II. RiverWare Software Maintenance

Releases, Patches and Snapshots

The following patches were made. Release notes are included:

**RiverWare 6.4.3** was released on January 6, 2014.

Bug 5433 was fixed. Under certain situations, the Peak Power Equation with Off Peak Spill method was producing different results than in 6.3.   
  
**Power Reservoir**   
On the power reservoirs, the Power Plant Cap Fraction can now be greater than 1.0. This reverts to the behavior available in 6.3. The non-negative constraint introduced in 6.4 will remain in place.  
  
**Salinity Modeling**  
The Reach's Simple Well-Mixed Salinity methods were enhanced for better handling of salt mass for flows near zero. Also, the methods allow Diversion Salt Mass to be greater than Inflow Salt Mass to accommodate modeling techniques employed by some users.

**RiverWare 6.4.4** was released on January 17, 2014.

The following bugs were fixed:

* 5408: In Multiple Run Management, index sequential configurations with a non-zero offset and an interval other than one weren't taking the interval into account when computing the index sequential offset or input DMI traces.
* 5430: In certain situations, the periodic slot access was inconsistent based on the order of slot configuration.
* 5435: For the accounting Water Rights solver, the Storage account is now allowed to solve into the future through the local timestep offset, as defined on a sibling passthrough account.
* 5436: On Series Slots with Expressions, the terminology was corrected for the Evaluation Time when the Simulation controller is selected. It now correctly says End of Timestep and Beginning of Timestep instead of Block.
* 5437: A crash occurred when using the plot dialog's Scale to Specified Time Range.

**Kinematic Reach Routing:** On the Reach Routing category, there are now two versions of the Kinematic method:

* Kinematic: This hydraulic routing method is identical to the 6.3.3 kinematicRouting method. Use this method to reproduce results from 6.3.3.
* Kinematic Improved: This modified version of the Kinematic method allows a smaller computational element length and reduces the mass balance error. Note, this method matches the behavior of the Kinematic method in 6.4 through 6.4.3.

The methods are described in the Objects section of the help, section 20.1.1.8 and 20.1.1.9.

**RiverWare 6.4.5** was released on January 31, 2014.   
The following bugs were fixed:

* 5438: RPL breakpoints in Object Level Accounting Methods were not correctly saved and reloaded.
* 5442: In the SCT, right clicking in an empty SCT led to a crash.
* 5443: Renaming a copied slot with a name that ends in a number could cause a crash.
* 5444: In the SCT, unintentional data changes could occur due to the numeric entry edit field becoming active. This could happen when switching the views, changing the axis or adjusting aggregation details.
* 5445: A crash could occur if errors were reported in a popup window while loading an SCT file.

**Regression Tests**

The regression tests continue to be maintained on a daily basis. This involves updating the regression tests to exercise new developments in the code. Also, as new code is added to the development area, the model comparisons performed in the nightly regression tests usually show differences (for example, because a new method category may have been added). When this occurs, the regression tests need to be updated to reflect the current state of the development area so model comparisons do not fail. In addition, every week, the daily history of each regression test is analyzed to determine if the run time or model size has significantly changed because of new development. In January, the tests were updated when routing and power methods were modified. Also the tests were modified to exercise new optimization evaporation methods and new diagnostic messages.

**Bug Fixes**

The following bugs were analyzed and closed without changes:

1008: Upon exit, user should always be offered chance to save model.

1251: The check for initial conditions is based on index, not dateTime.

2903: Input Outflow Adjustment methods are no longer needed now that we have physical constraint flags

The following bug was fixed:

5435: Storage account is not solving for timesteps in the future when there are lags in the accounting system.