

Supplemental Information to the Petition for Interbasin Transfer - Cities of Concord and Kannapolis

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The purpose of this memorandum is to provide supplemental information to the "Interbasin Transfer Petition for the Cities of Concord and Kannapolis" dated November 2004. There have been modifications to demand projections that have reduced the amount of the requested IBT. In addition, clarifying information is provided in this supplement regarding facilities to transfer water under the preferred alternative.

Updated Water Demands and Projected IBT

The IBT petition requested transfers of water to meet a projected water supply shortfall of 24 MGD average day demand (ADD) and 38 MGD maximum day demand (MDD). It was requested that these shortfalls be met through transfer of up to 10 MGD maximum day from the Yadkin-Pee Dee River Basin to the Rocky River Subbasin and up to 38 MGD maximum day from the Catawba River Basin to the Rocky River Basin. But it was also requested that the combined total of these transfers not exceed 24 MGD on an average day.

The projected water demand shortfall and requested IBT have been recalculated based on updates to the EIS after public review and comment. The revised water supply shortfall based on the Final EIS is 22 MGD ADD and 36 MGD MDD. In addition, the applicants have clarified that if the Yadkin-Pee Dee River transfer of 10 MGD maximum day is granted, the Catawba River transfer can be proportionately reduced to 26 MGD maximum day. The combined total of the transfers can also be limited to 22 MGD on an average day.

Preferred Alternative IBT Facilities

The preferred alternative for transferring water consists of the use of available interconnections plus components of Alternatives 1 and 2 described in the Petition and EIS. The preferred alternative includes water withdrawn primarily from two existing intake locations in the Catawba River Basin and three intake locations in the Yadkin-Pee Dee River Basin. The exact combination of water sources and existing and new infrastructure to be utilized to complete the transfer will not be determined until the transfer is approved and agreements with neighboring communities are developed. However, with the extension of a 24" waterline for about 2400 feet in the Rocky River Subbasin to complete a connection

from the Charlotte-Mecklenburg Utilities (CMU) system to Concord's water system , existing facilities can accommodate the transfer of up to 24 MGD of finished water from the Catawba River Basin to the Rocky River Subbasin. Also, approximately 8.5 MGD of finished water can be transferred from the Yadkin-Pee Dee River Basin. This transfer from the Yadkin-Pee Dee River Basin is available through a combination of an existing connection with the City of Salisbury (up to 6.5 MGD) and from the City of Albemarle connection available near the Stanly County/Cabarrus County line (up to approximately 2 MGD currently available without improvements to the Stanly County transmission system). To make this connection with the City of Albemarle, approximately 9,200 feet of 8" water main will be required by the City of Concord to connect to the Stanly County system at the county line.

Available IBT Facilities

There are many existing facilities that transfer water across the basin boundaries that are available to provide water to the Cities of Concord and Kannapolis. Figure 1 shows these available transfer points.

Connections with Charlotte-Mecklenburg Utilities

CMU has existing water supply intakes on Lake Norman and Mountain Island Lake permitted by the Federal Energy Regulatory Commission (FERC) with capacities of 108 and 330 MGD, respectively. Water from the Lake Norman intake is treated at the North Mecklenburg Water Treatment Plant (WTP) and distributed to northern Mecklenburg County customers, including customers in the Rocky River Basin. CMU has a network of existing pump stations and water mains serving the area and an existing interbasin transfer certificate that allows the transfer. Water from Mountain Island Lake is treated at the Franklin and Vest WTPs and distributed to customers throughout the remainder of CMU's service area. The following connections to the systems exist or are available along the Mecklenburg County/Cabarrus County Line:

- Connections from Mountain Island Lake intake/Franklin WTP
 - US Hwy 29 near the Lowe's Motor Speedway - existing 12" CMU water main connected to an existing 12" Concord water main
- Connections from the Lake Norman intake/North Mecklenburg WTP
 - Eastfield Drive - existing 16" CMU water main connected to an existing 16" Concord water main
 - Clarke Creek Parkway - existing 12" CMU water main connected to an existing 12" Concord water main
 - NC Hwy 73 -existing 24" CMU water main that CMU has built near the County line. An extension of an existing 24" water main from Concord of approximately 2400 feet is required to connect to this water main.

The capacity of these available connections to transfer finished water is approximately 3.5 MGD from the Mountain Island Lake intake/Franklin WTP and approximately 24 MGD from the Lake Norman intake/North Mecklenburg WTP. Presently, these two connections cannot be used at the same time because of pressure zone differences. A long term contract

for sustained provision of up to 22 MGD of water will require additional water distribution and treatment facility upgrades and infrastructure by CMU, Concord and Kannapolis as demand increases. However, infrastructure capacity to transfer at least 24 MGD of water from the Catawba River Basin to the Rocky River Subbasin currently exists.

