

Minutes of Regular Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, May 12, 2010

A Regular Meeting of the Colorado River Board of California (Board) was held in the Grove Room, of the Holiday Inn Ontario Airport, 2155 East Convention center Way, Ontario, California, Wednesday, May 12, 2010.

Board Members Present

Dana Bart Fisher, Jr., Chairman
John V. Foley
Terese Maria Ghio
Russell C. Kitahara
W.D. 'Bill' Knutson
James B. McDaniel

John Pierre Menvielle
Jeanine Jones, Designee
Department of Water Resources

Board Members Absent

Henry M. Kuiper

Christopher G. Hays, Designee
Department of Fish and Game

Others Present

Steven B. Abbott
Robert Brakenridge
James H. Bond
John Penn Carter
David Fogerson
Stephanie Granger
William J. Hasencamp
Mark L. Johnson
Thomas E. Levy
Jan P. Matusak
David R. Pettijohn
Steven B. Robbins
Jack Seiler

Jack Simes
Catherine M. Stites
Ed W. Smith
Joseph A. Vanderhorst
Bill D. Wright
Abbas Amirteymoori
J.C. Jay Chen
Christopher S. Harris
Gary E. Tavetian
Mark Van Vlack
Gerald R. Zimmerman

CALL TO ORDER

Chairman Fisher announced the presence of a quorum and called the meeting to order at 10:04 a.m.

OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD

Chairman Fisher asked if there was anyone in the audience who wished to address the Board on items on the agenda or matters related to the Board. Hearing none, Chairman Fisher moved the meeting to the next agenda item.

ADMINISTRATION

Approval of Minutes

Chairman Fisher requested the approval of the April 14th meeting minutes. Ms. Jones moved the April 14th minutes be approved. Mr. Foley seconded the motion. Unanimously carried, the Board approved the April 14th meeting minutes.

Public Records Act Request for the Genesis Solar Energy Project in Riverside County, California

Mr. Zimmerman reported that the Board received a request for information regarding the Genesis Solar Energy Project in Riverside County under the Public Records Act. The Board complied with the request. The request letter as well as the Board's response letter was included in the Board folder.

Board Tour of Mexicali Valley

Mr. Zimmerman reported that there was discussion of inspecting damages to water related infrastructure from the recent Earthquake in Mexico. Mr. Zimmerman reported that in coordination with the International Boundary and Water Commission (IBWC) and the Comisión Internacional de Límites y Aguas a tour was scheduled to inspect earthquake damages, in the Mexicali Valley, on May 14, 2010.

Board Budget for Fiscal Year 2010-2011

Mr. Zimmerman reported that the proposed Fiscal Year 2010-2011 Board budget, as contained in the Governor's proposed budget, is for \$1.63 million dollars. This proposed budget was included in the Board folder for review by the Board members. Mr. Zimmerman reported that he attended the hearings of the Budget Subcommittees of the California State Assembly on April 21st, and the California State Senate on April 22nd. No issues were raised by the Subcommittees in either the Assembly or the Senate. The Board's Budget and Standard Agreement with the Six Agency Committee are scheduled to be considered at the June Board meeting.

AGENCY MANAGERS' MEETING

Mr. Zimmerman reported that the Agency Managers have not met since their meeting immediately after last month's Board meeting. The Agency Managers will probably meet before the next Board meeting in preparation for the Bi-National discussions.

PROTECTION OF EXISTING RIGHTS

Colorado River Water Report

Mr. Abbas Amirteymoori reported that, October 1st to May 3rd precipitation in the Upper Basin was 88 percent of normal, and the snowpack was about 77 percent of normal. The forecast April through July runoff, as of April 15th, is 5.2 maf, or 66 percent of normal. The anticipated 2010 water year runoff is about 8.2 maf, or 68 percent of normal.

Mr. Zimmerman reported that the climate conditions in the Upper Basin had not improved since the previous month. Although a few storms hit the Upper Basin, the current snowpack as of May 10th, was about equal to the snowpack at the same time last year, i.e. 70 percent of normal.

