



# CHARLOTTE

May 26, 2011

Mr. Tom Reeder  
N.C. Division of Water Resources  
1611 Mail Service Center  
Raleigh, North Carolina 27699-1611

Subject: IBT Report for 2010

Dear Tom:

We are sending our calendar year 2010 IBT Annual Report. We are also transmitting this report to you electronically. The report follows the format of earlier reports and includes a narrative section with background and program progress reports along with spreadsheets detailing the IBT amount calculation.

For calendar year 2010, we experienced an actual maximum day IBT of 18.22 mgd based on August billing data and as of December 31, 2010, had additional outstanding IBT commitments of 1.64 mgd. The summation of these amounts would indicate a 2010 IBT amount of 19.88 mgd which is less than 61% of our authorized amount.

Please let me know if you have any questions.

Sincerely,

CHARLOTTE-MECKLENBURG UTILITIES

Barry M. Gullet, PE  
Director

Cc: Toya F. Ogallo



*Charlotte-Mecklenburg Utilities  
Annual Report on Interbasin Transfer  
Calendar Year 2010*

The North Carolina Environmental Management Commission (EMC) approved Charlotte Mecklenburg Utilities' (Utilities') petition to increase the amount of water transferred from the Catawba basin to the Rocky River basin and an interbasin transfer (IBT) Certificate was issued on March 14, 2002. The Certificate authorizes Utilities to transfer up to 33 million gallons per day (mgd) from the Catawba River basin to the Rocky River basin.

The IBT Certificate requires Utilities to report maximum daily IBT amounts annually to the North Carolina Division of Water Resources (NC DWR) until such time as the transfer amount exceeds 80% of the authorized amount. Once that amount is exceeded, Utilities is required to report monthly. To date, Charlotte-Mecklenburg Utilities has not exceeded 80% of the authorized IBT amount.

**System Overview**

The Utilities operates the water and wastewater systems that serve Charlotte, Cornelius, Davidson, Huntersville, Mint Hill, Matthews, Pineville, and much of the unincorporated areas of Mecklenburg County. This system is divided between two river basins designated by NC General Statutes for regulation of IBT water. The western portion of the system is within the Catawba River basin and the eastern portion is within the Rocky River basin. Water transferred from the Catawba River basin to the Rocky River basin that is not returned to the Catawba is regulated IBT.

Water for distribution to Utilities' customers is withdrawn from the Catawba River basin at two locations. An intake at Lake Norman sends water to the Lee S. Dukes Water Treatment Plant. A second intake at Mountain Island Lake sends water to the Walter M. Franklin Water Treatment Plant and to the Vest Water Treatment Plant. Potable water from these three plants is delivered through an interconnected distribution system to retail customers throughout Utilities' service area in Mecklenburg County and in small areas of Iredell, Cabarrus, and Union Counties. The Utilities also provides wholesale water to municipal systems for Resale including: City of Concord (NC), Town of Harrisburg (NC), Union County (NC), York County Water & Sewer Authority (SC), and Lancaster County Water and Sewer District (SC).

Utilities treats wastewater at five advanced wastewater treatment plants (WWTP's) which discharge into small streams in Mecklenburg County. Four of the streams are tributary to the Catawba River basin and one (Mallard Creek) is tributary to the Rocky River basin. Utilities also conveys wastewater generated in portions of Mecklenburg County to the Rocky River Regional Wastewater Treatment Plant (RRRWWTP) operated by the Water and Sewer Authority of Cabarrus County (WSACC). The RRRWWTP discharges treated effluent to the Rocky River.



### **IBT Monitoring**

Water supplied to Utilities' retail customers in the Rocky River Basin, that is not returned to the Catawba basin, is included in the reported IBT amounts. Water provided to municipalities with service areas in the Rocky River basin include the City of Concord and the Town of Harrisburg.

Utilities can transfer treated potable water to the City of Concord through three metered connections to their water system. All of Concord's service area is within the Rocky River basin, so any water purchased by them becomes an IBT. Water service is only provided as an emergency back-up to Concord's routine supply which is Lake Howell and several smaller reservoirs. All of these reservoirs are within the Rocky River basin. Wastewater from Concord is treated at the RRRWWTP. Utilities' agreement with Concord is that water will be supplied to them subject to availability and subject to regulatory constraints including IBT and Federal Energy Regulatory Commission (FERC) limitations.

Concord received an IBT Certificate in January 2007, for the transfer of up to 10 mgd from the Catawba River basin to the Rocky River basin. NC DWR advised Utilities that water sold to Concord should not be applied to Utilities' IBT amount. Concord did not purchase any potable water from Utilities in calendar year 2010, so the IBT amounts reported do not include sales to Concord.

Utilities can transfer treated potable water to the Town of Harrisburg through two metered connections to their water system. All of Harrisburg's service area is within the Rocky River basin and is included in the Utilities' IBT amounts.

Table 1 below summarizes actual IBT amounts for calendar years 2002 through 2010 (all calculated using the methodology approved by NC DWR in June of 2006). The table considers the daily amounts of water transferred from the Catawba basin to customers within the Rocky River basin that is not returned to the Catawba basin.

The data indicates that the maximum amount of IBT for year 2010 occurred in August, and was 18.22 mgd, less than 56% of the authorized maximum day value of 33 mgd. The average IBT for 2010 was 13.45 mgd, which is approximately 41% of the authorized maximum day value. In addition to the amount of actual IBT reported in Table 1, Utilities has committed to provide additional IBT to development that has been proposed but not yet activated in the Rocky River basin. As of December 31, 2010, 1.16 mgd was committed to permitted donated projects (subdivisions) that had not been activated and 0.50 mgd was committed to master meter connections (generally commercial or multi-family developments) that had not been activated, both based on maximum day estimates. This brings the total of the actual and outstanding IBT in 2010 to 19.88 mgd, or less than 61% of the authorized maximum day value.



