

CRSS – Lite: Screening Model for Operating Policy Evaluation and Negotiation in the Colorado River Basin

The Colorado River Simulation System (CRSS) is the Bureau of Reclamation’s official computerized model of the Colorado River, accepted by federal agencies, states and stakeholders for simulating long-term operations of the Colorado River system consistent with the “Law of the River.” CRSS is used to model a variety of physical processes and operational parameters on the Colorado River main stem, providing a range of potential future system conditions that may result from a change in hydrology or operating procedures.



The Colorado River Basin is in the midst of a multi-year drought. Water year 2004 marked the fifth consecutive year of below average inflow into the major Colorado River reservoirs. Inflow over this period has been the lowest in 100 years of record keeping, with the inflow in 2002 being the lowest on record. In the spring of 2004, the Secretary of the Interior (Secretary) encouraged the seven Colorado River basin states to begin proactive development of mitigation strategies for the current system-wide drought. As part of that effort, the Secretary committed Reclamation as a technical resource for drought modeling and scenario development. Over the past year, Reclamation has provided that technical assistance utilizing CRSS to analyze potential future shortages on the lower Colorado River and provided outreach to other parties interested in these studies. In May of 2005, the Secretary confirmed her intention to develop shortage guidelines by December of 2007. These guidelines will advise the Secretary's Annual Operation Plan decisions, provide

more predictability to water users, and conserve reservoir storage to minimize the adverse effects of future drought conditions.

As a means to quickly evaluate – or “screen” – the numerous policy alternatives anticipated during the impending shortage guidelines process, a simplified version of CRSS, known as CRSS-Lite, has been developed in collaboration with the University of Colorado Center for Advanced Decision Support for Water and Environmental Systems (CU-CADSWES). CRSS-Lite is implemented in RiverWare, a commercial modeling software package licensed by CU-CADSWES. CRSS-Lite is maintained by Reclamation and will be widely available to interested parties in the summer of 2005.

Carly Jerla, Reclamation employee and CU-CADSWES graduate student, will present an overview and demonstration of CRSS-Lite:

Wednesday June 8, 6:00 – 7:00 pm
(Immediately following the conference reception)



Highlights of CRSS Lite and the Demo:

- Graphical icon-based representation of the rivers, reservoirs, and diversions.
- Operating policies expressed in a logical language.
- View the modeled effects of reservoir elevations due to varying hydrology.
- See the details of a few proposed alternatives operating policies for drought management.
- Compare risk-based results of these alternatives with each other and with current operations.

This demo will give the viewer an appreciation of the complexity of policy details and the effort required to model and understand the effects of policy alternatives.

It also demonstrates how science can inform policy.

