South Carolina Surface Water Quantity Models
Monthly Summary

Invoice Date:	July 1, 2016
For Services Between:	May 28, 2016 and June 25, 2016
Invoice No.:	22

Summary of Work Completed During Invoice Period

Project Management and Related Tasks

- Continued internal project coordination and management tasks, including:
  - Weekly project team meetings
  - Monthly project meeting by teleconference

Data Collection

- Data collection most river basins is substantially complete; however additional follow-up calls are being made as the data is analyzed and incorporated and used for unimpaired flow (UIF) development and model development.

Data Analysis and Modeling

Saluda

- No work was performed. Remaining work includes finalizing the model report.

Edisto

- No work was performed. Remaining work includes finalizing the model report.

Broad

- Work was performed to improve portions of the calibration model, based on DNR comments received and discussed during a teleconference on June 28th.

Pee Dee

- No work was performed.

Catawba-Wateree

- Draft UIFs for the Catawba and Wateree tributaries, and Wateree River below Lake Wateree, were competed and submitted to DNR and DHEC. The draft UIF results and methodology memorandum was also completed and submitted.
- Development of the calibration model continued.
- Model enhancements to be able to incorporate the Low Inflow Protocol (LIP) time series were initiated.

Santee

- Work on the baseline model was initiated. Completion of the UIFs, calibration model, and baseline model is contingent on completion of the Catawba and Broad UIFs and models.

Savannah

- The model framework was developed and the framework memorandum was prepared. Discussions were initiated with the GA EPD and their contractor who developed and updated the UIFs to obtain GA-side impairment data.

Salkehatchie

- The Draft UIFs were completed and submitted to DNR and DHEC. The calibration model was developed, up to the point of making adjustments to sub-basin flow factors and reach/gains losses, pending DNR and DHEC review of the Draft UIFs.

Stakeholder Involvement

- No stakeholder involvement meetings were conducted in June.

Summary of Upcoming Work

Over the next month, the project team will:

- Submit the final (complete) Saluda Basin Model Report and baseline model, pending DNR acceptance of the previously submitted calibration summary (Section 7).
- Submit the final Edisto Basin Model Report and baseline model (this was not finalized in June as planned).
- Submit the Draft Catawba-Wateree and Salkehatchie calibration models.
- Submit the Savannah Basin Framework Memo.
- Work towards finalizing the Broad calibration and baseline models.

Issues Impacting Scope, Schedule, or Project Cost

Schedule adjustments were made to reflect the project progress and more accurately account for future deliverables. Additional time has been spent (1) collecting water use and hydrologic information to support the UIFs and models; (2) performing model enhancements to provide increased user flexibility when modeling reservoirs and their operating rules; and (3) to allow for adequate review time of draft UIF datasets and models. In response, DNR has approved a time-only change order extending the project by five and one-half months, to the end of 2016.

During the project kickoff meeting, and based on DNR and DHEC review of the draft Modeling Plan, several potential out-of-scope model enhancements were identified. These include:

- A “Current Situation Analysis” for quasi-real time operational support. This functionality would provide a probabilistic analysis of current conditions at any future point in time and how conditions are likely to change within 6 or 12 months based on projected use and management patterns.
- The ability to use near-term hydrologic flow forecasts (for example, 60-day streamflow forecasts from NOAA) for month-to-month operational planning.
- Use of HEC DSSVue and DSS files for results display and analysis.

CDM Smith has presented a scope for implementing these enhancements to DNR and DHEC. The decision on whether to implement one or more of these enhancements will likely be made once additional models are completed.