

## Electrical Power System Economics

### Background:

Western Area Power Administration conducts quality economic and financial analyses of federal power systems in response to a variety of needs including congressional inquiries, law and various information needs. Moreover, DOI agencies have routinely called upon Western to conduct power system impact studies for environment documents.

DOI announced that it will initiate a new Long Term Experimental Plan (LTEP) later this year. Recommendations to DOI from the AMWG regarding this will require the evaluation of the likely effect of GCD operations and other non-flow actions on the resources of interest. The effect of LTEP options ~~will~~ on electrical power generation at GCD will be considered as part of the development of AMWG recommendations.

Still this year, Reclamation will complete an EIS on the operations of Aspinall which includes Western analyses on EIS alternatives on power system impacts.

In an effort to increase the transparency, capability and credibility of power economic and financial studies, we propose a GCMRC work plan budget line item for FY 2011. The tasks to be performed would be those routinely done by Western that relate to the operation of Glen Canyon Dam as well as those that will be requested by GCMRC. The list of tasks include the following:

- Using WAPA models, establish a “base case” against which various scenarios of GCD operations can be compared
- Using WAPA models, analyze the extent to which Western’s CRSP operation and the operation of its firm-power customers interact with the WECC system
- Assess the financial effects of past and potential future changes in GCD operation on individual WAPA contractors
- Use WAPA models to analyse the short term and long term effects of changes in GCD operation
  - Generation (both federal and non federal)
  - Transmission line loadings
  - Reliability criteria
  - Market prices
- Develop a simplified analysis method in order to be able to analyze proposed operational changes in an adaptive management framework

Additional Information:

- Under the GCPA, Western is required to calculate the electrical power impacts of GCD experimentation
- The current version of the Roles Report suggests that agencies with regulatory or legal responsibilities be tasked with the monitoring or research work for the GCMRC that falls within their jurisdiction or area of expertise. This may be specified through cooperative agreement
- In order to comply with its requirement under the GCPA, Western commissioned the development of comprehensive power system models that simulate the CRSP power system and dams and can be used to conduct financial and economic analysis
- These models have been peer-reviewed, presented at GCMRC-sponsored symposia and used for economic and financial analysis in several GCMRC and USBR documents (e.g. shortage criteria EIS, Flaming Gorge and Aspinall operations EISs, Five year GCD operations EA)
- Using one of these models, Western completed power systems analysis on behalf of the AMWG for consideration of 4 "options" in 2006.

We Recommend that:

- Western undertake the analyses recommended above in FY 2011
- These studies be funded by Western
- The GCMRC and Western specify deliverables through an MOU
- The reports be subject to GCMRC peer review
- The TWG ad hoc committee on economics be used to assist TWG stakeholders in identifying information needs and outcomes for CRSP power system economic and financial studies