



Workshop Summary and Minutes

Charlotte Water IBT Stakeholder Advisory Group Workshop #2 for the Proposed Interbasin Transfer (IBT) Environmental Impact Statement (EIS)

Date: March 13, 2026
Time: 10:00 am – 1:45 pm
Location/Call in Details: Rock Hill Operations Center
Prepared by: CDM Smith
Attendees: *See Attachment 1*

Workshop Summary:

The Charlotte Water Stakeholder Advisory Group Workshop #2 focused on updating stakeholders on the progress of the Interbasin Transfer (IBT) modification process and explaining the hydrologic modeling used to evaluate long-term water supplies in the Catawba–Wateree and Yadkin-Pee Dee River basins. Charlotte Water leadership emphasized the importance of stakeholder participation in ensuring transparency and regional collaboration as the project moves through the Environmental Impact Statement (EIS) phase. Presentations reviewed the role of the Stakeholder Advisory Group, the current status of the IBT review process, the hydrologic models used to support water planning in the two river basins, and the work the Catawba-Wateree Water Management Group (CWWMG) conducted in developing the recently released, draft Integrated Water Resources Plan (IWRP).

Consultants from HDR demonstrated how hydrologic models are used to simulate reservoir operations, rainfall-runoff, water withdrawals, returns, and future demand scenarios. The modeling evaluates how factors such as population growth, climate change, drought conditions, and operational changes could affect water availability over the next 50+ years. Key differences between previous and current evaluation techniques and modeling efforts were highlighted and discussed, including the improved ability to estimate and simulate historical and future inflows, accounting for factors such as the impact of future land use changes on water quantity and quality.

Detailed Minutes:

Welcome and Housekeeping

John Boyer (CDM Smith) welcomed the Stakeholder Advisory Group (SAG) meeting attendees and reviewed the workshop agenda. Angela Charles, Director of Charlotte Water emphasized the importance of stakeholder input and noted ongoing work toward the EIS for the IBT modification. Angela highlighted hydrologic modeling as a key tool in the IBT evaluation process and stressed transparency, regional coordination, and the value of stakeholder perspectives.

Purpose and Role of the SAG

John Boyer reviewed the purpose of the SAG, which included providing feedback on technical approaches and modeling methodologies, identifying actionable alternatives for evaluation, and providing perspective on local concerns and regional impacts.

John provided a recap of previous SAG engagements and Workshop #1 (December 2024). John reviewed SAG concerns that were identified during Workshop #1 and the list of potential actionable alternatives developed by SAG members during the workshop.

IBT Status Updates

Leslie Jones (Brown and Caldwell) provided an IBT regulatory and planning update. She noted that the Charlotte Water IBT remains in the EIS development phase. The IBT permitting moratorium (on IBTs greater than 15 MGD) remains in effect until March 2027. The ongoing NC Collaboratory study is expected to inform future legislative recommendations. In the meantime, the project team will continue technical evaluation and stakeholder engagement activities.

Catawba–Wateree Hydrologic Modeling

On behalf of the CWWMG, Sara Yeh and Angie Scangas (HDR) presented the primary hydrologic modeling framework used for the Catawba–Wateree River basin. The CHEOPS model (the model of record for the basin), which has been refined over more than a decade, simulates the operation of the basin’s interconnected reservoir system, including eleven major reservoirs operated primarily by Duke Energy. The model incorporates:

- Reservoir inflows generated by the WaterFALL rainfall-runoff model;
- Existing and future withdrawals and returns provided by municipal, industrial, thermoelectric, and agricultural users;
- Operational obligations and constraints defined by licenses and agreements;
- Hydropower generation and downstream flow requirements; and
- Drought response actions governed by the Low Inflow Protocol (LIP).

Research Triangle Institute’s (RTI) WaterFALL model represents a significant advancement over earlier approaches by explicitly simulating rainfall, temperature, land use, and soil characteristics to generate basin inflows, allowing better representation of droughts, climate variability, and land use change.

Sara described the development of a 50-year water use forecast based on utility master plans, state reporting data, and direct coordination with basin utilities. The forecast includes:

- Annual average withdrawals and returns;
- Monthly demand patterns to reflect seasonal variability; and
- Probabilistic demand ranges (25th, 50th, and 95th percentiles) to account for uncertainty.

Importantly, the forecast inherently reflects existing interbasin transfers by tracking net withdrawals from the Catawba-Wateree basin (withdrawals minus returns).

A key concept introduced during the workshop was the use of a “decision point year” to evaluate water supply reliability. The decision point is defined as the point at which the most shallow operating intake within a reservoir experiences three consecutive days at least one foot below its critical operating elevation. This metric is intended to identify when utilities and other withdrawers would need to shift from normal operations to contingency strategies, such as interconnections or emergency pumping. Sara noted that under baseline assumptions:

- Upstream reservoirs generally show decision points well beyond the end of the century;
- Lake Wylie shows earlier constraints, potentially occurring within the next several decades.

