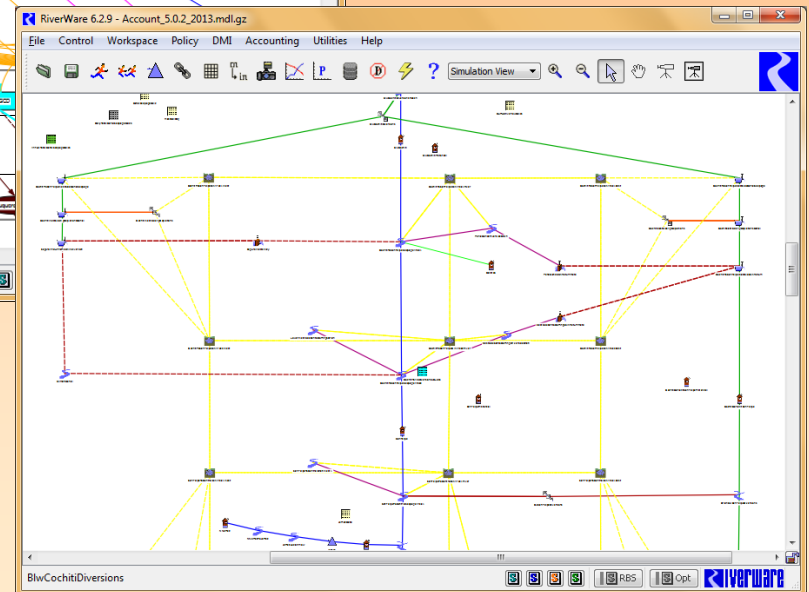
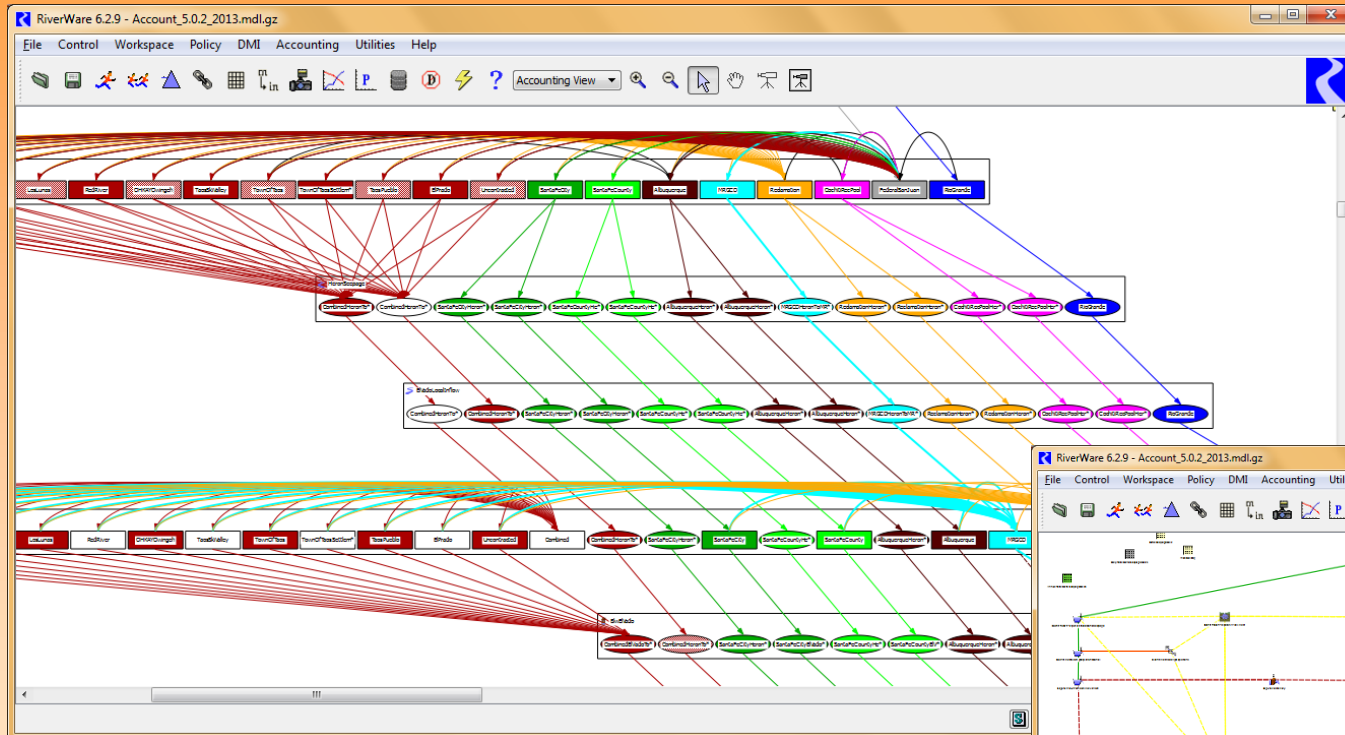


Single Model for All Applications of URGWOM



URG WOM Advisory Committee Meeting
April 10, 2013

Model Updates

- Effort nearly complete to revamp the
 - accounting,
 - rules,
 - database and DMIs, and
 - documentation.

for more efficiently meeting modeling needs including

- Daily Accounting Model runs,
 - AOP model runs,
 - Planning runs – up to 50 years, and
- Model configured for potential future uses including
 - Real-time water operations modeling.

