



**HYDROLOGY COMMITTEE MEETING MINUTES
SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM
Durango, Colorado
May 18, 2004**

Member/Alternates Present

Pat Page, Chairman
John Simons (Alternate)
Ray Alvarado
Ron Bliesner
Rick Cox (Alternate)
Dave Frick (Alternate)
Steve Harris
Randy Kirkpatrick
Charles Lawler (Alternate)
Bernadette Tsoisie
Pat Turney (Alternate)
Bill Miller

Representing

U.S. Bureau of Reclamation
U.S. Bureau of Reclamation
Colorado Water Conservation Board
Keller-Bliesner Engineering Bureau of Indian Affairs
Parsons Water & Infrastructure (Water Development)
Ayres Associates (Jicarilla Apache Nation)
Harris Water Engineering, Inc. (Water Development)
San Juan Water Commission (Water Development)
Southern Ute Indian Tribe
Navajo Nation Dept. of Water Resources
New Mexico Interstate Stream Commission
Miller Ecological Consultants, Inc. (Southern Ute Indian Tribe)

Other Interested Parties

Dave King
Brian Hanson
Joann Perea-Richmann
Erik Knight
Aaron Chavez
Larry Hjermstad
Mike Hjermstad

U.S. Bureau of Reclamation
U.S. Fish and Wildlife Service, NM Ecological Svc.
U.S. Fish and Wildlife Service, NM Ecological Svc.
U.S. Bureau of Reclamation
San Juan Water Commission
Western Weather Consultants
Western Weather Consultants

Introductions, Review and Approval of Agenda Items

CORRECTIONS TO MARCH DRAFT SUMMARY

Pat Page read the objection proposed edits, by John Whipple to correct page 1, item 115 stating it should read to research issues associated with leasing *or* forbearance.

Page 2, section titled “Policy on Requests for Model Runs”: General consensus was that the document should be rewritten and should be titled “SJRIP Recommendation...”

rather than “SJRIIP Policy...”

Page 2, section titled “Policy on Request for Model Runs”, second sentence: Change the word “process” to “project”.

Page 2, section titled “Hydrologic Condition Discussion...”: This section should note that comments on the draft “Extreme Conditions Definition” dated 1/21/04, due by May 11.

APPROVAL OF MARCH 23, 2004

Summary was approved with the corrections suggested by John Whipple.

REVIEW OF ACTION ITEMS CONFERENCE CALL SUMMARY

Action item log was reviewed and updated. See attached log for May 18, 2004.

BUDGET AND STATUS REPORT

Handout was given by Dave King. He stated 11 days of work are left for documentation and work on Model 3 generation and documentation for (Tasks 19, 23 & 24) Ron Bliesner and Dave King will work on this.

O & M funds were programmed for about 1 week for Tech transfer. Eric and John will update the model with 2000-2002 data. This effort needs to be coordinated with Ray Alvarado, in Durango preferably.

Ron Bliesner indicated that discussion among the Biology Committee has been taking place regarding revising the Flow Recommendations. There are some serious issues on the San Juan River due to timing. And the snowmelt run off makes no difference’s it’s the storm runoff that is important.

Ray indicated that Colorado is currently updating their time series data annually, and that the acreage data is completed every 5 years. The hydrology for the StateMod model will be updated every 5 years. Colorado will be using a daily model to calculate daily natural flows in the near future.

The Hydrology Committee (HC) recommended that the SJBHM hydrology be updated every 5 years. To facilitate tech transfer to John Simons and Erik Knight, an update will be done this FY if sufficient funds are available. Data should be revised annually but do not need to implement it in the model annually.

Pat Page will send out the latest O & M budget report to the committee.

BRIEFING ON BRIDGING MODEL GENERATION 3 E/GENERATION 2 OPERATING UNIT (GEN 2/GEN 3) 4.4-3 – Ron Bliesner

Ron explained that this has been more difficult than anticipated because of the differences between Gen 2 and Gen 3. It has been done with minor adjustments to the rules. The depletions of this model are equivalent to the Navajo Dam EIS second generation model. It was mentioned that there were Ridges Basin Reservoir content and

flow differences due to the hydrology, depletion, and time-step differences. We now get daily output which greatly reduces the analysis time required.