Mr. Amireteymoori reported that the storage in Lake Powell was 13.8 million acre-feet (maf), or 57 percent of capacity. The water surface elevation was 3,620.8 feet. The storage in Lake Mead was 11.3 maf, or 44 percent of capacity, and water surface elevation was 1,098.0 feet. Total System storage was about 32.9 maf, or 55 percent of capacity. Last year at this time, there was 32.0 maf in storage, or 54 percent of capacity.

Mr. Amirteymoori added that Reclamation's projected consumptive use (CU) for the State of Nevada was under its entitlement of 300,000 acre-feet (i.e. 263,000 acre-feet); and for Arizona, the CU is projected to be below its basic entitlement of 2.8 maf (i.e. 2.756 maf); and for California the CU is projected to be 4.341 maf. The total projected CU in the Lower Basin is estimated to be 7.360 maf.

Chairman Fisher asked about the potential of a shortage in the near future. Mr. Zimmerman responded that recent precipitation in the Lower Basin has increased the inflow into Lake Mead and reduced the amount of water drawn from Lake Mead, allowing the water level in Lake Mead to rise several feet, thereby reducing the likelihood of a declared shortage for at least a year. However, if next year is a dry year, then there is the possibility that a shortage could be declared in the Lower Basin in 2012.

Ms. Ghio asked at what Lake Mead water surface elevation would a shortage be declared. Mr. Zimmerman responded that according to the "Shortage Sharing Agreement" if Lake Mead were to drop below the 1,075 feet the first stage shortage would be declared.

Mr. Wright asked how long before Mexico will be diverting their full entitlement? Mr. Zimmerman responded that hopefully that information will be available today, as Ms. Lindia Liu of the Board is attending a joint modeling meeting among U.S. and Mexico technical modeling groups, where status of Mexico's diversion facilities in the aftermath of the recent earthquake in Mexico will likely be discussed.

State and Local Water Reports

Ms. Jeanine Jones, of the California Department of Water Resources (DWR), reported on the climate conditions of California. She mentioned that April had been unusually wetter than normal, about 200 percent above average. The wet April brought the

State-wide average up to about 100 percent of average. The runoff varies from a low of 60 percent of normal in the Klamath Basin, the northern part of the state, to 120 percent of normal in some areas, where most of the Sierra's runoff is at about 100 percent of normal. Allocations of the Table A entitlements was raised to 40 percent. It's unlikely to go higher due to the flow restrictions, of fishery and Biological Opinion issues, in the Delta.

Mr. Foley, of The Metropolitan Water District of Southern California (MWD), reported that overall storage in Lake Skinner, Lake Mathews and Diamond Valley Lake, as of May 1, was about 547,300 acre-feet, or 53 percent of capacity. Diamond Valley Lake was about 382,700 acre-feet, or 47 percent of capacity. Lake Mathews was about 126,500 acre-feet, or 70 percent of capacity. Lake Skinner was about 38,100 acre-feet, or 87 percent of capacity. There was a slight decrease in the storage curve from last month, with the release of about 26,000 acre-feet out of storage.

Mr. McDaniel, of the City of Los Angeles Department of Water and Power (LADWP), reported that as of May 4th, climate conditions have improved in the Eastern Sierra. The wet April has increased the snowpack. Runoff is expected to be about 100 percent of normal.

Colorado River Operations

Status of the Lower Colorado River Water Supply Project

Mr. Zimmerman reported that included in the Board folder was a letter agreement from Reclamation that notified the City of Needles of their plans to initiate Phase II of the Lower Colorado Water Supply Project (LCWSP). Phase II consists of additional wells to make the total pumping capacity to 10,000 acre-feet per year. Reclamation's letter agreement, requested the City of Needles advance payment of \$25,000 dollars to defray costs associated with the initial steps to implement Phase II of the LCWSP.

Reclamation Initiates the Yuma Desalting Plant Pilot Project

Mr. Zimmerman reported that on April 28th Reclamation held a kickoff celebration to commemorate the Yuma Desalting Plant (YDP) Pilot Project in Yuma, Arizona and the All American Canal Drop-2 Reservoir Storage Project. The one-year pilot operation of the YDP pilot project is scheduled to begin on May 3rd. The Drop-2 Reservoir Storage Project is nearing completion.