One Master Model File

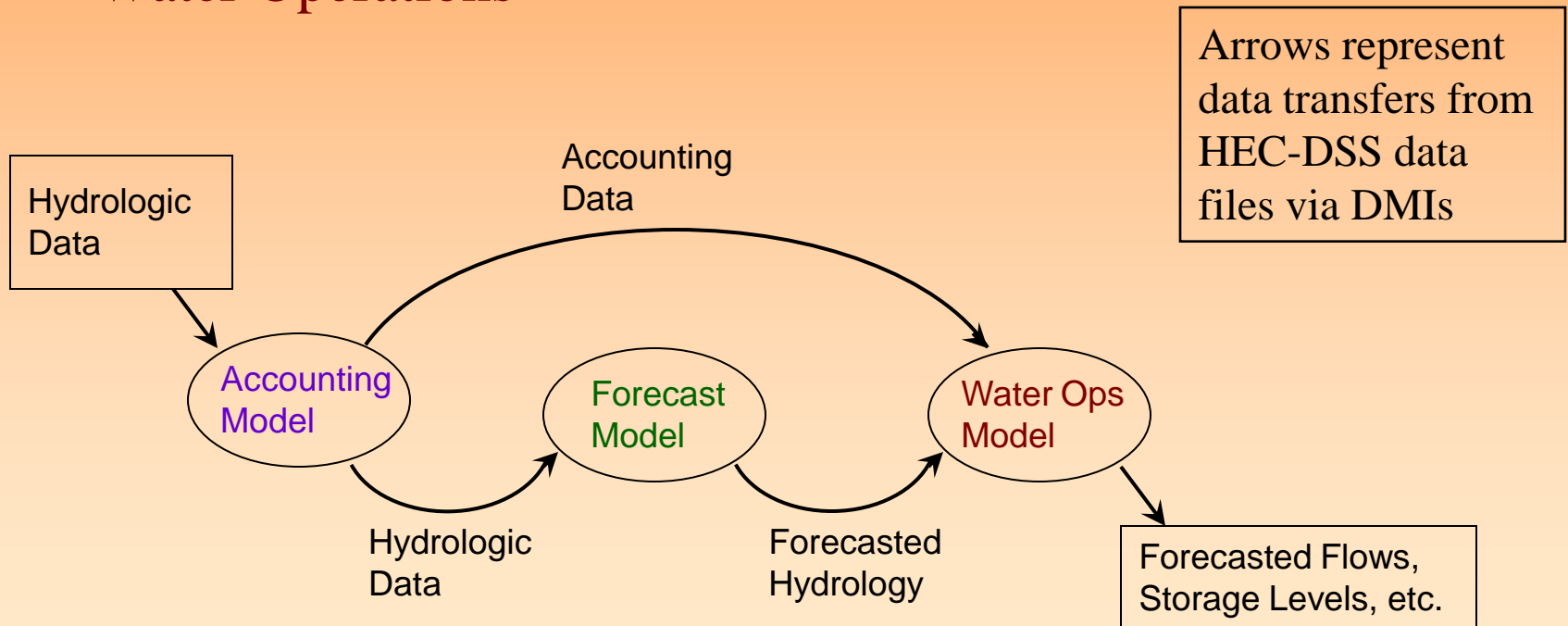
- Changes implemented to consolidate separate modules into one master model file.

Previous URGWOM Modules

- *Accounting module* used for simulations with actual data to track the status of accounts.
- *Water Operations module* was used with *Forecast module* to complete runs for AOPs.
- *Planning module* used to evaluate long-term impacts of proposed actions
(e.g. 10-year runs for the Biological Assessment)

