supporting the county in obtaining this water so we can expand the county's already wonderful water system. I would just say, in addition, that I just heard on the radio that Pender County was the second fastest growing county in the state in 2016, only after Brunswick County. So, the county is right to plan for a lot of growth. We see it coming. We hope that you will consider these comments and grant their request. I will submit a comments letter within the time period allowed. Thank you.

Appendix C

Distribution Lists for

Public Notice

Public Notice for Public Hearing Held March 22, 2018 for Pender County IBT Petition -
Persons Contacted via First-class Mail:

Contact	Affiliation
Jim Atack	Archer Daniels Midland Company
Marty McGowan	Duke Energy Progress, LLC
Jonathan Stamas	Duke Energy Progress, LLC
R. Kent Tyndall	Duke Energy Progress, LLC
R. T. Wilson	Duke Energy Progress, LLC
David H. Groves	Capital Power Corp. NC
Gary Morrow	International Paper
Bob Farren	Pinehurst, Inc.
Tom Roberts	Aqua North Carolina
Michael Melton	Aqua North Carolina
Nuwan Wijesuriya	Martin Marietta Materials, Inc.
Nuwan Wijesuriya	Martin Marietta Materials, Inc.
Nuwan Wijesuriya	Martin Marietta Materials, Inc.
David Fruchte	Pine Needles & Mid Pines Lodge And Country Club
David Fruchte	Pine Needles & Mid Pines Lodge And Country Club
Shawn O.Connor	General Electric Company
Jack Garvey	Hanson Aggregates Southeast, LLC
Elizabeth Meyer	Invista Sarl
Martin Lashua	Utilities, Inc.
John Parrish	Devils Ridge Golf Club
Clifton McNeill	Mcneill Farms
Steven Dockery	Methodist University
Methodist University	Methodist University
Adam Bachmeier	Bald Head Island Club
Ed Drake	Birchwood Farms, Inc.
Director of Golf and Lake Maint.	Carolina Golf Development
Dyrck Fanning	Carolina Turf Farms
Shaun Kerr	MDC II, LLC
Chris Hobbs	Highland Country Club
Nick Funderburk	Charlie Walker
Tim Lee	Cape Fear Country Club, Inc.
Conrad Broussard	The Clubs at St. James, LLC
Morgan Stephenson	Tobacco Road Golf, LLC
Marty Walker	Magnolia Greens, Inc.
Gary Humphrey	Leisure Investments of NC, Inc.
Scott Clawson	Seven Lakes Country Club
Brook Vickery	Avestra, LLC
Mark Stovall	Forest Creek Development
Doug Walter	Forest Creek Development
Michael Voltz	Oceanico USA
Keith Osterman	Robert Levy Jr.
Christopher Little	Pinewild Country Club of Pinehurst
David Bryant	Carl Bunnell

Billy Lewis	Bob Hanson
Wayne Jordan	Anderson Creek Partners
Jennifer Adams	Corning Incorporated
Tim Hart	Carolina Trace Country Club
Damon Dean	Campbell University
Karen Hilliard	G.S. Materials, Inc.
Paul Hughes	Funston Land & Timber
Kim Lewis	United States Army
Tony Harris	American Materials
Michael Leonard	BGWP LLC
Rebecca Horrell	Big Sky Blueberry Farm
Michael E. Johnson	The Chemours Company FC, LLC
David Kelly	Town of Oak Island
Kinder Morgan Operating LP C	Kinder Morgan Operating LP C
Kinder Morgan Operating LP C	Kinder Morgan Operating LP C
Addison D Davis	Town of Spring Lake
Barbara N Auman	Auman's Mobile Home Park LLC
Brian Reddy	Arclin USA Inc
Jon Poteat	Town of Pittsboro
Bryan Gruesbeck	Town of Pittsboro
Carter Jordan	B Everett Jordan & Son-1927 LLC
Chris Coudriet	New Hanover County
Chris D Blice	Chatham County Schools
Chris D Blice	Chatham County Schools
Chris D Blice	Chatham County Schools
Christopher C Lutes	The Trails Property Owners Association
Craig O Morrison	Hexion Inc
Danny R Shaw	Town of Ramseur
Danny R Shaw	Town of Ramseur
Darcy Trufyn	CPI USA North Carolina LLC
Darren Cammin	Dow Corning Corporation
Dennis Valentino	Elementis Chromium Inc
Don Betz	Lower Cape Fear Water and Sewer Authority
Donald B Anderson	Pharmaceutical Product Development Inc
Dudley Tarlton	Transmontaigne Operating Company LP
Dudley Tarlton	Transmontaigne Operating Company LP
H Goldston Womble	Town of White Lake
Jeffery Sheffield	Town of Robbins
Jerry L Shields	Shields, Jerry L.
John F Kime	Piedmont Triad Regional Water Authority
Jorge P Young	DAK Americas LLC
Joseph E Calisto	US Army / Military Ocean Terminal - Sunny Point
Ken Fenton, President	Center Point Terminal Company LLC
Kenneth L Smith	Town of Beulaville
Len Terry Fuqua	Fuqua Parks Timber and Development Company LLC
Mark S Sutton	International Paper Company
Matthew M Fajack	UNC At Chapel Hill

