

**CERTIFICATE AUTHORIZING UNION COUNTY
TO TRANSFER WATER FROM THE YADKIN RIVER IBT BASIN
TO THE ROCKY RIVER IBT BASIN
UNDER THE PROVISIONS OF N.C.G.S. §143-215.22L**

On August 12, 2013, Union County filed a notice of intent with the Environmental Management Commission (EMC) to request an interbasin transfer (IBT) certificate. The requested IBT certificate is for a transfer of up to 23 million gallons per day (mgd), calculated as a daily average of a calendar month, from the Yadkin River IBT Basin to the Rocky River IBT Basin. This transfer amount is based on water use projections to 2050. IBT basins are defined in N.C.G.S. §143-215.22G.

Public hearings on the draft determination on whether to grant the interbasin transfer certificate to Union County will be held pursuant to N.C.G.S. §143-215.22L(j).

The EMC considered Union County's request and made a draft determination at its meeting on July 14, 2016. According to N.C.G.S. §143-215.22L(m), the EMC shall grant the certificate if it finds that Union County has established by a preponderance of 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; and that (4) there are no reasonable alternatives to the proposed transfer. See Appendix A for the North Carolina statutes and administrative rules which govern surface water transfers in the state.

Pursuant to N.C.G.S. §143-215.22L(n), 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 making its draft determination, the EMC specifically considered the following factors pursuant to N.C.G.S. §143-215.22L(k):

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,
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(l),

4. The present and reasonably foreseeable future beneficial and detrimental effects on the receiving river basin,
5. The availability of reasonable alternatives to the proposed transfer,
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, and
9. Any other facts and circumstances that are reasonably necessary to carry out the purposes of this Part.

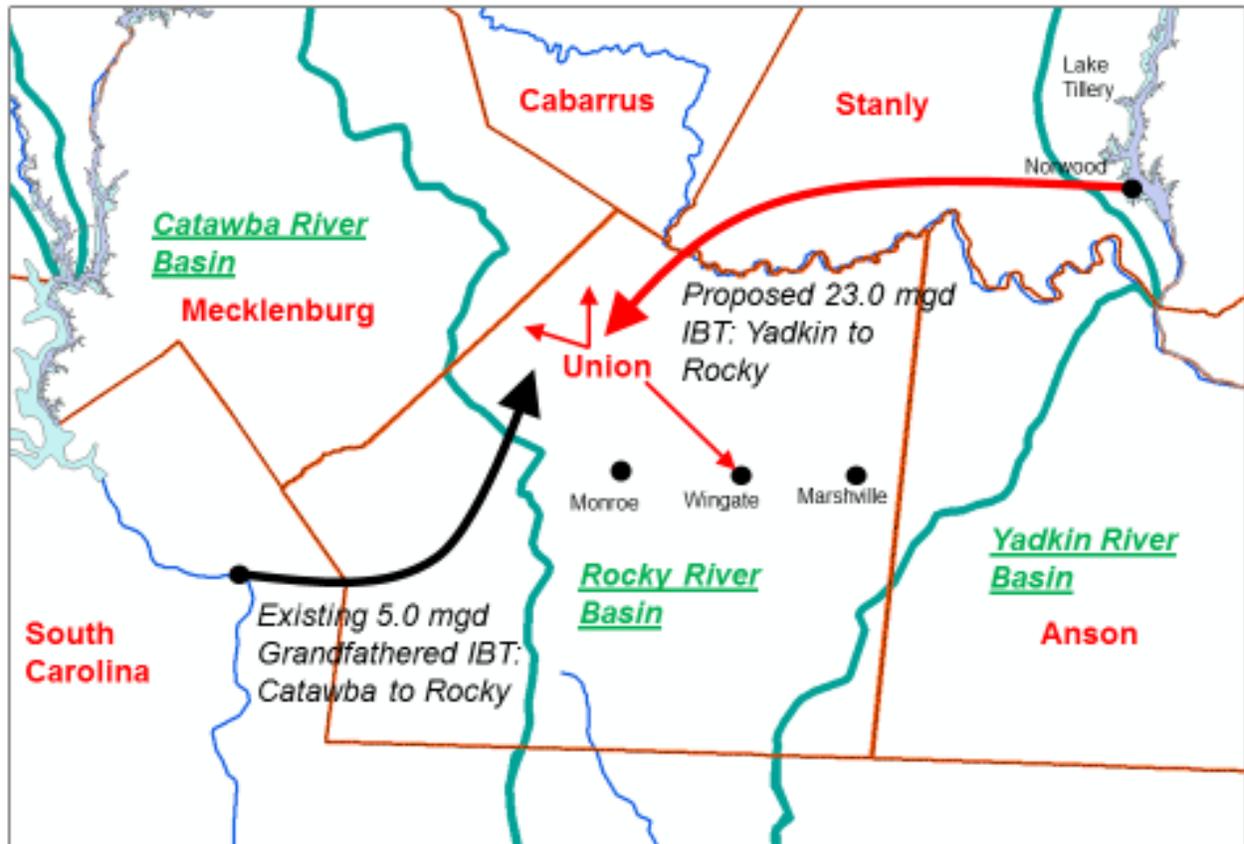
The Commission Finds:

The members of the EMC reviewed and considered the record, including the applicant's notice of intent to request an interbasin transfer certificate, the petition, the environmental impact statement (EIS), the draft certificate, and all other sources of information required by N.C.G.S. §143-215.22L. Based on the record, the Commission makes the following findings of fact.