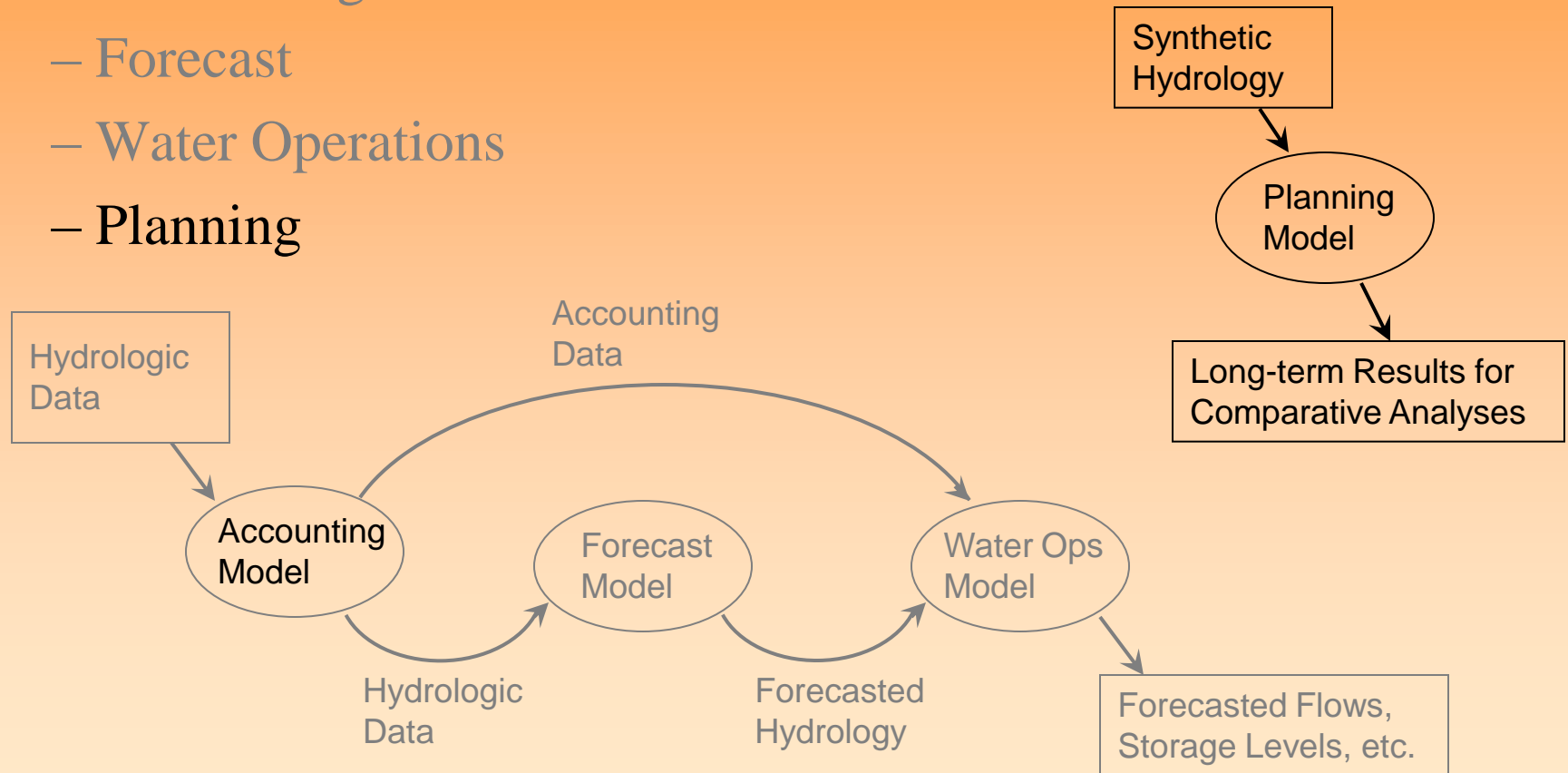
Previous System of Models

- Four separate daily timestep modules of URGWOM
 - Accounting
 - Forecast
 - Water Operations



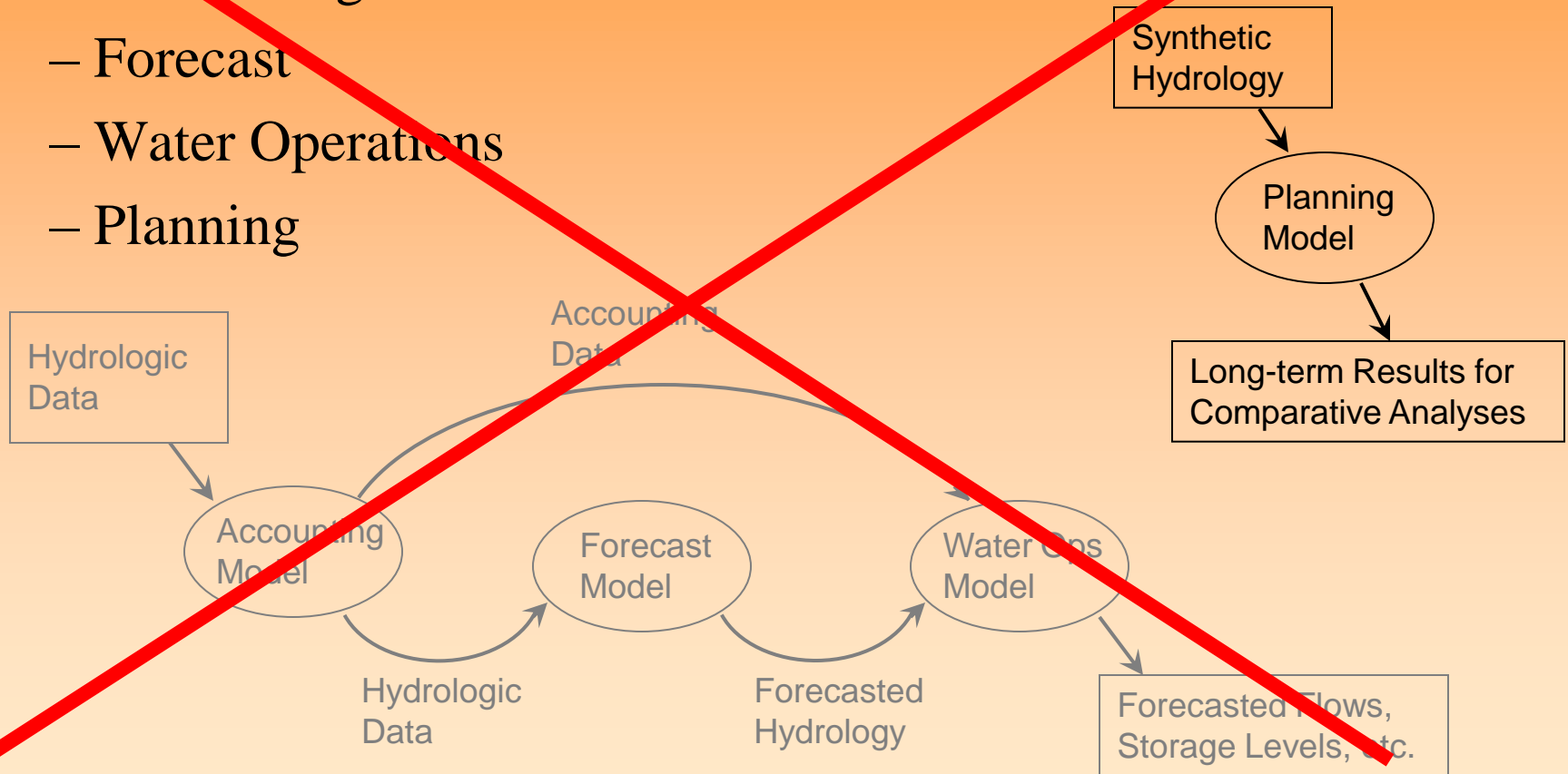
Previous System of Models

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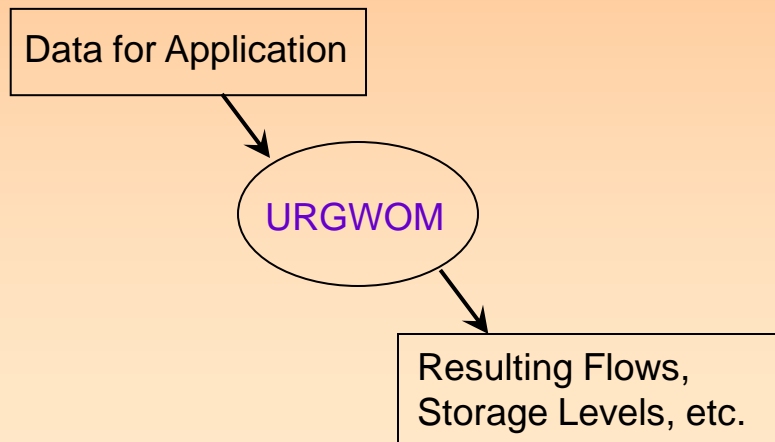
Previous System of Models

