DATE: July 30, 2021

SUBJECT: CalSim II July 30, 2021 Benchmark Study Release

PURPOSE: Summarize updates made since October 2019 CM3 release of CalSim II

BACKGROUND: Updated CalSim II models reflect hydrology and logic enhancements to the versions used for Reclamation's Reinitiation of Consultation on Long Term Operations (RoC on LTO) and DWR's Delivery Capability Report (DCR). The latest benchmark models are being used in ongoing Storage Investigations and other Planning Studies. Draft documentation is being made available at this time, and final refinements and complements to the draft documentation will be posted by November 1, 2021.

SUMMARY OF CALSIM-II UPDATES:

American River
- Folsom flood control – now dictated by new spillway
- Update to Flow Management Standard (FMS) code to use table that can be edited for climate change
- American River demands updated to reflect Carmichael water right and wet year Sacramento Suburban Water District Warren Act contract

Sacramento River Basin Operations
- Clear Creek Minimum Flow – updated to reflect specific language in the 2019 Biological Opinion
- Shasta Spring Pulse Flow basis – updated to base the pulse flow action directly on storage conditions instead of a regression equation
- Input timeseries updates for Yuba River inflow, Easy Bay Municipal Utility District (EBMUD) demand at Freeport, and Mokelumne River inflow

Delta Requirements
- Updated Fall X2 implementation better reflects Projects' use of storage withdrawal in balance with export cuts to support Fall X2 criteria
- East Contra Costa Irrigation District (ECCID) transfer update – used improved representation developed for Los Vaqueros Expansion project
- Delta Cross Channel Gates closed when storage withdrawals are needed to meet Rio Vista D1641 flow standard, if water quality conditions allow
- Suisun Marsh Salinity Control Gate operations implementation
- Updates to State Water Project (SWP) actions under the Incidental Take Permit (ITP)

San Joaquin Basin
- Merced/Tuolumne flow requirements – adopted the logic used by CalSim3, which dynamically adapts to climate change scenarios
- Updated forecast type used to determine the Stanislaus flow requirement at Goodwin
- San Joaquin Restoration Recapture – implemented both San Joaquin River mainstem delivery and delta recapture elements

Model Cleanup and Solution Stabilization
- Folder reorganization – streamlined organization of wresl files in subfolders
- Considerable code cleanup – removed unused files and commented out code
- Replaced the 2008 OCAP CVPIA B2 accounting with the 2020 Record of Decision implementing the 2019 Proposed Action and Biological Opinions
- Removed VAMP_AND_DO cycle, removed Vernalis Adaptive Management Plan (VAMP) operations, and moved Ripon DO requirement to the SJR_WQ1 cycle
- Improved/stabilized Delta Island Consumptive Use (DICU) transfer to Contra Costa Water District
- Added logic to stabilize Knights Landing Ridge Cut flows after the PRESETUP cycle

- Zeroed out backup of Yuba transfer water to Shasta and Oroville storage
- Renamed cycles DELTA_SRPLS and DELTA to DELTA1 and DELTA2, and moved ITP actions to a DELTA3 cycle *before* Transfers/Wheeling

Project Operations

- Central Valley Project (CVP) allocation logic update better adapts to water supply conditions under evolving regulatory criteria
- SWP demands and allocation logic update – uses data developed for the DCR
- Removed weights on "minimum flow at Hood" mechanism – previously used to drive addressing combined delta criteria and export targets, subsequent model development has outdated this approach
- Capacities in the Joint Use Branch of the California Aqueduct corrected to allow full CVP deliveries

Hydrology

- Historical Hydrology version
- 2035CT version using climate change hydrology data set used for RoC on LTO sensitivity analysis

FOR MORE INFORMATION:
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