South Carolina Surface Water Quantity Models
Monthly Summary

Invoice Date: September 30, 2016
For Services Between: September 1, 2016 and September 30, 2016
Invoice No.: 25

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. For example, Santee Cooper provided additional daily reservoir elevations for Lake Marion, prior to 1997.

Data Analysis and Modeling

Saluda
  - No work was performed. Remaining work includes finalizing the model report and submitting the final baseline model. CDM Smith will also update the original calibration model to include the latest reservoir operations enhancements and water user conservation enhancements.

Edisto
  - No work was performed. Remaining work includes finalizing the model report and submitting the final baseline model.

Broad
  - CDM Smith reviewed model comments and recommendations provided by DNR on 9/8/16. Adjustments to SWAM’s reservoir forecasting algorithm were made, and incorporated into the model (and all other models). Remaining work includes finalizing the model report and submitting the final calibration and baseline models.

Pee Dee
  - No work was performed. Remaining work includes finalizing the model report and submitting the final baseline model.

Catawba-Wateree
  - Development of the draft calibration model was completed and work began on incorporating the LIP rules into the baseline model.
  - The Draft Model Report was completed and submitted to DNR and DHEC for review.
Santee
  - Development of the UIFs and calibration model continued.

Savannah
  - Development of the UIFs for the tributaries continued.

Salkehatchie
  - No work was performed. Remaining work includes finalizing the model report and submitting the final baseline model.

Stakeholder Involvement
  - On September 14, CDM Smith gave a presentation at the SC Rural Water Association Annual Meeting, focusing on uses of the surface water models.

Summary of Upcoming Work
Over the next month, the project team will:
  - Finish development of the Santee Basin UIFs and calibration model.
  - Submit the final (complete) Saluda Basin Model Report and calibration and baseline models.
  - Submit the final Edisto Basin and Salkehatchie Basin Model Reports.

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.
## 2016 Proposed Stakeholder Meeting Schedule

<table>
<thead>
<tr>
<th>Basin</th>
<th>1st Meeting Week of:</th>
<th>2nd Meeting Week of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saluda</td>
<td>completed</td>
<td>completed</td>
</tr>
<tr>
<td>Edisto</td>
<td>completed</td>
<td>completed</td>
</tr>
<tr>
<td>Broad</td>
<td>completed</td>
<td>completed</td>
</tr>
<tr>
<td>Pee Dee</td>
<td>completed</td>
<td>completed</td>
</tr>
<tr>
<td>Catawba-Water.</td>
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<td>31-Oct-16</td>
</tr>
<tr>
<td>Santee</td>
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<td>31-Oct-16</td>
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<tr>
<td>Savannah</td>
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<td>5-Dec-16</td>
</tr>
<tr>
<td>Salkehatchie</td>
<td>completed</td>
<td>completed</td>
</tr>
</tbody>
</table>

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

Final Baseline models and modeling reports for all eight river basins will be submitted in November and December.