Findings of Fact

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

Union County currently serves unincorporated portions of the county, along with the following jurisdictions: The Town of Waxhaw, the Town of Mineral Springs, the Town of Weddington, the Town of Indian Trail, the Town of Stallings, the Town of Hemby Bridge, the Town of Fairview, the Town of Unionville, the Town of Mineral Springs, the Village of Wesley Chapel, and the Village of Lake Park. The Town of Wingate currently purchases water wholesale from the county, and is considered a party to the IBT Petition. The Union County water system does not currently serve the City of Monroe or the Town of Marshville; however, since 2014, Union County has a contract agreement to supply the City of Monroe up to 1.99 mgd of treated water on an as-needed wholesale basis. Any water supplied to the City of Monroe will originate from the grandfathered transfer from the Catawba River IBT basin, not the proposed transfer from the Yadkin River IBT basin. To be eligible to receive water transferred from the Yadkin River IBT basin, the City of Monroe would have to be a co-applicant on the IBT certificate. Figure 1 outlines the county and river basin boundaries, and illustrates the proposed transfer of water from Lake Tillery in the Yadkin River IBT basin (Stanly County) to the Rocky River IBT basin in Union County.

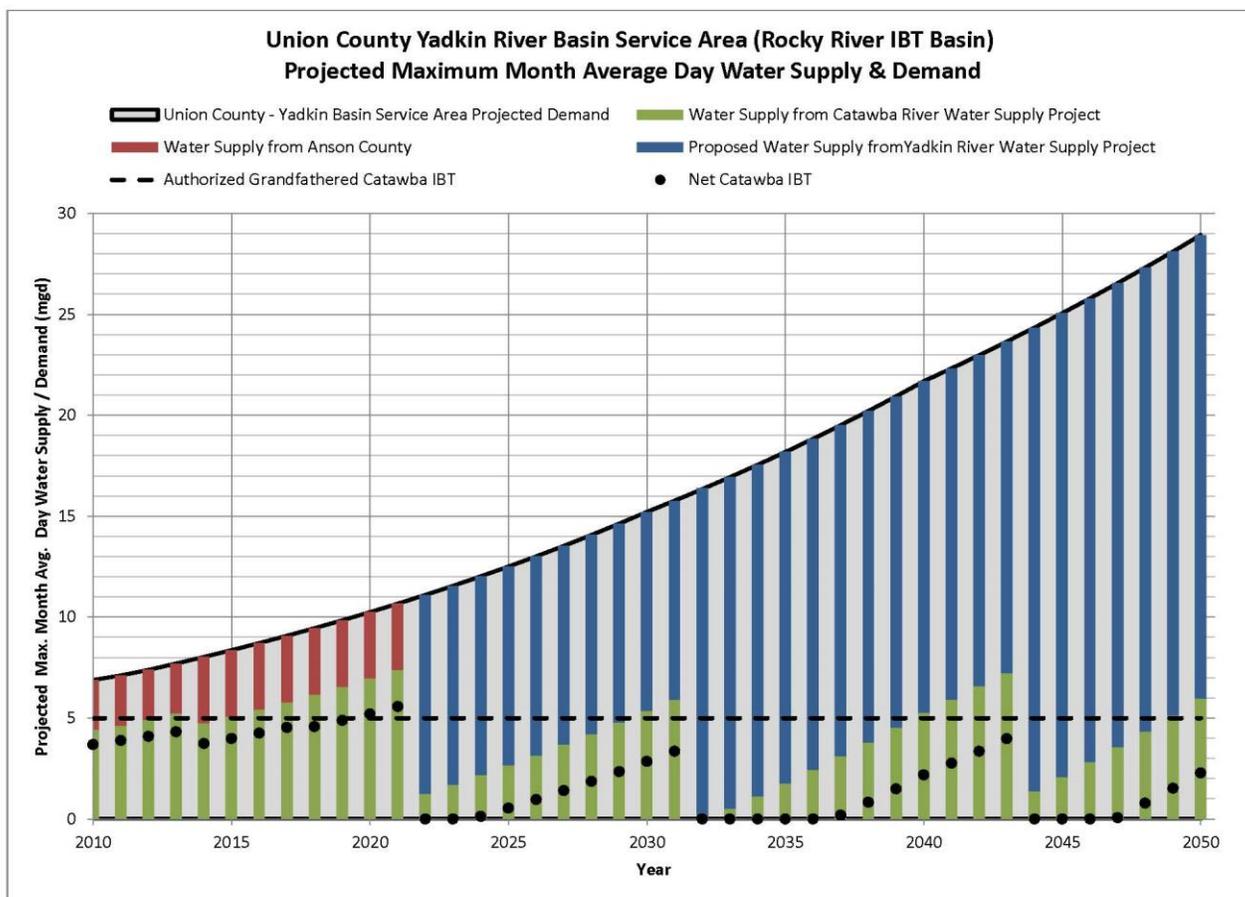
Figure 1. Union County with River Basin Boundaries

The projected increase in the county's water demand is attributed to anticipated county population growth and Union County water system service area growth in the Rocky River IBT Basin, extending to the northeastern and eastern portions of the county not currently served. In 2013, the population served by the Union County Water System was 117,271 with an average day maximum month demand (MMD) of 7.7 mgd; by 2050 the population is projected to grow to 319,760 with a MMD of 28.9 mgd. The increase in per capita water consumption is largely driven by the demographic shift in the county from predominantly rural to a greater percentage of suburban residential customers. Factors such as increased outdoor water use contribute to this increase. Table 1 presents the projected population growth through 2050 for Union County. The current water supply for Union County is provided by a 5 mgd grandfathered surface water transfer from the Catawba River IBT Basin to the Rocky River IBT Basin, as well as a 4 mgd water purchase agreement with Anson County, which will be up for renewal in 2017. In accordance with the requirements of G.S. § 143-215.22L(k)(1) the necessity and reasonableness of the proposed transfer 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; needs are projected to exceed supply limits by the year 2020. Figure 2 illustrates the county's recent, current, and projected future water use, including grandfathered and the current requested IBT amounts within the Rocky River IBT Basin.