Sara and Angie presented results from several sensitivity analyses:

- Climate change scenarios showed that warmer and drier conditions could accelerate decision points by decades, while wetter scenarios could delay them.
- Higher water demand scenarios advanced decision points for three reservoirs, underscoring the importance of demand management and conservation.
- Operational and infrastructure modifications, such as lowering intake elevations or adjusting reservoir operating rules, demonstrated the potential to significantly extend water supply availability and reliability.

Adam Sharpe of HDR explained that, as part of the basin-wide planning effort, HDR evaluated the influence of existing IBTs by modeling scenarios in which treated wastewater currently discharged outside the Catawba-Watauga basin was returned to the basin. The analysis showed that:

- Existing IBTs influence the water balance and returning wastewater flows back to the Catawba-Watauga basin can reduce the frequency and duration of low reservoir levels.
- However, even eliminating or fully offsetting IBTs does not resolve long-term water supply outcomes.

The conclusion emphasized that no single strategy, including IBT mitigation, will be sufficient on its own; instead, a combination of demand management, operational changes, infrastructure investment, and regional coordination will be necessary.

Adam noted that the Draft Catawba-Watauga IWRP is out for review and the ultimate goal is having a final version in June, with member approval coming later in 2026.

Yadkin-Pee Dee Hydrologic Modeling

The HDR Team provided an overview of hydrologic modeling in the Yadkin-Pee Dee River basin, recognizing its relevance to Charlotte Water's IBT evaluation. The Yadkin-Pee Dee Water Management Group, formed in 2016, is developing a basin-wide water resources plan to support long-term, collaborative water management. Unlike the Catawba-Watauga River basin, reservoir operations in the Yadkin-Pee Dee are managed by multiple entities, including the U.S. Army Corps of Engineers, Duke Hydro, and Duke Energy.

The basin uses a state-developed OASIS hydrologic model, which performs a daily water balance accounting for inflows, withdrawals, returns, reservoir operations, and drought response actions. Water use projections were developed with input from basin members and updated to reflect changes in thermoelectric generation.

It was noted that while the CHEOPS and OASIS models differ in internal logic, both rely on similar principles of mass balance and operational constraints. Stakeholders noted that differences in basin structure and reservoir ownership lead to different management challenges and planning considerations.

Overview of Upcoming Workshops

John provided an overview of anticipated upcoming workshops. The **number and content may be adjusted** as the process unfolds.

- **Workshop #3 (tentatively, fall 2026)** will focus on the finalization of actionable alternatives to be carried forward for detailed review in the EIS. The modeling approach for alternatives evaluation will be discussed.
- **Workshop #4** will present preliminary modeling results.
- **Workshop #5** will be used to review and comment on preliminary EIS chapters related to alternatives analysis.

In the interim (before Workshop #3), Brown and Caldwell will work on refinement of demand projections, technical analysis, and continued EIS development.

Final Q&A / Open Discussion

Throughout the workshop and at the end, SAG members raised several questions on various topics:

- **Model Accuracy, Especially in Droughts:** It was noted by the HDR modeling team that updated rainfall-runoff modeling improves representation of inflows compared to the older back-calculated methods, which relied on hydropower release records. The updated representation of inflows to the system is one of the reasons why the modeled “failure point” for Lake Wylie has moved closer to today, compared to what was projected in the 2014 Water Supply Plan.
- **Sedimentation:** The HDR modeling team said that current storage reductions resulting from sedimentation were included in the analysis but that future sedimentation, and the impact on water supply storage was not projected.
- **Data Centers:** These, and other potential high-demand water users were addressed through the probabilistic demand forecasts and their relative uncertainty ranges; however, ongoing analysis and updates may be useful as water demands evolve.
- **Demand Projections:** Both nuclear and gas-powered energy generating stations are included in future demand projections for the Catawba and Yadkin-Pee Dee River basins.
- **Stowe Regional Water Resources Recovery Facility:** The under-construction Charlotte Water resource recovery facility on Lake Wylie will return treated water into the upper part of Lake Wylie, rather than further downstream in South Carolina, as occurs now. The modeling team noted that future conditions modeling incorporated wastewater returns from the Stowe facility.
- **Water Conservation:** Recognized as a potential mitigation strategy for future evaluation. Increased education and outreach of water conservation strategies was identified as important.

It was emphasized that the models are planning tools, designed to inform long-term decisions rather than predict day-to-day operations, and that uncertainty is addressed through scenario analysis rather than precise forecasts.

Closing Remarks & Next Steps

John outlined a *tentative* schedule for future engagement with the SAG:

- A pause during spring and summer 2026 while technical work continues;
- **Workshop #3** (fall 2026) to review and refine alternatives for evaluation in the EIS;
- Subsequent workshops to review modeling results.

Stakeholders were encouraged to submit additional comments or suggestions via the Charlotte Water IBT project email (IBTProject@charlottenc.gov).

Attachment 1

IBT Stakeholder Advisory Group Workshop #2 - March 13, 2026

In-Person and Virtual Attendees List

IBT Stakeholder Advisory Group Workshop #2

Friday, March 13, 2026 | Rock Hill Operations Center

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[illegible]

IBT Stakeholder Advisory Group Workshop #2

Friday, March 13, 2026 | Rock Hill Operations Center

[illegible]

IBT Stakeholder Advisory Group Workshop #2

Virtual Attendees List

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