Rule changes: Two rule changes which were made are: 1) Another Volume at Four Corners, look back rule was created to force a release not covered by the existing decision tree: and 2) calibration changes.

Ron indicated that this model version is more sensitive than the previous version.

RIDGES BASIN PUMPING (GEN 3 MODEL - GEN 2 MODEL) CUMULATIVE ACRE FEET NAVAJO FLOW COMPARISON (GEN 2 – GEN 3 CUMULATIVE DIFFERENCE)

This is demonstrating the flow between the two. The old model filled the reservoir and counted as the average. The model now starts at full reservoir level. The upstream level is greater now.

DEPLETION CATEGORY – HANDOUT

Ron Bliesner noted some additional baseline depletion adjustments that should be made:

1. Hammond depletion should be for specified target.
2. Utah depletions should be reduced (more of their depletion should off-stream).
3. Modeled unspecified depletions should total 4500 rather than 3000 acre-feet/year, excluding New Mexico's 1500 of acre-feet of off-stream unspecified depletion.

SJRIIP HYDROLOGY MODEL – 3RD GENERATION OPERATING CRITERIA (HANDOUT) – RON RLIESNER

Criteria 1 - (Handout) in progress and will be tested

Criteria 2 – (Handout) Need to maintain the capabilities and leave as is.

Criteria 3 – Was investigated and matched to the Animas, would that be better?

Yes, it gave us more big water, but we lost secondary criteria when we perfectly matched, so it doesn't make sense. Ron proposes not to do anymore on this for 2004. He thinks it's worth another go in 2005 with the 5,000 figure.

Criteria 4 – We don't know where the flow recommendations are right now. So it doesn't make sense now to continue to spend time and money on this. It takes at least 1 man week to look at the codes of this.

Criteria 5 – Once a decision was made with the old model you couldn't change it. Proposing to track it better and then we can hold off for FY 2005.

Criteria 6 – Would like to have the tool capability built into the model. Currently using the 3 gauge rule.

Criteria 7 - 14 cfs increments will not be implemented.

Criteria 8 - not to be implemented.

Conclusion – The model development staff are not going to use budgeted funds to complete all of the tools. They need to complete documentation, adjust baseline depletions, and criteria 1, 2, 5, 6 and 8 above need to be implemented. They will

complete eight calibration runs to make sure everything works.

JICARILLA PROJECT MODEL RUN

Ron Bliesner announced that the Biological Opinion is out now on Jicarilla consultation which probably needs to be implemented.

Action: Need to follow the new HC Recommendation for Model Runs.

Note: O & M money has specific spending needs.

Reclamation starts on Generation 3 under O & M budget.

DOCUMENTATION OF GENERATION 3

It was voted and agreed by the Hydrology Committee that documentation of Generation 3 will be based on the rules for the Navajo Dam EIS. It will be prepared for consideration by July 13, 2004. A model run without other projects will be provided.

The Gen 3 runs for non-SJRIP projects Jicarilla, Long Hollow and Navajo-Gallup, will be completed and documented independent of the Navajo EIS documentation. If Reclamation makes the runs, they will be funded with the O & M funding. The runs will be made and analyzed before September 15, 2004.

Generation 3 will not be considered for approval until the September 15, 2004, meeting when the 3 project run results will be available.

HC RECOMMENDATION FOR MODEL RUNS

APRIL 29, 2004 DRAFT LANGUAGE FOR MODEL RUNS – Pat Page

7th line it should read “do not have the ability” should be changed.

#5 -- Second to last sentence should read “It is recommended that the Service verify with Reclamation that the results and conclusions contained in the report accurately reflect model results”.

#2 -- In the last sentence – should read “At that time, Reclamation should also notify the SJRIP Hydrology Committee that they will be making a model run for the applicant, Add....subject to the availability of SJRIP funding for this purpose”.