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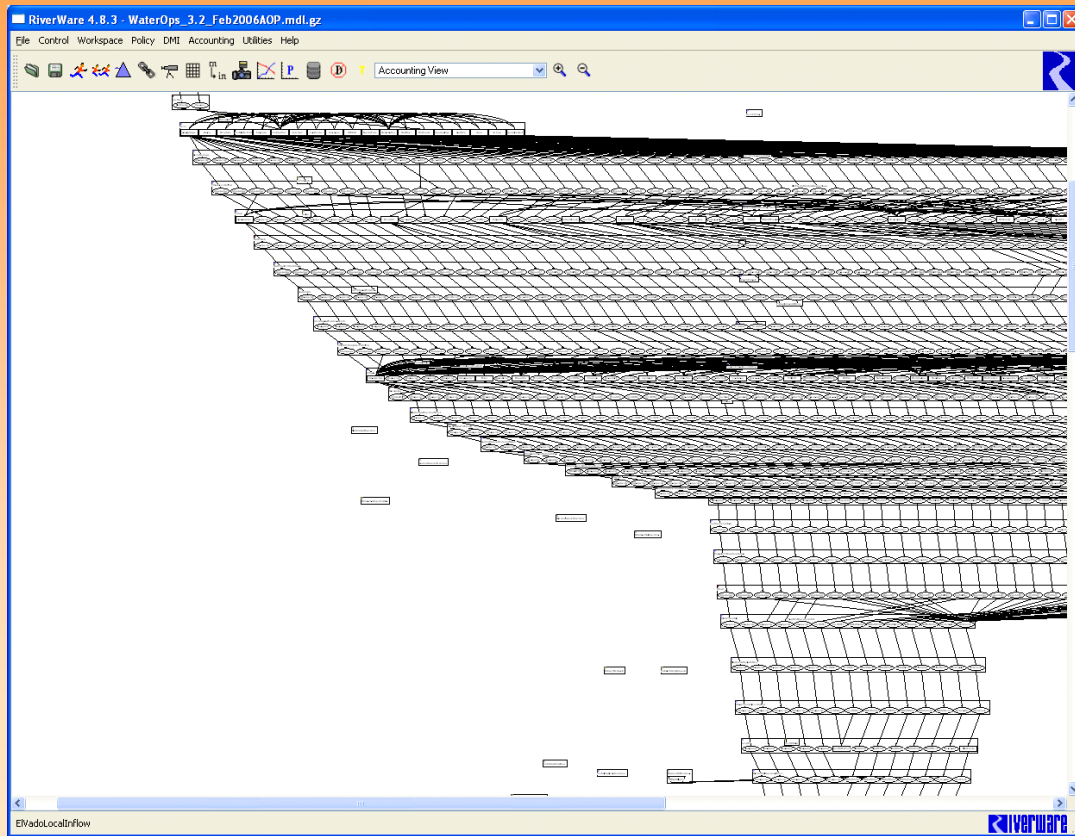
Single Model File for All Applications

- One master model used for
 - Accounting Model runs,
 - AOP model runs, and
 - Planning runs.

