

South Carolina Surface Water Quantity Models Monthly Summary

Invoice Date: July 29, 2016
For Services Between: June 26, 2016 and July 25, 2016
Invoice No.: 23

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

- Congaree UIF workbooks were updated, based on Broad UIFs. 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 additional DNR comments received on July 14th, and subsequent recommendations received on July 20th.
- The UIF dataset and results memorandum were updated and re-submitted, based on DNR comments received.

Pee Dee

- The Pee Dee calibration model and results workbooks were updated and resubmitted, based on DNR comments received.
- Preparation of the baseline model was substantially completed.

Catawba-Wateree

- UIFs for the Catawba and Wateree tributaries and Wateree River below Lake Wateree, were updated based on DNR comments received on June 30th. The UIF results and methodology memorandum was also updated and re-submitted to DNR and DHEC.
- Development of the calibration model continued.
- Continued work on model enhancements to incorporate the Low Inflow Protocol (LIP) timeseries.

Santee

- UIF workbooks were developed.

Savannah

- UIFs received from the GA EPD were reviewed and the development of UIF workbooks for the tributaries was initiated.

Salkehatchie

- Comments received from DNR on the Draft UIFs were addressed. Calibration of the model continued, and preparation of the report was initiated.

Stakeholder Involvement

- No stakeholder involvement meetings were conducted in July. Planning occurred for the two upcoming meetings in the Salkehatchie and Savannah River basins (on August 9th and 10th).

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 July as planned).
- Submit the Draft Catawba-Wateree calibration model.
- Finalize 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. An updated schedule is attached.

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.

Basin and Milestone	2016																					
	Aug					Sep				Oct				Nov				Dec				
	1-Aug	8-Aug	15-Aug	22-Aug	29-Aug	5-Sep	12-Sep	19-Sep	26-Sep	3-Oct	10-Oct	17-Oct	24-Oct	31-Oct	7-Nov	14-Nov	21-Nov	28-Nov	5-Dec	12-Dec	19-Dec	26-Dec
Broad																						
Model Framework																						
1st Meeting																						
UIF Dataset																						
Calibrated Model			F																			
2nd Meeting & Training																						
Pee Dee																						
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UIF Dataset		F																				
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2nd Meeting & Training										2												T

2016 Proposed Stakeholder Meeting Schedule

Basin	1st Meeting Week of:	2nd Meeting Week of:
Saluda	completed	completed
Edisto	completed	completed
Broad	completed	completed
Pee Dee	completed	completed
Catawba-Water.	completed	3-Oct-16
Santee	completed	3-Oct-16
Savannah	8-Aug-16	14-Nov-16
Salkehatchie	8-Aug-16	8-Aug-16

- 1 = First Meeting
- 2 = 2nd Meeting
- D = Draft Completion Date
- F = Final Completion Date
- T = Training