**Table 1. Actual IBT Summary**

<b>Calendar Year</b>	<b>Avg. Annual IBT (mgd)</b>	<b>Max. Day IBT (mgd)</b>
2002	6.74	11.97
2003	6.91	9.82
2004	7.79	12.56
2005	8.66	13.79
2006	9.56	14.35
2007	9.96	17.22
2008	11.39	17.42
2009	12.04	16.00
2010	13.45	18.22

**Compliance with Certificate Conditions**

Condition 1 of Utilities’ IBT certificate requires Mecklenburg County to summarize progress in implementation of watershed management approaches of the Surface Water Improvement and Management Program (S.W.I.M. program). This summary follows:

*The watershed management approaches of the Surface Water Improvement and Management (SWIM) Program continued to be implemented during calendar year 2010. Efforts continued to focus on McDowell and Goose Creeks as in 2007, 2008 and 2009 as well as the South Prong and West Branch of the Rocky River in Davidson as initiated in 2009. During calendar year 2010, the following work was completed in the three (3) watersheds:*

- a) Survey and design were initiated on the restoration of 1,000 feet of stream and the retrofit of 5 rain gardens within the North Mecklenburg Park Property in the McDowell Creek watershed. In addition to the water quality benefits of the project, it will act as an educational destination for property owners potentially affected by future stream restoration and BMP retrofit projects.*
  
- b) Since 2002 Goose Creek has been listed by the N.C. Department of Environment and Natural Resources (NCDENR) as impaired due to elevated levels of fecal coliform bacteria. The predominant sewer treatment system in the watershed is private septic systems; therefore, it was assumed that malfunctioning septic systems were a primary source of the elevated bacteria levels. In 2008, Mecklenburg County initiated a program to complete an inspection of all the septic systems in the watershed in order to identify deficiencies and take the necessary actions to ensure correction. This effort was completed in 2010 with the inspection of 1,422 septic systems resulting in the correction of 13 deficiencies that could contribute to elevated bacteria levels in Goose Creek. Following the completion of this project, NCDENR data documented a reduction in fecal coliform bacteria levels and Goose Creek was removed from the list of impaired waters.*



- c) *Mecklenburg County continues to partner with Creek ReLeaf, environmental organizations and local schools to plant trees along the banks of streams in Mecklenburg County. The purpose of this effort is to restore the water quality buffer and floodplain. During 2010, over 2,200 trees were planted by more 400 volunteers along the floodplain of Little Sugar Creek.*
- d) *Construction of the restoration of 10,000 linear feet of Torrence and Torrence Tributary #2 was nearly completed in 2010. This project is expected to reduce the overall sediment load in the McDowell Creek watershed by as much as 7%.*
- e) *In 2010, Mecklenburg County requested that the Army Corps of Engineers include the Rocky River watershed in Mecklenburg County into their 206 Program for restoration. As a result, the Corps selected the watershed for inclusion in Program.*
- f) *Mecklenburg County applied for two Clean Water Management Trust Fund Grants for the restoration of an additional 10,000 feet of stream in the McDowell Creek Watershed.*

Condition 2 of Utilities' IBT certificate required a stakeholder process to investigate, develop, adopt, and implement storm water ordinances that control water quantity from single-family development and water quality for all development until completed. The requirements of Condition 2 were completed in 2007.

Condition 3 of the IBT Certificate removes the Goose Creek subbasin from the area to be served by the IBT, and imposes a moratorium on the installation of new IBT water lines (water lines crossing the ridgeline) into Goose Creek subbasin until the impacts of additional growth on the endangered species are fully evaluated.

*The Utilities has requested the NC Division of Water Resources (DWR) to prepare an Environmental Assessment (EA) of new development in the Goose Creek basin (Mint Hill area), impacts to water quality, and measures required to protect the Carolina Heelsplitter.*

Condition 4 of the IBT Certificate provides that the Environmental Management Commission may reopen the Certificate under certain circumstances. This did not occur in 2010.



Condition 5 of the IBT Certificate requires Utilities to develop a compliance and monitoring plan for reporting maximum daily transfer amounts, compliance with certificate conditions, and progress on mitigation measures, and drought management activities. Utilities' monitoring plan and reporting format were approved in June of 2006 by NC DWR and continue to be used for 2010.

*Charlotte Mecklenburg Utilities monitored water treatment plant pump rates, streamflow and lake storage indicators, the US Drought Monitor, and other factors in accordance with the Utilities Water Shortage Response Plan. Measurements were assessed monthly to identify designated triggers that could indicate developing drought conditions. All appropriate planning, communication and preparation were in place to respond as needed to changing conditions.*

*In coordination with 15 other utilities in the Catawba-Wateree river basin, Charlotte-Mecklenburg participated in regional drought response planning and response activities as directed by the FERC- approved Low Inflow Protocol.*

### **Summary**

The actual maximum day amount of water transferred from the Catawba River basin to the Rocky River basin was 18.22 mgd, less than 56% of the authorized maximum day value of 33 mgd. The total of actual and outstanding IBT was 19.88 mgd, less than 61% of the authorized maximum day value. Utilities is in full compliance with IBT authorizations and compliance conditions for calendar year 2010.