Basin States Discussions

Mr. Zimmerman reported that the Basin states principals are scheduled to meet on May 25th in Las Vegas, Nevada. The items of discussion for the meeting are: 1) Update on the Bi-National process; 2) Preparation for the June 24th and 25th Bi-National meeting; 3) Colorado River Basin Study update; 4) Update on the YDP pilot project; 5) Challenges in reservoir operations in 2010 and 2011 (equalization releases and consultation for shortage declarations); 6) Saltcedar and Russian Olive Control Demonstration Act assessment. Mr. Zimmerman further reported the Basin States Technical Committee is scheduled to meet on May 24th, to prepare for the meeting on May 25th.

Proposed Flaming Gorge Pipeline Project(s)

Mr. Zimmerman reported a coalition of municipal water providers in Colorado and Wyoming are evaluating a proposal to convey water from Flaming Gorge Reservoir to the East Slope to meet the needs of 500,000 residents. The proposal could compete with Aaron Million's proposed 500-mile pipeline project to convey 250,000 acre-feet of water from Flaming Gorge Reservoir to East Slope agriculture users in Colorado. The U.S. Army Corps of Engineers recently held a National Environmental Policy Act scoping meeting associated with Million's proposed project pursuant to the Clean Water Act.

Border Governor's Bi-National Desalination Conference

Mr. Zimmerman reported that the Bi-National Border Governor's Desalination Conference is scheduled for May 26-27, 2010 in San Diego. The conference will showcase information about desalination projects, planning, financing, and new desalination technologies.

Ms. Jeanine Jones added that the conference was organized in response to a joint declaration from the Board of Governor's Conference 2009. She mentioned that Mr. Michael Connor, Commissioner of Reclamation, has confirmed that he will be speaking at the conference. High level representatives from the U.S. and Mexico are scheduled to speak and present potential future projects and examples of recent desalination projects that could benefit both countries.

Water Surface Area Changes in the Cienega de Santa Clara by Mr. Bob Brakenridge

Mr. Zimmerman reported that Mr. Bob Brakenridge, Director of the Dartmouth Flood Observatory and senior research scientist at the University of Colorado, was present to report on changes in the Water Surface Area of the Cienega de Santa Clara. Ms. Jones added that Ms. Stephanie Granger from NASA Jet Propulsion Laboratory (JPL) was also present and that JPL has used some of the Stimulus Bill moneys to fund work of Mr. Brakenridge using remote sensing technology to study water resources.

Mr. Brakenridge reported that Dartmouth's Flood Observatory has used NASA's MODIS-derived mapping and measurement sensor to look at flooding all over the world, including the Colorado River Delta south of the U.S., in Mexico. Mr. Brakenridge reported that the MODIS sensor data is a free data stream that is available twice daily virtually covering the earth, including the Colorado River Basin. The bands within the data stream are useful for distinguishing water surface from land and the data is provided in a very user friendly format. The first sensor was placed in orbit in the year 2000, the second one was 2002. The last few years the data has been provided in GEO-TIFF (Geographical-Tagged Image Format File) format that can be easily imported into a Geographical Information System mapping program.

Mr. Brakenridge described the mapping of the water surface of the Cienega de Santa Clara through a series of slides depicting the change in the water surface of the Colorado River Delta with an accuracy of 50 meters. The slides in the presentation were approximately monthly from January 2008 to May 2010. It's a water classification

procedure, the image was transformed into the GIS-polygons, with the water surface shown in blue. Mr. Brakenridge's selection of slides showed the water surface of the Cienega de Santa Clara changed from a low of about 5,000 acres to a high of about 40,000 acres from January 2008 to May 2010. He reported that in the winter/spring of 2008 there was a dramatic drawdown of the surface water area of the Cienega into the summer months, gradually decreasing till June when the water surface area was about 5,000 acres (though May is typically the lowest water surface area of the year), then increasing later in the summer, July and August and increasing dramatically in September 2008, then winter drawdown and then a late winter expansion, then a steady fall off into Summer 2009 and a dramatic expansion in August, September 2009.

Mr. Brakenridge discussed slides of the water surface changes in the Colorado River Delta just before and after the April 4th Mexicali earthquake. Of interest were several areas north and west of the Cienega de Santa Clara where water surface areas appeared. It is not yet understood what the mechanism was for the increase in water surface area after the April 4th Mexicali earthquake. He shared slides of Eric Fielding's work using radar satellite information to plot the change in ground surface before and after the April 4th earthquake.