Mervyn R King	Mervyn R King
Michele M Holbrook	Corning Incorporated
Neil L Pruitt, Jr	Pruitthealth - Highpoint LLC
Nick Holcomb	City of Randleman
Patricia A Woertz	Archer Daniels Midland Company
Rick J Rrejci	Plantation Pipe Line Company
Roy B Fitch	Fearrington Utilities Inc
Steve Saye	Kennedy Terrell Apartments LP
T Chet Mann	City Of Sanford
T Chet Mann	City Of Sanford
Thomas L Monroe	Monroe's Mobile Home Park
Tim Horner	Reedy Fork Mobile Home Park
Tim Singleton	Pilgrim's Pride Corporation
Tim Singleton	Pilgrim's Pride Corporation
William A Baker, Jr	CTI of North Carolina Inc
William H Bryan	Mount Olive Pickle Company
Stephen C Hamilton, District Manager	Southeastern Wayne Sanitary District
Michael Richardson	Cape Fear Public Utility Authority - Wilmington
Tom Robinson	Carthage Town Manager
Barry K. Parsons	Water Supply Manager
Ruth Rouse	OWASA Planning & Development Manager
Alan Faulk	Acme Delco Middle School WWTP
Alan Faulk	Acme Delco Elementary School WWTP
William S Clark	Columbus County WWTP
Charles E Trefzger	Castle Creek Memory Care
David Hill	Asphalt Testing Site #6-48
Emilie Swearingen	Kure Beach WWTP
Michael M Mason	Guilford East Kenansville Mill
Eddie Madden, Town Manager	Elizabethtown WWTP
Ronald D Autry	Dunn WWTP
Rick Fahrenkrog	Greensboro Terminal II
Rick Fahrenkrog	Greensboro Terminal I
Robert P Hahn	Crown Mobile Home Park
Tom Lovlien	Moncure Plywood
Wendell Davis, City Manager	Triangle WWTP
Jay Fuller, Director of Operations	Dynapar Corporation
Betty Long	Town of Kenansville

Public Notice for Public Hearing Held March 22, 2018 for Pender County IBT Petition -
Persons Contacted via Email:

County Commissioners	
Frank Williams	Brunswick
James E. Prevatte	Columbus
Charles Ray Peterson	Bladen
James Leach	Hoke
Catherine Graham	Moore
Glenn B. Adams	Cumberland
C. Gordon Springle	Harnett
Amy Dalrymple	Lee
Sig Hutchinson	Wake
James G. "Jim" Crawford	Chatham
Clark Wooten	Sampson
Jesse Dowe	Duplin
George Brown	Pender
Jack Bright	Onslow
Bill Pate	Wayne
Tom Taylor	Robeson
Jeffrey P. Carver	Johnston
Frank Emory	Jones
Craig Hill	Lenoir
Woody White	New Hanover
Public Water Systems	
Michael Rhoney	Asheboro
Don Betz	Bladen Bluffs
Robert Patterson	Burlington
John Malone	Cape Fear Public Utility Authority - Wilmington
Tom Robinson	Carthage
Larry D. Bridges	Chatham County North Water System
Dean Gaster	Dunn
M. J. Noland	Fayetteville
Frankie Maness	Graham
Barry K. Parsons	Greensboro
Allan O'Briant	Harnett County Regional Water System
Wendell Pickett	High Point
Ruth Rouse	Orange Water and Sewer Authority
Michael Mack	Pender County Utilities
Greg Flory	Piedmont Triad Regional Water Authority
John Poteat	Pittsboro
Bobbie D Hatley	Ramseur
Kevin E. Eason, PE	Reidsville
Ron McPherson	Riegelwood SD
Tommy Gibbons	Robbins Water System
Victor Czar	Sanford
Terry Green	Siler City