Table 1. Union County Served Population Projections

Projection Year	Projected Population Served by Union County Water System		
	Catawba River IBT Basin	Rocky/Yadkin River IBT Basin	System Total
2010	59,925	47,123	107,048
2013	64,722	52,550	117,271
2020	77,461	67,767	145,228
2030	94,424	97,456	191,880
2040	115,103	136,149	251,251
2050	140,309	179,450	319,760

Figure 2. Projected Water Supply and Demand in Union County’s Rocky River IBT Basin



More information about the future population growth and water demand projections may be found in Section 2.3 of the Environmental Impact Statement (EIS).

The proposed certificate will allow for the transfer of up to 23.0 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 Union County through the year 2050.

Based on the record and in accordance with requirements of G.S. § 143-215.22L(k)(1), the Commission finds that Union County's current water supply sources are insufficient to supply Union County's service area and wholesale customers over a 30-year planning horizon beginning in the year 2020 through the year 2050. Providing water for the anticipated population growth that is expected to occur based on past and projected future growth is necessary to support continued growth and development of the county. The requested IBT certificate for the transfer of 23.0 mgd daily average for a calendar month is found to be a necessary and reasonable amount to support the growing residential, commercial, and industrial needs of this area.

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

To evaluate the direct impacts on the source basin resulting from the proposed IBT, the primary tool used was the CHEOPS™ (Computerized Hydro Electric Operations Planning Software) model. CHEOPS™ is designed to evaluate the effects of operational changes and physical modifications at multi-development hydroelectric projects. The model was originally developed to support the Federal Energy Regulatory Commission (FERC) relicensing process for the Yadkin-Pee Dee Hydroelectric Project. CHEOPS™ incorporates the Duke Energy Progress-owned Yadkin-Pee Dee Hydroelectric Project (FERC No. 2206), which includes the Tillery and Blewett Falls Developments. The model also incorporates the upstream Yadkin Hydroelectric Project (FERC No. 2197) owned by Alcoa Power Generating, Inc., which includes the High Rock, Tuckertown, Narrows, and Falls Developments. The model was updated as part of the Union County IBT Environmental Impact Statement to include the most-upstream reservoir, W. Kerr Scott, owned by the U.S. Army Corps of Engineers (USACE).

The CHEOPS™ model evaluates water quantity distribution between reservoirs in the Yadkin-Pee Dee River system due to changes in model inputs, including possible interbasin transfers. The model was updated in 2013 to include the most recent drought during 2006-2009, basin-wide water withdrawals and return flow projections for all users through 2060, and to include the Low Inflow Protocol (LIP) for the Yadkin and Yadkin-Pee Dee River Hydroelectric Projects. The LIP provides the procedures for how the system will be operated when inflow into the reservoirs is not enough to meet normal water demands, while still maintaining lake levels within their normal ranges. Current and projected water use and water transfer data were used in developing the model and forecasting future water demands.

In accordance with the requirements of G.S. § 143-215.22L(k)(2), four different model scenarios were run in order to evaluate any detrimental effects of the proposed IBT on the source river basin under both current (2012) and future (2050) conditions. Those scenarios were:

- Baseline Conditions-Year 2012: No IBT, and current (2012) basin-wide water demands (withdrawals/returns)
- Baseline Conditions-Year 2050: No IBT, future (2050) basin-wide water demands, and includes potential future impact of an increased temperature of 2.3 degrees Fahrenheit and lake surface evaporation increases of 7.8%
- Alternative 1-Year 2012: 23 mgd IBT, and current (2012) basin-wide water demands (withdrawals/returns)
- Alternative 1-Year 2050: 23 mgd IBT, future (2050) basin-wide water demands, and includes potential future impact of an increased temperature of 2.3 degrees Fahrenheit and lake surface evaporation increases of 7.8%

Additionally, three distinct hydrologic periods were analyzed for each of the model scenarios described above:

- Full Period of Record (59-year hydrology, 1955-2013)
- Drought 1 (5-year low inflow period (Drought of Record), 1999-2003)
- Drought 2 (4-year low inflow period (most recent significant drought), 2006-2009)

Under these parameters, the results of the modeling are summarized in a set of Performance Measure Sheets (Appendix C of the Petition document) for comparison purposes to assess the impacts of an IBT on the system and its reservoirs, as compared to “baseline” conditions under both current and future water demands throughout the Yadkin River Basin. Complete results of the modeling are presented in Appendix E of the Environmental Impact Statement.

One performance measure that was evaluated using the CHEOPS™ model was the effect of the proposed IBT on the water level of Lake Tillery. The specific criteria evaluated include the percent of time the end of day reservoir level was within a given range of the full pond (278.2 ft. mean sea level), normal winter minimum (273.2 ft. msl), and normal summer minimum elevations (275.7 ft. msl), for the Period of Record (POR), Drought 1 and Drought 2 time periods, as defined above.

During normal hydrologic (non-drought) conditions, the summer or winter minimum elevations are the lowest Duke Energy Progress is allowed by their operating license to take the lake elevation. The lake operates within a normal summer operating range and a normal winter operating range, which is between the minimum elevation for either summer or winter and the full pond elevation. The summer and winter minimum elevations are required by FERC as part of the permit and operating rules for the lake. Those elevations were established through the relicensing process and included stakeholder input regarding a number of criteria such as usability of boat ramps, docks, and water supply intakes. The period during which the normal winter minimum is applicable is December 16th through February 28th. The period during which the normal summer minimum is applicable is March 1st through December 15th.