Mr. Brakenridge reported that the use of the MODIS data is an underutilized tool to observe water resources. He showed several graphs indicating a correspondence to measured river flow and the size of the Cienega de Santa Clara. He suggested more frequent time steps be constructed, a higher resolution be used and incorporate inflow data to determine the relationship between inflow and the size of the Cienega de Santa Clara.

Chairman Fisher asked what were the potential sources of water for the new water surface areas in the Colorado River Delta. Mr. Brakenridge responded that subsidence, as well as canal breaks that released water to areas that haven't typically been shown to be water surface. Ms. Jones added that the new wet areas may be due to liquefaction or possibly sand boils caused by the earthquake.

Mr. Menvielle asked what effect the geothermal plants in the vicinity of the epicenter of the earthquake had to do with the April 4th earthquake. He further asked if the practice of extraction of geothermal water without re-injection could be a possible cause of the earthquake. He added that research on the deep fluid extraction in the Cerro Prieto geothermal field and the resultant subsidence and induced slip on tectonic faults in the Mexicali Valley is readily available online.

Ms. Jones added that funding from the Stimulus Bill through NASA JPL is expected to run out by September 2010. They will be looking for ways to partner with additional NASA grant applications or other organizations to keep the research going. She suggested the remote sensing data could be useful for studying water resources in areas such as the Colorado River Delta where information is not readily available.

Colorado River Environmental Activities

Grand Canyon Trust's Colorado River Memorandum Regarding Steady Flow Releases from Glen Canyon Dam

Mr. Harris reported that the Grand Canyon Trust recently released a memorandum arguing that implementation of seasonally adjusted steady flows from Glen Canyon Dam would: 1) benefit the ecology of the riverine section of the Grand Canyon National Park; 2) benefit native endangered species; and 3) would not affect annual release volumes from Glen Canyon Dam pursuant to the “Law of the River”.

Mr. Harris reported that the rationale behind the seasonally adjusted steady flows would be to reflect more accurately the pre-development hydrograph of the reach of the river between Glen Canyon Dam and Lake Mead. The flows through that reach of the river would be high in early spring and drop off significantly in later summer through the winter. The total annual flows through the Grand Canyon would not be altered, yet the daily and monthly volumes would change significantly. Currently the releases from Glen Canyon Dam are based upon modified low fluctuating flows where flows are relatively high with daily fluctuations in flow to meet hydropower demands.

Chairman Fisher added that the on-peak/off-peak power production would be significantly affected with seasonally adjusted steady flows. Mr. Harris affirmed that it would essentially remove Glen Canyon Dam as a peaking power reserve.

Ms. Terese Ghio asked if an annual hydrograph comparing the current releases from Glen Canyon Dam (GCD) with the hydrograph suggested by the Glen Canyon Trust (GCT), at either the next Board meeting or the next time the Glen Canyon Dam is on the Agenda. Mr. Harris reported that for the last few years flows monthly flows were fairly steady, with significant daily fluctuations for power generation. The GCT’s suggested flows would concentrate the flows into the months of early spring through late summer with summer flows significantly lower. Mr. Harris added that prior to construction of the GCD the early spring flows would scour the Grand Canyon reach of the river typically in early June. There would be some years when the flow through the Grand Canyon would reach 250,000 cubic feet per second leaving no beaches, nor vegetation behind. In the late summer early fall months there would be times when the flow would be so low that you could walk across the Colorado River and the water would be very warm. After the construction of GCD the flood flows were eliminated, vegetation began to take hold as well as some beaches to form. Consequently, riparian habitat has been increased; but the native fish species have been decimated. Mr. Harris reported that a graph of the hydrograph of the last few years and the suggested GCT flow regime would be provided.