IBT Certificates	
Jerry Pierce	Brunswick County
Jeff Adkins	Town of Cary
NPDES Permits	
Adam Hilton	Wilmington-Castle Hayne WWTP
Alan Faulk	Acme Delco Middle School WWTP
Andrew Luter	Yes WI Utilities Exp LLC
Ann B Hardy	Brunswick County
Arnold E Allred	Town of Franklinville
Bruce Donald Biehl	Brenntag Southeast Inc
Robert P Bassetti, President	B&B Produce Inc
William S Clark	Columbus County
Jay Murray	Murray, Jay
Betty Long	Town of Kenansville
Robert C Johnson, II, CEO	House of Raeford Farms Inc
Bryan Thompson, Manager Town	Town of Siler City
Robert Walker	Brunswick Regional Water and Sewer H2go
Dustin Kornegay, Manager Town	Town of Broadway
Charles E Trefzger	Hermitage House
Charles C Farrior, Jr	Town of Wallace
Roger J Hilarides	Flint Hills Resources L P
Chris McCall, Assistant Manager Village	Village of Bald Head Island
Scott Dilling, Complex Manager	Motiva Enterprises LLC
David Hill	NC DOT - Environmental Operations
Dennis Baxley	City of Raeford
Doug Belden	Colonial Pipeline Company
David S Cheek, city mgr	City of Mebane
Dave Thomson	Associated Asphalt Greensboro LLC
Ed Kerwin, Director Executive	Orange Water And Sewer Authority
Ellis H McGaughy	The Chemours Company Fc LLC
Emilie Swearingen	Town of Kure Beach
Lea Turner	Town of Warsaw
Frankie Maness, city mgr	City of Graham
Gina Staples-Lassiter	Buckeye Terminals LLC
Frank H Watkins, City Manager	City of Burlington
Jamie Revels, Director Utilities	Town of Cary
James W Radford	NC Land Lease LLC
Jay Fuller, Director Operations of	Dynapar Corporation
Jay Fuller, Director Facilities Maintenance of	Alamance-Burlington School System
Mitchell J Randolph	Invista S-A-R-L LLC
Joe Holt	Burlington Technologies
James R Flechtner, PE	Cape Fear Public Utility Authority
Jim Kershner	Bay Valley Foods LLC
Joseph Jeffries	Harnett County
Jason Kaplan	Moncure Holdings West LLC
John N Ogburn, III	City of Asheboro
Kevin Eason, Director Public Works	City of Reidsville

Ken Brinegar	Kinder Morgan Southeast Terminals LLC
Kim Mullins	Quarterstone Farm Homeowners Association
Dean F Lail	Sapona Manufacturing Company Inc
Larry Thomas Chilton	Randolph County Board Of Education
Luis Mendoza	Fortron Industries LLC
Luncie McNeil, Director Public Works	Town of Holly Springs
Gwendolyn B Vann	Town of Magnolia
Alice Butler	Town of Roseboro
Maurice W Gallarda, PE	Pluris Hampstead LLC
Matthew P Hendrickson	Dak Americas LLC
Michael Cramer	Town of Carolina Beach
Mick Noland	PWC/Fayetteville
Mike Aldridge	Duplin County
Mark C King	Gpm Southeast LLC
Michael G Mack	Pender County
Michael M Mason	Guilford Mills Inc
Paul M Heim	Daikin Applied Americas Inc
Eddie Madden, Town Manager	Town of Elizabethtown
Ronald D Autry	City of Dunn
Ranee E Paschal, County Manager	Chatham County
Gary L Boney	Town of Rose Hill
Rick Fahrenkrog	Magellan Terminals Holdings L P
Robert P Hahn	Parkins LLC
Ronald V Sonntag	Violet Sanford Holdings
Robert P Taylor	Bladen County Schools
Scott Caparelli	Rsrc Properties LLC
I Ray McDonald, Sr	Town of Mount Olive
Steven R Ingle	North Carolina Renewable Power-Elizabethtown LLC
Sean Dyer	S I P Hidden Forest LLC
Steven Drew, Division Manager Operations	City of Greensboro
Stephen R Davis, Owner	Sunrise & Sons, LLC
Shannon V Becker, President	Aqua North Carolina Inc
Tanya Hamilton	Duke Energy Progress Inc
Matthew E. Raynor	Nature Trails Association CLP
Terri Cobb	Pender County Schools/Board of Education
Terry L Houk	City of High Point
Matthew Klein	Carolina Trace Utilities Inc
Tom Quesenberry	Arauco Panels USA LLC
Thomas J McKittrick	Coastal Carolina Clean Power LLC
Tom Lovlien	Boise Cascade Wood Products LLC
Brian Toomey, CEO	Piedmont Health Services Inc
Gerald W Darden	Town of Newton Grove
Mary O'Brien	Town of Star
James Reginald Edwards	S S Construction & Rental Inc
Winifred Hill Murphy, mayor	Town of Garland
Jeff Vreugdenhil, Director Public Works	City of Clinton
Wendell Davis, City Manager	Durham County

Others Interested	
Joseph Threadcraft	Wake County
Michael Orbon	Wake County

Legal Notice Published for Public Hearing Planned for January 17, 2018 (later cancelled) for Pender County IBT Petition

#	Newspaper Name	Date ad was run
1	Raleigh News & Observer	12/13/2017
2	Fayetteville Observer	12/13/2017
3	Bladen Daily Journal	12/15/2017
4	Sampson Independent	12/12/2017
5	Wilmington Star News	12/16/2017
6	Jacksonville Daily News	12/13/2017
7	Brunswick Beacon	12/14/2017
8	Pender-Topsail Post and Voice	12/14/2017

Legal Notice Published for Public Hearing Held March 22, 2018 for Pender County IBT Petition

#	Newspaper Name	Date ad was run
1	Raleigh News & Observer	2/9/2018
2	Fayetteville Observer	2/12/2018
3	Bladen Daily Journal	2/16/2018
4	Sampson Independent	2/10/2018
5	Wilmington Star News	2/12/2018
6	Jacksonville Daily News	2/14/2018
7	Brunswick Beacon	2/15/2018
8	Pender-Topsail Post and Voice	2/15/2018