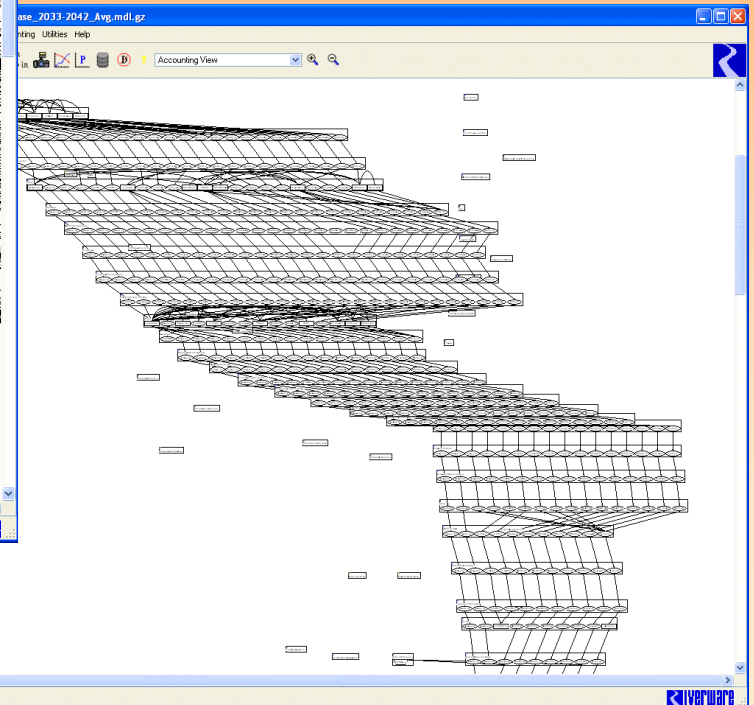


Accounts in Previous Models

Previous Water Operations/Accounting
module accounts

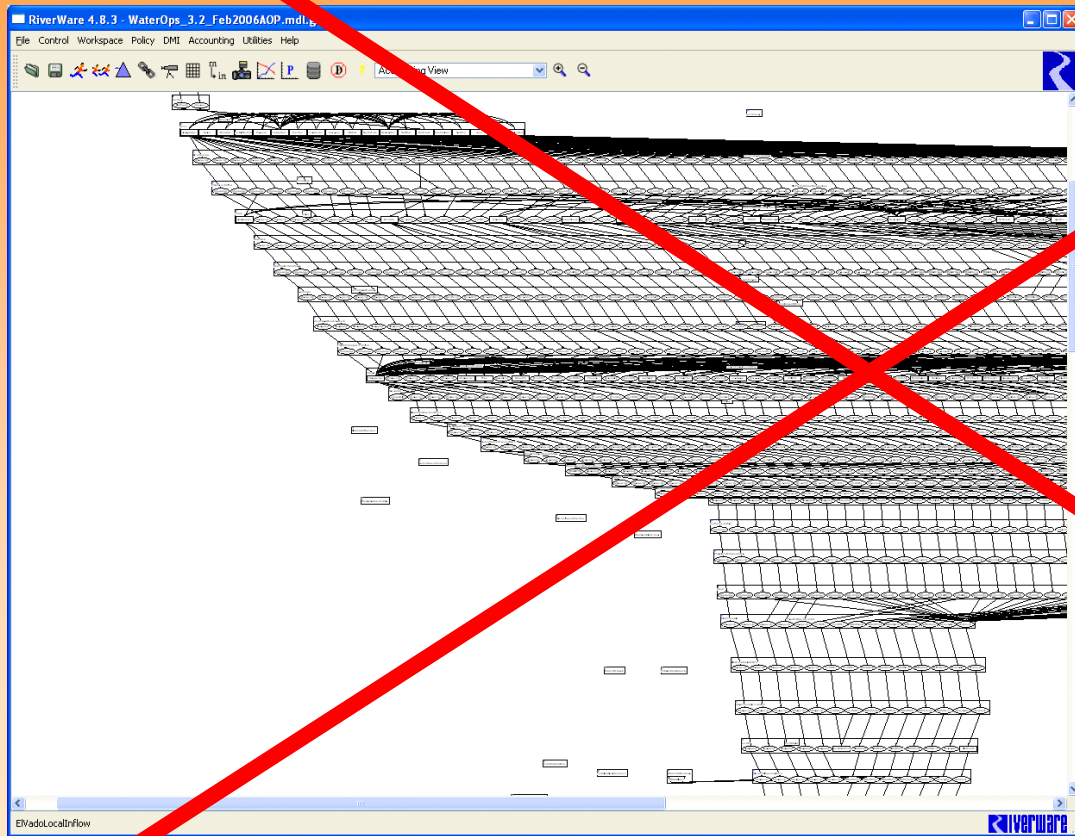


Previous Planning
module accounts

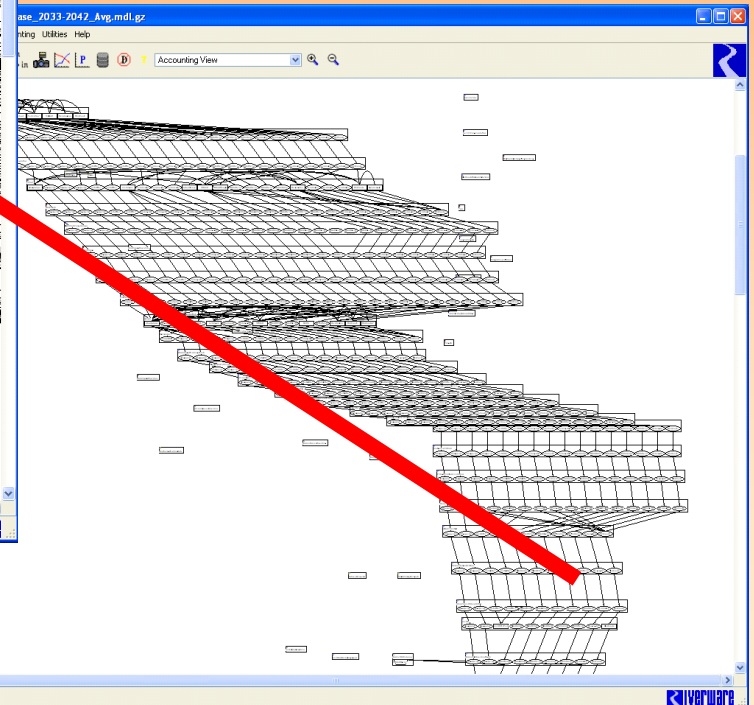


Accounts in Previous Models