Connections with the City of Salisbury

The City of Kannapolis water system is connected to the City of Salisbury system at Beaver Street in the Town of Landis along US HWY 29. The City of Salisbury has a 24" water main and pump station that transfers water to Landis which is connected to an existing 16" water main owned by Kannapolis. The City of Salisbury has an existing intake on the Yadkin-Pee Dee River immediately upstream of the confluence with the South Yadkin River. This intake has a capacity of 50 MGD. Water is treated at the City's water plant. The existing connection with Kannapolis was made during the drought in 2002. While the existing contract between Kannapolis and the City of Salisbury is for less than 2 MGD, this transmission line has a current capacity of about 6.5 MGD.

Connections with the City of Albemarle

The City of Albemarle has intakes on Tuckertown Reservoir and Badin Lake. These intakes are currently approved for withdrawals of 6.5 and 12 MGD, respectively. The Tuckertown intake has a capacity of 11 MGD and can be easily upgraded to 32 MGD through the addition of another raw water transmission line from the intake to the WTP. The City of Albemarle currently provides water service to Stanly County through a water main that serves Oakboro and Locust. The County has extended a 16" water main near the Stanly County/Cabarrus County Line which is available for connection to the City of Concord system to serve Midland and southern Cabarrus County. An 8" water main connection of 9,200 feet is planned that can provide approximately 1.5 to 2 MGD. Up to about 6.5 MGD could potentially be transferred through the existing 16" Stanly County water main, but significant system improvements would be required to this system if more than 2 MGD were to be provided to Cabarrus County.

Future IBT Facilities

Depending on the interbasin transfer amounts allowed by the certificate and agreements with neighboring communities, additional water transfer facilities could be required as specified in the EIS. These potential future facilities are also shown in Figure 1.

Catawba River Transfers

As noted above, available infrastructure is in place to provide at least 24 MGD of water to the Cities of Concord and Kannapolis from CMU through the Lake Norman intake/North Mecklenburg WTP. If the Yadkin-Pee Dee River transfer of 10 MGD maximum day is approved, there would be nearly sufficient available capacity to meet the 26 MGD maximum day IBT requested from the Catawba River basin. However, as noted previously, additional system improvements will be required over time as demands increase. The 26 MGD capacity can be achieved through upgrades to the existing facilities. If the entire projected demand shortfall of 22 MGD ADD and 36 MGD MDD is approved from the Catawba River Basin, additional transfer capacity would be required.

If approved, a means to transfer up to 36 MGD from the Catawba River Basin to the Rocky River Basin would be to upgrade the existing 24" water main along NC HWY 73 to a 36" water main. The upgrade could provide 32 MGD in addition to the transfers from other connections. This option would require agreement with CMU.

The EIS also assesses the potential of obtaining raw water from Lake Norman to meet future demands if necessary. Alternative 1 in the EIS includes potential pipe sizes, pump stations, transmission route, and estimated costs to obtain raw water from the existing Town of Mooresville intake that currently has an approved capacity of 12 MGD. If raw water was required to obtain the IBT transfer capacity, Alternative 1 as specified in the EIS could be used to transfer water.

Yadkin-Pee Dee River Transfers

The available connections from the Cities of Salisbury and Albemarle can provide at least 8 MGD of water and potentially more than 10 MGD with system upgrades. The 16" water main owned by Kannapolis could be replaced with a 24" water main or the 8" connection with Stanly County could be increased to 16" with other transmission system upgrades in the Stanly County system. Alternative 2 discussed in the EIS included a new finished water main that could provide all of the water from either the Tuckertown or Badin Lake intakes/WTPs. This transmission system would have a pump station at the Tuckertown WTP and a 24 inch water main traveling along NC HWY 49 to the Stanly/Cabarrus County Line near Mt. Pleasant. This water main, as specified under Alternative 2 in the EIS, could handle in excess of 10 MGD and could be constructed depending on negotiations with other communities for providing water. This water main would require permitting and environmental review.

Summary of IBT Facilities

Facilities are available to transfer water up to 8.5 MGD maximum day IBT of the requested 10 MGD from the Yadkin-Pee Dee River Basin and at least 24 MGD maximum day IBT from the Catawba River Basin. These transfers could be increased with additional system improvements. New water transfer facilities may be required depending on the transfer amounts approved in the IBT certificate and agreements with neighboring communities.