Board’s Comments on the U.S. Fish and Wildlife Service Draft Yuma Clapper Rail Recovery Plan

Mr. Harris reported that Board staff submitted comments on the recently released draft first revision to the Yuma Clapper Rail Recovery Plan. In its comments, the Board objected to inclusion of extraterritorial recovery goals, objectives, and criteria for the species; indicated that the Plan should include a comprehensive discussion of the Lower Colorado River Multi-Species Conservation Plan and the benefits to the Yuma Clapper Rail; and indicated that the U.S. Fish and Wildlife Service should utilize consistent and uniform Yuma Clapper Rail survey protocols and data analysis techniques.

WATER QUALITY

Update on the Status of Perchlorate Removed at the Las Vegas Wash

Mr. Amireteymoori reported that the pechlorate removal facilities have been in place and continue to perform efficiently. The perchlorate load to Las Vegas Wash was less than expected, and consequently the perchlorate concentration in the Colorado River water below Hoover Dam has reduced significantly. The latest data indicate that the perchlorate load to Las Vegas Wash at Northshore Road is 67 pounds per day. The anticipated load was 100 pounds per day. The perchlorate concentration in the Colorado River water at Willow Beach was 0.95 parts per billion (ppb) and is below the California Mean Contaminant Action Level of 6 ppb.

Mr. Amireteymoori reported that the remediation activities have not been impacted by the bankruptcy proceedings. The Nevada Department of Environmental Protection (NDEP) was working with the Department of Justice (DOJ) on a possible settlement. The NDEP and the Attorney General's Office are working to ensure that any settlement would keep the current remediation system operational.

Update on the Status of Hexavalent Chromium Issue at the PG&E Topock Compressor Station

Mr. Amirteymoori reported that the Department of Toxic Substances Control (DTSC) had issued a draft Statement of Basis and the draft Environmental Impact Report (EIR) for a preferred groundwater remedy, a preferred alternative. The draft Statement of Basis identifies the Preferred Alternative among the remedial action alternatives evaluated for cleaning up groundwater contaminated by past waste disposal practices at the Topock site.

Mr. Amirteymoori reported that the draft Statement of Basis was being issued by DTSC as the lead agency under the authority of the Resource Conservation and Recovery Act (RCRA). The DTSC had coordinated the selection with the U.S. Department of the Interior (DOI). As a Federal agency with land ownership interests surrounding the Site area, DOI has a similar, but separate authority under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Mr. Amirteymoori reported that the DOI is concurrently proposing a Preferred Alternative under a Proposed Plan in accordance with CERCLA requirements.

Mr. Amirteymoori reported that DTSC's recommendation for the Preferred Alternative, based on the analysis and conclusions presented in the Corrective Measures Study/Feasibility Studies, and in conjunction with the findings of potential impacts evaluated in the draft EIR, is Alternative E: an in-situ Treatment with Fresh Water Flushing. Alternative E was recommended because it is expected to achieve the remediation objectives while substantially reducing the amount of Chromium VI in the groundwater, and do so in a reasonable time frame, and with fewer adverse effects to cultural resources and biological resources than other alternatives considered.

Mr. Amirteymoori reported that DTSC will accept written comments on the draft Statement of Basis and the EIR during the public comment period, June 4, 2010 through July 19, 2010. Public hearings are scheduled from 5:00 p.m. to 8:00 p.m. on the following dates and locations:

- June 22, 2010, Parker Community/Senior Center, Parker, Arizona
- June 23, 2010, Lake Havasu City Aquatic Center, Lake Havasu City, Arizona
- June 29, 2010, Needles High School, Needles, California
- June 30, 2010, Topock Elementary School, Topock, Arizona.

OTHER BUSINESS

Report from Chairman Fisher

Chairman Fisher reported on the procedures being followed and the status of the Board's search for a replacement of the Executive Director. He reported that further discussions will occur in the Six Agency Committee's Executive Session.

Next Board Meeting

Chairman Fisher announced that the next meeting of the Colorado River Board will be held on June 9, 2010, 10:00 a.m., Holiday Inn Ontario Airport, 2155 E. Convention Center Way, Ontario, California.

There being no further items to be brought before the Board, Chairman Fisher asked for a motion to adjourn the meeting. Upon the motion of Mr. Knutson, seconded by Mr. Foley, and unanimously carried, the meeting was adjourned 11:34 a.m. on May 12, 2010.

/S/Gerald R. Zimmerman

Gerald R. Zimmerman
Acting Executive Director