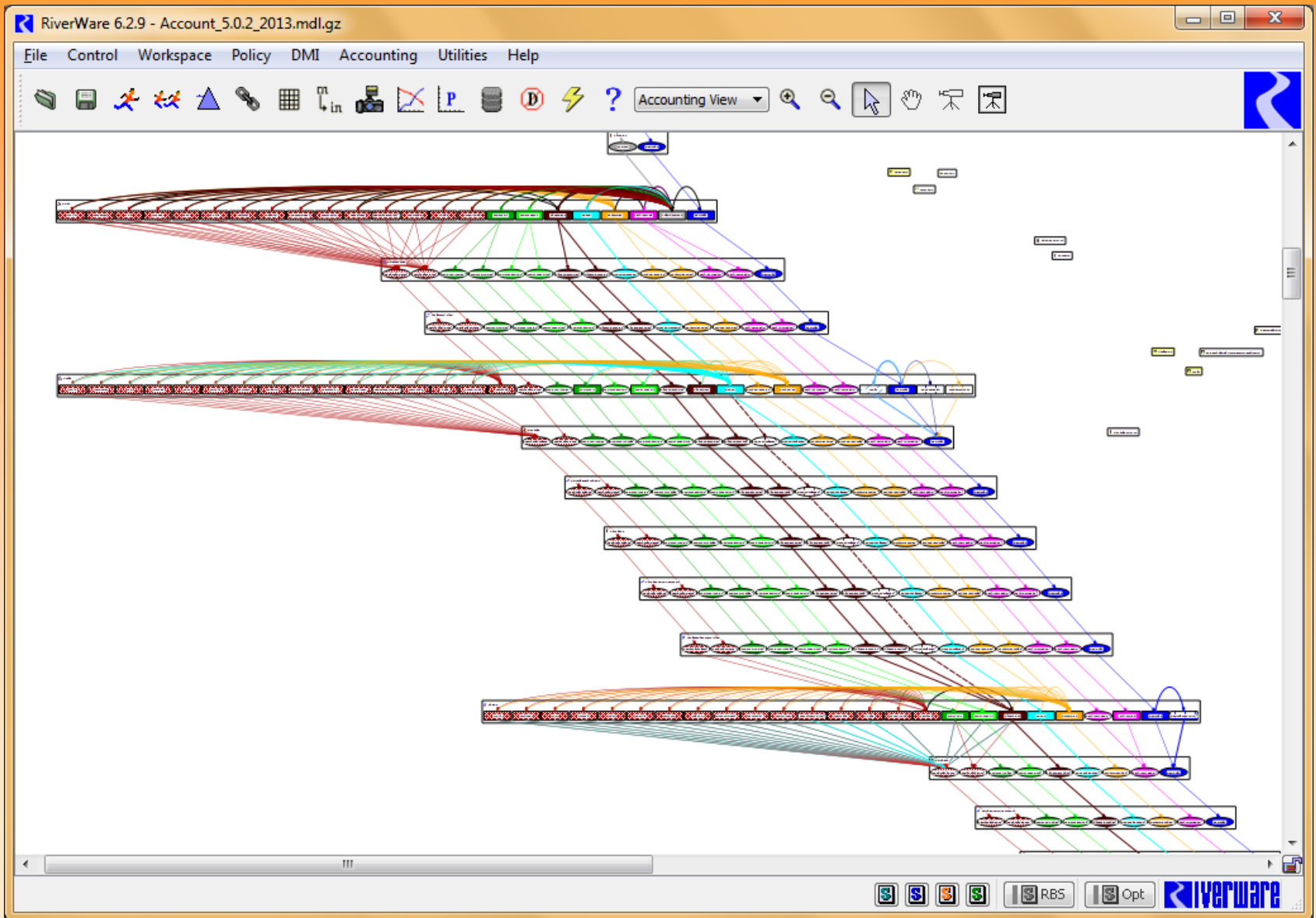
Previous Water Operations/Accounting
module accounts



Previous Planning
module accounts



Accounts in New Single Model

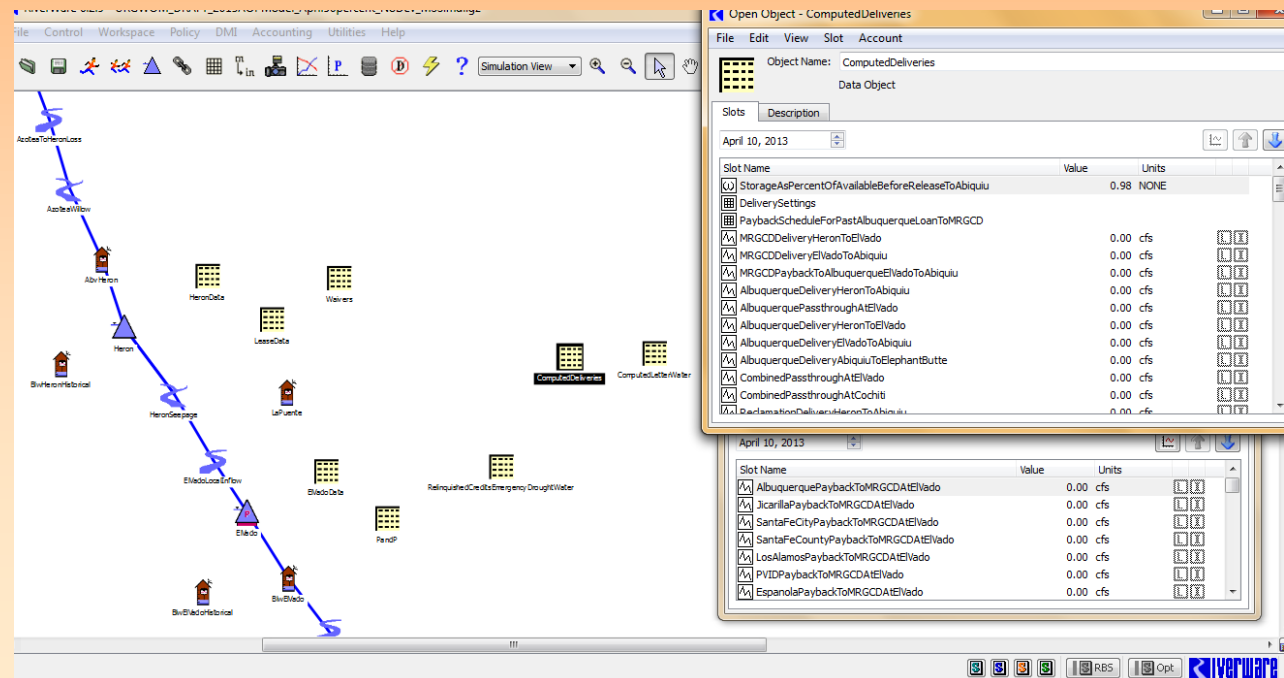


Rules Revamp

- Ruleset NOT used for Accounting Model.