Modeling results indicated no impact from the proposed Union County IBT to meeting target reservoir levels under current (2012) basin-wide water demands for the POR, Drought 1 or Drought 2 periods. Model results further indicated that under projected future (2050) water demand conditions with the proposed IBT, the three modeled reservoir levels for Lake Tillery (full pond, normal winter minimum, and normal summer minimum) were all met for both the POR and Drought 2 periods.

The only scenario where target reservoir levels were not met was under projected future (2050) demands with the proposed IBT during the Drought 1 period, where the full pond and normal summer minimum elevations could not be maintained (though winter minimum elevations were maintained for these criteria). More specifically, under Drought 1 conditions and future basin-wide water demands with the proposed IBT, the modeled level of Lake Tillery was up to 1 foot lower (277.2 ft. msl) than full pond elevation for 2% of the time over the Drought 1 period (or 36 days over 5 years), and up to 1 foot higher (276.7 ft. msl) than the minimum summer elevation for 1% of the time during the Drought 1 period (or 15 days over the five-year, summer period drought conditions), when compared to the future baseline scenario with no IBT.

In addition to looking at the percent of time during which target lake elevations were achieved, monthly average elevations for Lake Tillery were also modeled for current (2012) and future (2050) water demands, including the proposed IBT, under the three defined hydrologic periods (POR, Drought 1, and Drought 2). When the proposed IBT was added to current basin-wide water demands, there was no detectable impact to average monthly lake elevations throughout the POR, Drought 1, or Drought 2 when compared to current conditions without the IBT. Likewise, throughout the modeled Drought 2 conditions under projected future basin-wide water demands, there were no detectable impacts to average monthly lake elevations due to the proposed Union County IBT. However, under projected future basin-wide water demands with the proposed IBT included, there was a single detectable impact to average monthly lake elevations for the POR and Drought 1, when compared to future baseline conditions without the IBT. This event occurred in August 2002, where a maximum impact of 9 inches was modeled. This modeled 9-inch drop in elevation for Lake Tillery occurred during the most intense part of the drought when the system was most stressed and under future basin-wide water demands. This impact also factors in the potential future power generating facilities. It should be noted that even with the 9-inch drop, the modeled lake elevation remained 1 foot 3 inches above the average minimum summer elevation, and well within the summer operating rules for Lake Tillery.

The public boat ramp access area on Lake Tillery for which there is current survey data from Duke Energy Progress becomes unusable 3 feet 5 inches below full pond elevation, which is nearly 11 inches below the normal summer minimum lake operating level. Since the lowest modeled lake elevation was 1 foot 3 inches above the average minimum summer elevation, and over 2 feet above the usable level for boat ramp access, no impacts to public boat access areas on Lake Tillery are expected as a result of the proposed Union County IBT.

Blewett Falls Lake, the impoundment downstream from Lake Tillery, was modeled to determine the impacts from the proposed IBT to its surface elevation, following the same criteria and scenarios described above for Lake Tillery. There was no detectable impact due to the proposed

IBT to average monthly lake elevations throughout the POR, Drought 1, or Drought 2 conditions with current (2012) basin-wide water demands, when compared to baseline conditions without the IBT. There were several small, but detectable, impacts to monthly elevations for Blewett Falls Lake throughout the POR, Drought 1, and Drought 2 conditions due to the proposed IBT when added to projected future (2050) basin-wide water demands. At the lowest modeled lake elevation for Drought 1 (172.1 ft. msl), which occurred in August 2002, impacts from the proposed IBT were approximately 3 inches during the POR and Drought 1 conditions, as compared to baseline future conditions without the IBT. Despite this impact, the minimum modeled elevation during drought conditions of August 2002 was equal to the Blewett Falls normal minimum elevation, and within normal operating rules for the lake. For the Drought 2 conditions modeled under future water demands with the proposed IBT included, two small but detectable impacts were noted. There was an approximate 4-inch drop in elevation which occurred from August to October 2007 and an approximate 2-inch drop in elevation which occurred in August 2008. It is important to note that for the lowest modeled lake elevation (174.1 ft. msl) during this Drought 2 period, which occurred in March 2009, there was no difference between the baseline and proposed IBT scenarios, and the lake remained 2 feet above its normal minimum level (172.1 ft. msl).

There are two public boat ramp access areas on Blewett Falls Lake, and while there are not specific usable elevations available for these facilities, Duke Energy Progress indicates all boat ramps remain accessible down to the normal minimum lake operating level of 172.1 ft. msl or below during the recreation season. As indicated in the modeling results discussed above, the lowest modeled lake elevation was 172.1 ft. msl, which is equal to the Blewett Falls Lake normal minimum elevation, and within the normal operating rules for the lake. Since all ramps are accessible down to the normal minimum lake elevation or below, no impacts to public boat access areas on Blewett Falls Lake are expected as a result of the proposed Union County IBT.

In addition to recreational interests, lake levels throughout the Yadkin River basin were also modeled to evaluate whether surface water intakes in any of the reservoirs would be in jeopardy as a result of the proposed IBT. Modeling results indicated there were no impacts to water supply intakes for Yadkin River basin reservoirs due to Union County's proposed IBT, as compared to the baseline scenarios for both current and future projected basin-wide water use. There were not any days in which modeled lake elevations were low enough to restrict water supply intake operation on any reservoir. Additionally, minimum modeled lake elevations remained well above all existing lake intakes.