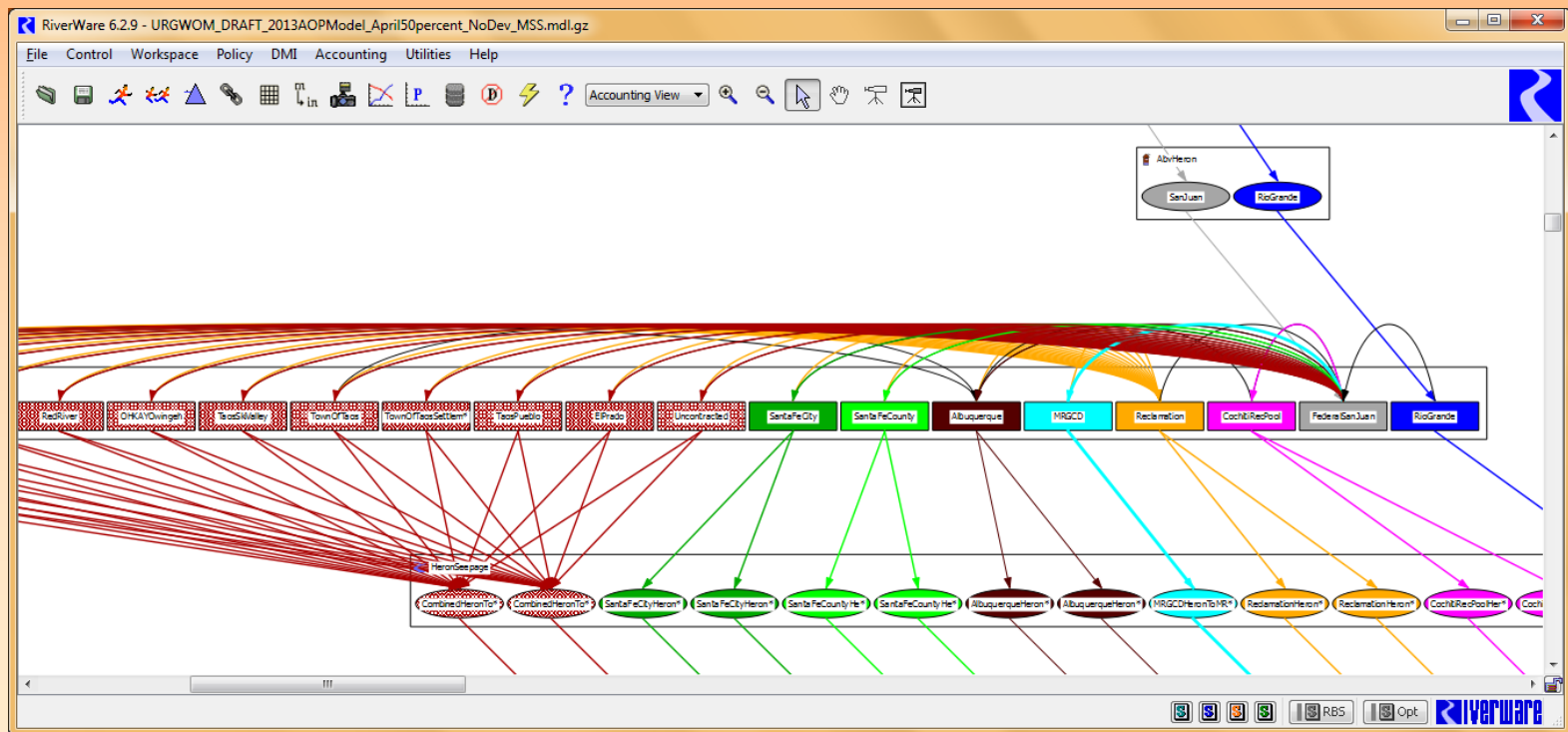
Rules Revamp

- Ruleset NOT used for Accounting Model.
- The URGWOM ruleset was revamped to adjust the configuration for setting all individual deliveries for
 - contractors for San Juan-Chama Project water.



Rules Revamp

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- The URGWOM ruleset was revamped to adjust the configuration for setting all individual deliveries for
 - contractors for San Juan-Chama Project water.



Database and DMIs

- Database consolidated into a single DSS file.
 - Records configured with Part Information that matches slot names in the model to simplify the DMIs

URGWOMHistoricalDatabase.dss - HEC-DSSVue

File Edit View Display Groups Data Entry Tools Advanced Help

File Name: C:/Projects/URGWOM/ModelFiles/HistoricalDSSfiles/URGWOMHistoricalDatabase.dss

Pathnames Shown: 734 Pathnames Selected: 0 Pathnames in File: 27834 File Size: 51.46 MB

URGWOMHistoricalDatabase.dss X

Search A: C: E:

By Parts: B: D: F:

Number	Part A	Part B	Part C	Part D / range	Part E	Part F
16		ABVABIQIUIDERSIONS:MONASTERY	DIVERSION REQUESTED	01JAN1975 - 01JAN2010	1DAY	
17		ABVABIQIUIDERSIONS:SCULL	DIVERSION REQUESTED	01JAN1975 - 01JAN2010	1DAY	
18		ABVABIQIUHISTORICAL	GAGE INFLOW	01JAN1961 - 01JAN2010	1DAY	
19		ABVCONFLUENCEDVERSIONS:CHILI	DIVERSION REQUESTED	01JAN1975 - 01JAN2010	1DAY	
20		ALAMEDABRIDGEHISTORICAL	GAGE INFLOW	01JAN1975 - 01JAN2010	1DAY	
21		ALBUQUERQUERIVERSIDEDRAINHISTORICAL	GAGE INFLOW	01JAN1975 - 01JAN2010	1DAY	
22		ALBUQUERQUEWASTEWATER	DAILY RETURN	01JAN1975 - 01JAN2010	1DAY	
23		ALBUQUERQUEWATERUSER	DIVERSION REQUESTED	01JAN1975 - 01JAN2010	1DAY	
24		ALBUQUERQUEWATERUSER	FRACTIONAL RETURN FLOW	01JAN1975 - 01JAN2010	1DAY	
25		ALGODONESDRAINHISTORICAL	GAGE INFLOW	01JAN1975 - 01JAN2010	1DAY	
26		ANGOSTURADIVERSIONS:ALBMAINCANAL	DIVERSION REQUESTED	01JAN1975 - 01JAN2010	1DAY	
27		ANGOSTURADIVERSIONS:ALBMAINCANAL	FRACTIONAL RETURN FLOW	01JAN1975 - 01JAN2010	1DAY	