Reservoir releases were modeled and evaluated for Lake Tillery and Blewett Falls Lake for the POR, Drought 1, and Drought 2 periods. Table 2 summarizes the modeled impacts to flow releases from Lake Tillery as a result of the proposed IBT. Under both current (Year 2012) and projected future (Year 2050) basin-wide water demands, some impacts on downstream releases from Lake Tillery were observed under the proposed Union County IBT during the POR, Drought 1 and Drought 2 periods, as more days were spent below the water elevation needed to supply the flow releases required for spring spawning and continuous minimum flow release targets, compared to the baseline. However, in no case does the lowest modeled daily average flow drop below the 330 cubic feet per second (cfs) minimum flow level for the reservoir. As reflected in Table 2, impacts to modeled reservoir releases were generally found to be several

days more for the continuous minimum flows and several cfs less for the lowest daily average flow with a proposed Union County IBT, when compared to baseline conditions.

Table 2. Modeled Impacts to Flow Release from Lake Tillery

Criterion ¹	Modeled Period ²	Scenario Result Comparison ³			
		Baseline 2012	2012 with Union IBT	Baseline 2050	2050 with Union IBT
# days ≤ 725 cfs continuous min.flow (8 consecutive weeks) for fish spawning (Mar. 15 to May 15)	POR	2,141	2,156	2,164	2,161
	D1	218	218	220	221
	D2	205	207	210	210
# days ≤ 330 cfs continuous min.flow (Jan. 1 to Dec. 31)	POR	14,000	14,023	14,122	14,133
	D1	1,326	1,327	1,326	1,326
	D2	1,072	1,073	1,074	1,076
Lowest daily average flow (cfs) (Jan. 1 to Dec. 31)	POR	708	679	380	330
	D1	751	725	380	330
	D2	927	906	866	845

Notes:

¹ For criterion that measure on an hourly or daily basis, unless stated otherwise: a) If hourly criteria occur during the average of four contiguous 15-minute periods, then it counts as 1 hour; b) If a daily criterion occurs for 5 contiguous 1-hour periods, then it counts as 1 day. Also, daytime flows are assumed to be flows provided between 7:00 am and 7:00 pm. To the extent possible, each criterion is defined in terms of percents and averages/yr so that the same criterion is useful regardless of the length of the hydrology period (i.e., 1-yr, 3-yr, full period of record, etc.)

² POR = Period of Record (1955-2013); D1 = Drought 1 (1999-2003); D2 = Drought 2 (2006-2009)

³ For scenario results comparison, black values indicate no modeled change/impact for Union County IBT as compared to baseline scenario; red values indicate modeled negative impact for Union County IBT as compared to the baseline scenario; green values indicate modeled positive impact for Union County IBT as compared to the baseline scenario.

Impacts from the proposed IBT on hydropower generation were also modeled and evaluated. Impacts to APCI's Yadkin Hydroelectric Project, consisting of hydroelectric generating stations on High Rock Lake, Tuckertown Reservoir, Narrows Reservoir and Falls Reservoir, and Duke Energy Progress' Yadkin-Pee Dee Hydroelectric Project, consisting of hydroelectric generating stations on Lake Tillery and Blewett Falls Lake were evaluated through the CHEOPS™ model. Impacts to average hydropower megawatts produced per year and the average equivalent number of homes per year that could be powered by each hydro project were evaluated. Increases in system water withdrawals can reduce the available water storage which APCI and Duke Energy Progress are able to access from the reservoirs they operate, in order to produce hydropower. Such reductions to hydropower production would result in slight increases in fossil-based power generation to continue meeting energy demands.

Under both current (Year 2012) and projected future (Year 2050) basin-wide water demands, some impacts on hydropower generation in Duke Energy Progress's Yadkin-Pee Dee Hydroelectric Project were noted in the model analysis, for a proposed Union County IBT withdrawal from Lake Tillery. Modeling indicated that the proposed IBT results in decreased hydropower generation for the Yadkin-Pee Dee Hydroelectric Project, as compared to baseline conditions, by approximately 0.5% under both the current and future basin-wide water demands for the Period of Record and slightly higher, but still under 1% during Drought 1 and Drought 2 periods.

Based on the record, the Commission finds 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 it is advisable to minimize the impacts of secondary effects caused by growth in Union County through the continued implementation of Union County's Development Ordinance, as well as continued implementation of other local ordinances for jurisdictions within Union County.

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

Current and projected water use and water transfer data were used to develop the input data sets for the CHEOPS™ (Computerized Hydro Electric Operations Planning Software) model. The model was used to evaluate both current and future scenarios of basin water use, including the proposed interbasin transfer. Complete results of the modeling are presented in Appendix E of the Environmental Impact Statement.

Modeling results indicated that under projected future basin-wide water demands with the proposed IBT included, there was a single detectable impact to average monthly lake elevations for Lake Tillery for the period of record (POR) and Drought 1, when compared to future baseline conditions without the IBT. This event occurred in August 2002, where a maximum impact of 9 inches was modeled. Even with the 9-inch drop, the modeled lake elevation remained 1 foot 3 inches above the average minimum summer elevation, and well within the summer operating rules for Lake Tillery. Throughout the modeled Drought 2 conditions, there were no detectable impacts to average monthly lake elevations due to the proposed Union County IBT, when added to projected future basin-wide water demands. Because the lowest modeled lake elevation was 1

foot 3 inches above the average minimum summer elevation, and over 2 feet above the usable level for boat ramp access, no modeled impacts to public boat access areas on Lake Tillery are expected as a result of the proposed Union County IBT.

The total amount of water leaving the Yadkin River basin is considered as part of the cumulative impacts analysis for the proposed interbasin transfer. Currently, there is one existing IBT certificate issued by North Carolina to regulate water transfers from the Yadkin River IBT Basin. The Cities of Concord and Kannapolis have an IBT certificate allowing the transfer of up to 10 mgd from the Yadkin River IBT basin to the Rocky River IBT basin. Additional water uses from the Yadkin River IBT basin include many public water systems and registered water withdrawals (industrial, thermal electric power, etc.) along with other uses such as agriculture. The registered North Carolina municipal public water systems and registered water withdrawals are listed in Section 7.0 of the Petition document. 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 CHEOPSTM model to evaluate water resource impacts.

Within the Yadkin-Pee Dee River basin, the potential secondary effects associated with the proposed transfer would primarily be attributed to withdrawals from Lake Tillery, potentially reducing flows in the Pee Dee River downstream. However, hydrologic modeling has shown that any downstream flow impacts would be minimal due to the management of the lake and inputs from the Rocky River, which empties into the Pee Dee River approximately 5.0 miles downstream of the Lake Tillery Dam. Of the 23 mgd maximum month daily average transfer proposed by the year 2050, approximately 40% is projected to be discharged into the Rocky River IBT basin through treated wastewater returns, thereby further reducing any potential downstream impacts to water users and aquatic wildlife and habitat in the Pee Dee River.

Based on the record, the Commission finds that the proposed IBT represents a small transfer within a large river system. 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 noticeable effect on the source basin. The provisions for drought management, water conservation, and monitoring and compliance reporting required by N.C.G.S. § 143-215.22L(n) will provide additional protection to the source basin and, therefore, those provisions are incorporated into this certificate.

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

The Rocky River IBT basin is the receiving basin to which water is proposed to be transferred from the Yadkin River IBT basin via both consumptive use and wastewater discharge. In accordance with the requirements of G.S. § 143-215.22L(k)(4), the present and reasonably foreseeable future beneficial and detrimental effects on the receiving basin were considered. See Finding Number 1 for reasonably foreseeable future beneficial effects on the Rocky River IBT basin, which includes supporting the projected population growth and associated development, as well as anticipated expansion of the area serviced by Union County through the year 2050.

There would be no detrimental effects to public water supply in the Rocky River IBT basin because the Rocky River is currently not classified for water supply by the state of North Carolina. The Rocky River is currently a Class C water resource and would need to be re-classified to Water Supply (WS) status before being utilized as a municipal water source.

The primary detrimental effects to water quality from the IBT would originate from the operation of wastewater treatment plants (WWTPs). Any new WWTP or expansion of existing wastewater treatment facilities discharging into the Rocky River IBT basin resulting from this proposed transfer will be permitted through the National Pollutant Discharge Elimination System (NPDES).

Future infrastructure and facility construction needed in order to facilitate the proposed transfer of water to meet projected 2050 water demands will undergo a separate environmental permitting process and assessment of potential environmental impacts.

Secondary and Cumulative Impacts

Within the receiving basin, the potential secondary and cumulative impacts associated with the proposed IBT would primarily be attributed to Union County's projected urban growth and land use changes associated with population increases in the service area, entirely within the receiving basin. Due to the current growth patterns observed in Union County it is anticipated that population increases and the associated secondary and cumulative impacts will occur. 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 for each community impacted by the proposed project, where applicable.

According to the United States Fish and Wildlife Service, an existing population of the federally endangered freshwater mussel Carolina heelsplitter (*Lasmigona decorata*) is known to exist in three watersheds of Union County's Rocky River IBT basin: Goose Creek, Duck Creek, and Waxhaw Creek. Concerns over indirect and cumulative impacts to this protected species have led Union County to enact stringent stormwater controls, buffer rules, and other mitigation measures to reduce sediment pollution into these waters. Additionally, a rule-making process was undertaken by the Department of Environmental Quality and adopted by the Environmental Management Commission in 2009 in order to develop a site-specific management strategy for the maintenance and recovery of the water quality conditions required to sustain and recover the Carolina heelsplitter species. The rules 15A NCAC 2B .0600-.0609, also known as the *Site Specific Water Quality Management Plan for the Goose Creek Watershed*, were created and implemented to reduce surface water impacts within the Goose Creek watershed from development pressures. Though there are long-term concerns over continued development throughout the service area, these mitigation measures have been deemed sufficient protection measures by the Department of Environmental Quality to allow for continued development activities within the watersheds.

Based on the record, the Commission finds that detrimental effects on the receiving basin as described in N.C.G.S. § 143-215.22L(k)(4) will be avoided due to the implementation of existing federal, state, and local regulations and protection programs. The transfer will support continued population growth and result in indirect and cumulative impacts from that growth. These impacts include effects on wastewater assimilation, fish and wildlife habitat, and water quality similar to the secondary growth effects described in Finding No. 2. However, these impacts are projected to be mitigated as a result of federal, state, and local protection programs.

(5) Reasonable Alternatives to the Proposed Transfer.

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 12 water supply alternatives were defined and evaluated for their ability to meet Union County's water supply needs through 2050. The following information regarding water supply alternatives is from Section 3.2 of the Environmental Impact Statement (EIS) document. The EIS provides a full discussion; a brief summary of the alternatives is provided below:

Alternative 1: Pee Dee River raw water supply from Lake Tillery (IBT from Yadkin River IBT Basin to Rocky River IBT Basin) with a new water treatment plant in Union County. A new raw water intake and pump station is proposed as part of an agreement between Union County and the Town of Norwood. This alternative also includes the construction of a new water treatment plant; three potential site areas have been identified within the northeastern portion of Union County.

Alternative 1A (preferred alternative): Raw water transmission line placement from Lake Tillery, near the existing Norwood intake, to new water treatment plant in northern Union County primarily following existing roadway right-of-way corridors through Stanly County into Union County.