Select De-Select Clear Selections Restore Selections Set Time Window

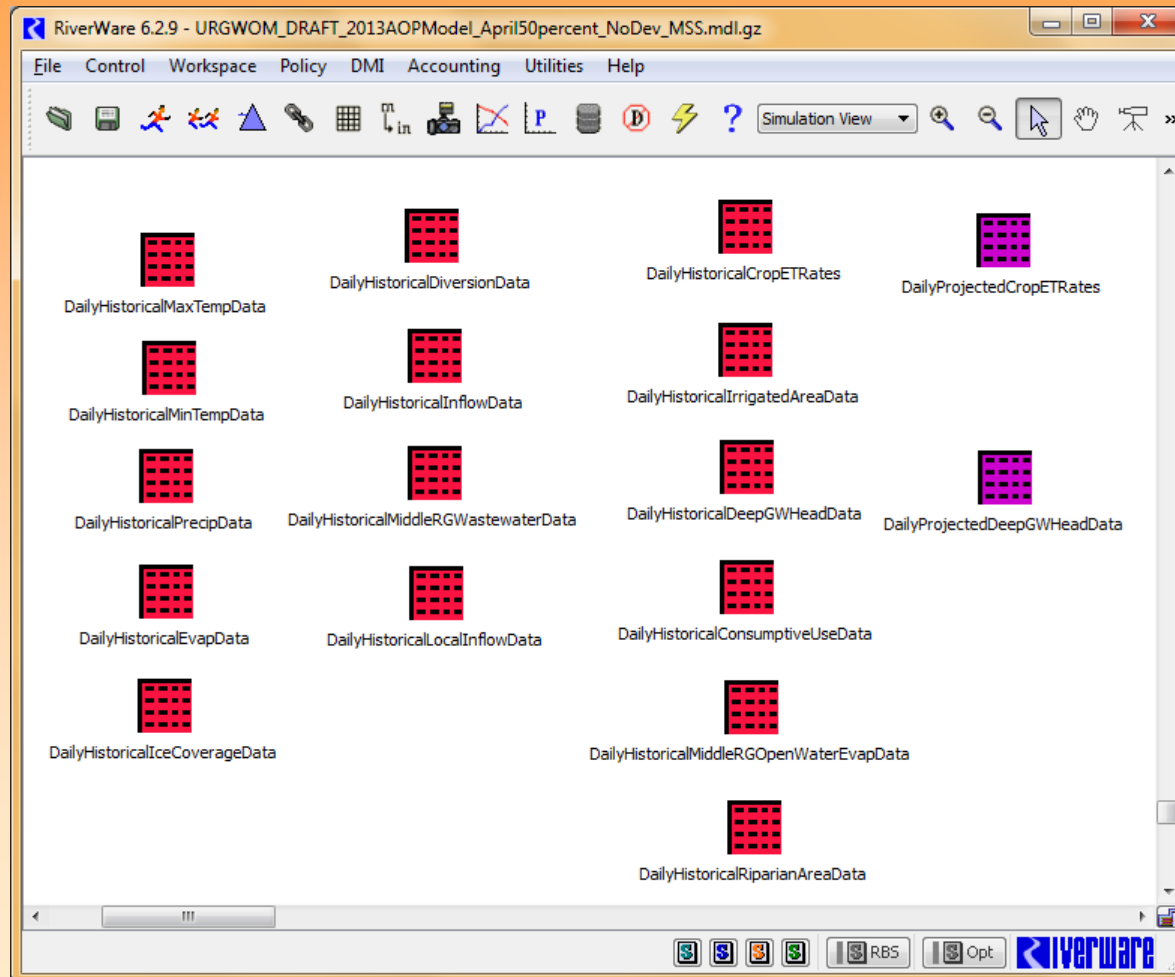
No time window set.

Database and DMIs

- Database consolidated into a single DSS file.
 - Records configured with Part Information that matches slot names in the model to simplify the DMIs
- DMIs to be set up for importing inputs from DSS for planning or historical runs.
 - Spreadsheet tool developed for importing Initial Conditions with an Excel database DMI.

Database and DMIs

- All historical data maintained in data objects in model.



Initialization Rules

- RiverWare Initialization rules configured to set inputs for different applications.
 - Synthetic/fill-in values set in Accounting Model for values not imported from Reclamation's Hydrologic Database (HDB).
 - Forecast inputs computed and set for AOP model runs.
 - Historical data set for planning runs based on any user set sequence of years.
- Initialization rules edited to simplify and consolidate the rules.

Documentation

- RiverWare rules documentation to be updated.
- User manual to be updated.

Products

- CD will be available with
 - master model,
 - ruleset,
 - single DSS database file,
 - separate model for maintaining historical data objects,
 - spreadsheet tool for importing initial conditions,
 - rules documentation, and
 - user manual.
- Updated Middle Valley calibration will need to be incorporated into URGWOM.

DEMO

- Steps to set up AOP model run.
 - Set ModelRunTypeTriggers.RulebasedSimulationStartDay to the date after the last date of Accounting Model simulation.
 - Reset Run Control Period to *January 1* to December 31.
 - Set Run Controller to Inline Rulebased Simulation and Accounting.
 - Set ModelRunType ModelTrigger slot to 2 for AOP Model Run Type.
 - Input NRCS forecast into the appropriate InputForecastData object Table.
 - Change Heron Reservoir object Accounting Method – Category Reservoir Account Slot Inflow from Heron Inflow Calculation to Zero Slot Inflows.
 - Change Heron Reservoir object Method – Category hydrologicInflowCalculationCategory from solveHydrologicInflow Method to Hydrologic Inflow and Loss Method.
 - Reset all AbvHeron.Inflow values on the stream gage object to output.
 - Open and Load the URGWOM operations ruleset.
 - Run model.