Alternative 1B: Raw water transmission line placement from Lake Tillery near the existing Norwood intake, to new water treatment plant in northern Union County primarily following existing power utility easements.

Alternative 2A: Yadkin River raw water supply from Narrows Reservoir (Badin Lake) (IBT from Yadkin River IBT Basin to Rocky River IBT Basin) with a new water treatment plant in northern Union County. A new intake and pumping station would need to be constructed, adjacent to the City of Albemarle's existing raw water intake facility on Narrows Reservoir (Badin Lake).

Alternative 2B: Yadkin River raw water supply from Tuckertown Reservoir (IBT from Yadkin River IBT Basin to Rocky River IBT Basin) with a new water treatment plant in northern Union County. A new intake and pumping station would need to be constructed, adjacent to the City of Albemarle's existing raw water intake facility on Tuckertown Reservoir.

Alternative 3: Pee Dee River raw water supply from Blewett Falls Lake (IBT from Yadkin River IBT Basin to Rocky River IBT Basin) with a new water treatment plant in Union County.

Major improvements to the existing water supply infrastructure between Anson and Union Counties would be required to meet projected future water demands for Union County.

Alternative 3A: Raw water transmission line placement from Blewett Falls Lake to a new water treatment plant in northern Union County primarily following power and natural gas utility easements.

Alternative 3B: Raw water transmission line placement from Blewett Falls Lake to a new water treatment plant in eastern Union County primarily following US-74 right-of-way.

Alternative 4: Raw water supply from the main stem of the Pee Dee River (IBT from Yadkin River IBT Basin to Rocky River IBT Basin) with a new water treatment plant in Union County. This alternative proposes the installation of a new raw water intake located just downstream of the confluence of the Rocky River with the Pee Dee River, south of Lake Tillery. Reclassification of this section of the Pee Dee River would be required for the proposed intake location for this alternative, in order for it to be used for public water supply.

Alternative 5: Raw water supply from the Rocky River within Union County (non-IBT alternative) with a new water treatment plant in Union County. The Rocky River is currently not classified for water supply by the State of North Carolina and would therefore need to be re-classified before being utilized as a municipal water source.

Alternative 6: Expansion of the Catawba River Water Supply Project (new IBT certificate to replace the existing grandfathered transfer to allow for a greater transfer from the Catawba River IBT Basin to the Rocky River IBT Basin). Increasing the transfer of water from the Catawba River IBT Basin to meet Union County's 2050 demands would exceed the combined IBT limit of 20 mgd, shared between Union County, NC and Lancaster County, SC, as imposed by South Carolina through the surface water withdrawal permit for the Catawba River Water Supply Project.

Alternative 7: Interconnection with Charlotte Water (IBT from Catawba River IBT Basin to the Rocky River IBT Basin). This water sale would require an IBT certificate. The additional water demand from sales to Union County would increase Charlotte Water's projected demand as a percent of water supply to 97% by 2050. This could require expansion of Charlotte Water's intake(s), water treatment facilities and distribution system in order to meet the increased system demand by adding Union County as a wholesale customer.

Alternative 8: Raw water supply through groundwater withdrawal within Union County with a new water treatment plant in Union County. Concerns with groundwater yield, groundwater quality, and development costs and logistics for a large-scale well network within the county severely limit the potential viability of this water supply alternative.

Alternative 9: Water demand management/conservation. There are three existing water conservation and demand management ordinances and protocols that are applicable to Union County, including a new Water Use Ordinance adopted in May 2015. Conservation achieved through these measures is not expected to significantly reduce the overall future water demand

for Union County, but it is expected to reduce maximum day and maximum month peaking factors that may be experienced during future droughts.

Alternative 10: Direct potable reuse. Currently, direct potable reuse as would be implemented by Union County, is not permitted for potable water supply in North Carolina. Therefore, direct potable reuse is not a viable alternative water source at this time for Union County to serve its current existing and future customers.

Alternative 11: Evaluation of water returns (wastewater) from the Rocky River IBT Basin back to the Yadkin River IBT Basin. Consideration of this alternative would serve as an IBT minimization strategy for Alternative 1. Alternative 11 is based on an assumed new NPDES (National Pollution Discharge Elimination System) discharge into the Pee Dee River at Lake Tillery. It is estimated that the IBT under Alternative 1 could be reduced by approximately 29% to 35% depending on projection year and actual future wastewater flows generated. However, any benefits gained from increased water quantity in Lake Tillery may be outweighed by water quality and environmental impacts associated with a new wastewater discharge and the associated sanitary sewer transmission infrastructure.

Alternative 12: No Action Alternative. This alternative would not involve additional water supply service by Union County to new development in the Rocky River IBT Basin, even though the county's population within the service area is projected to increase. Without a reliable water supply source, future water supply within this area would have to be supplied either from the existing Catawba River Water Supply Project (will not be possible to meet future demand since the county is currently approaching the existing IBT limit), through groundwater wells (would require a large number of wells and low yields would not provide a reliable or sustainable water supply source, and some parts of Union County have elevated concentrations of groundwater contaminants), or service connections to other water systems within the Rocky River IBT Basin (current and potential connections have not demonstrated the ability to meet Union County's projected future demand).

Based on the record and in accordance with the requirements of G.S. § 143-215.22L(k)(5), the Commission finds that reasonable alternatives to the proposed IBT were considered. Based on a review of the project information, the Commission finds the recommended alternative (Alternative 1A) to be the most feasible for meeting Union County's water supply needs while minimizing detrimental environmental impacts. The other alternatives considered either did not meet the projected water supply needs for Union County through 2050, had greater environmental impacts, and/or were costlier than the recommended alternative.

(6) Applicants' Use of Impoundment Storage Capacity.

The proposed transfer involves withdrawal of water from Lake Tillery, part of the Duke Energy Progress-owned Yadkin-Pee Dee Hydroelectric Project. Lake Tillery is operated under FERC license No. 2206. If the proposed interbasin transfer certificate is issued, Duke Energy Progress will continue to comply with FERC operating rules and requirements for Lake Tillery, as specified in the license. Additionally, Union County will be required to request authorization from Duke Energy Progress for a new water intake and pump station, as well as approval to withdraw water for purposes other than hydropower generation. As the license holder, Duke

Energy Progress will seek, on behalf of Union County, authorization from FERC for these activities.

In accordance with the requirements of G.S. § 143-215.22L(k)(6) and based on the record, the Commission finds that the water proposed to be transferred would be withdrawn from Lake Tillery, part of the Duke Energy Progress-owned Yadkin-Pee Dee Hydroelectric Project, FERC No. 2206. The proposed withdrawal of water for this IBT, for purposes other than hydropower generation, as well as the construction of a new water intake and pump station, will require additional authorization by FERC and Duke Energy Progress.

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

In accordance with the requirements of G.S. § 143-215.22L(k)(7) and based on the record, the Commission finds that this item is not applicable.

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

The Union County Water System currently serves customers in both the Catawba River IBT Basin and the Rocky River IBT Basin. One intent of Union County's proposed interbasin transfer is to more closely align the county's Catawba/Rocky River IBT Basin service boundary with the geographic boundary separating the two river basins. If the proposed IBT is granted, the 5 mgd supply from the Catawba River IBT Basin surface water transfer would be focused on serving the western portion of Union County within the Catawba River IBT Basin. The water transferred to the county via the proposed IBT would serve the eastern two-thirds of the county, with most of the service area in the Rocky River IBT Basin (receiving basin) and the southeastern tip of the county in the Yadkin River IBT Basin (source basin). Therefore, in accordance with the requirements of G.S. § 143-215.22L(k)(8), Union County's service area was found to be located in both the source river basin and the receiving river basin.

In accordance with the requirements of G.S. § 143-215.22L(k)(8), the Commission finds that Union County's 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.

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

In accordance with the requirements of G.S. § 143-215.22L(k)(9), the Commission finds 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 Union County's Water System will take to protect the Yadkin River IBT Basin during drought conditions. The provisions for drought management, water conservation, and monitoring and compliance reporting as required in N.C.G.S. §143-215.22L(n) and specifically incorporated into this certificate will provide additional protection to the source basin.

Decision

Based on the Findings of Fact stated above, the Commission has determined that (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; and (4) there are no reasonable alternatives to the proposed transfer. Therefore, and by duly made motions, the Commission grants Union County's request to transfer water from the Yadkin River IBT Basin to the Rocky River IBT Basin. The permitted transfer amount shall not exceed a maximum of 23.0 million gallons per day, calculated as a daily average of a calendar month basis.

The certificate is subject to the conditions below, which are imposed under the authority of N.C.G.S. § 143-215.22L. The Union County Water System 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 Interbasin Transfer Certificate, Union County shall prepare and submit a water conservation plan subject to approval by the Division of Water Resources (Division) that specifies the water conservation measures, including a rate pricing structure, to be implemented 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 that equal or exceed the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin. All bulk water customers of Union County, as identified in this Interbasin Transfer Certificate, shall implement a water conservation plan at least as stringent as the requirements imposed on Union 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.
2. Within 90 days of receipt of the Interbasin Transfer Certificate, Union County shall prepare and submit a drought management plan subject to approval by the Division that specifies how the transfer shall be managed to protect the source river basin (Yadkin River IBT 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 Union County that equals or exceeds the most stringent drought management plan implemented by a public water system that withdraws water from the source river basin. All bulk water customers of Union County, as identified in this Interbasin Transfer Certificate, shall implement a drought

management plan at least as stringent as the requirements imposed on Union 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. As stated in the first Finding of Fact, any water provided by Union County to the City of Monroe will be transferred from the Catawba River IBT basin via the existing approved grandfathered transfer of up to 5 mgd. The City of Monroe is not eligible to receive any water from the Yadkin River IBT basin since the city is not identified as a co-applicant on the IBT certificate.

3. Within 90 days of receipt of the Interbasin Transfer Certificate, Union County shall submit a quarterly compliance and monitoring plan subject to approval by the Division. 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 Division for public inspection. The Division shall have the authority to make modifications to the compliance and monitoring plan as necessary to assess compliance with the certificate. The Division will monitor the transfer from the Yadkin River IBT basin to the Rocky River IBT basin, as regulated by the IBT certificate, as well as the transfer from the Catawba River IBT basin to the Rocky River IBT basin, as allowed by the existing grandfathered transfer. The quarterly compliance and monitoring report shall be submitted to the Commission no later than 30 days after the end of the quarter. Union County shall employ any methods or install and operate any devices needed 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 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. The Commission shall amend the certificate to reduce the maximum amount of water authorized to be transferred if Union County's actual future water needs are significantly less than Union County's projected water needs at the time the certificate was granted.
6. Union County shall 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.
7. Notwithstanding N.C.G.S. §143-215.22L(v), 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 if the Commission determines that information in the record material to its Findings of Fact, pursuant to N.C.G.S. § 143-215.22L(k), was erroneous, incomplete, or otherwise contained material misrepresentations, misstatements, or misinterpretations.

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 _____, 2016.

Steven J. Rowlan, 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(l) 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(l).
- (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(l) 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.