#3 – in the last sentence delete the word “the” before “developing”.

ANALYSIS OF LONG HOLLOW DAM PROJECT– JOHN SIMONS BUREAU OF RECLAMATION

The following is a summary of the Long Hollow Dam project RW runs given to the Hydrology Committee May 18, 2004: (a summary was emailed to committee members prior to the meeting.)

Mr. Simons stated that there is no hydrology in the SJRIP Basin Hydrology Model of the La Plata River Basin, that Reclamation conducted no validation of the data submitted by the applicant in a handout which was distributed to the HC all documentation provided on the model run.

A request was made to Reclamation by Wright Water Engineers, Inc. (WWE) on behalf of its client, La Plata Water Conservancy District to run the San Juan Basin Hydrology Model (SJBHM) for the Long Hollow Dam Project (LHDP) located in the La Plata River Drainage in Colorado.

The SJBHM does not have adequate hydrology to exactly model the configuration of the LHDP. It was determined that one node representing their projects monthly net depletion in Colorado would be the best way to represent their projects impacts on water resources. Two datasets of monthly depletions for the 1929-1993 wy period of record were modeled. Submittal 1 average 1640 af/year and submittal 2 averaged 1450 af/year depletions. The SJBHM modified by Ayres Engineering for the Jicarilla Apache Nation, RW version 4.4 was modified by creating a River Reach labeled Long Hollow Project Depletion. The monthly depletion file was input to the Inflow slot and the outflow slot was linked to the AggReach, Hesperus To Sateline: Below Cherry Creek Divs: Return Flow.

The LaPlata River Long Hollow Dam Project as modeled using submittal 1 depletions did not meet the requirements of all statistics of SJRIP program, but using submittal 2 depletions meets the requirements of SJRIP program of contributing to the recovery of the endangered fish.

Comment was made by a committee member that Reclamation did as good as they could do (on this run) with the data they had to work with.

CLOUD SEEDING

CLOUD SEEDING -- Mr. Larry Hjermstad, Manager, Western Weather Consultants, (Handout)

This is a follow-up action item from last year to speak to the committee. Mr. Hjermstad explained that many snow crystals form in seeded clouds thus depositing some of the cloud water on the ground. This process takes 15-30 minutes for them to grow and fall out. The program monitors specific data on precipitation. Depending on the weather conditions for the day, different results will occur especially with cold weather and difficult clouds and winds. Monitoring the conditions is the same as the weather bureau. Ground-based generators work when clouds are low enough to reach the targeted clouds. During the pilot project and the evaluation, the criteria called for averaging of the entire target area, no matter what the wind direction was for the entire target area was. A normal percentage range in the winter months of November–February was about 135%. With the ground base program and depending on weather conditions, the minimum increase precipitation is estimated to be about 9-10% and an upper increase of 18-20%.

HYDROLOGIC CONDITIONS DISCUSSION

Review of 1-21-04 draft is still not finalized. The HC declared that extreme hydrologic conditions (drought) still exist in the basin.

NAVAJO RESERVOIR OPERATIONS – PAT PAGE BUREAU OF RECLAMATION

- **Shortage Sharing Update** – recommendations have been endorsed by all

parties and Bureau of Reclamation and State of NM have accepted the recommendations so they are being implemented. The maintenance flow developed by the Biology Committee is being triggered; therefore the target base flow is 400 cfs. Due to the run-off, flows have been well above 400cfs so far. It was recommended that the minimum releases from the dam be 250 cfs. However, EIS is still not completed, waiting for the final Biological Opinion from Fish and Wildlife Service. The solicitors for the Bureau of Reclamation and Fish and Wildlife Service are still discussing the 2nd draft of the BO. As such, Reclamation is currently preparing an Environmental Assessment (EA) for summer operations. The preferred alternative in the EA is a minimum release of 350 cfs. Comments for Draft EA were due 5/20/04.

- Gate repair contract was awarded and contractor is expected to start in June and the job is to be completed by November, 2004.

COMPARISON (Handout) – John Simons

John described the minor differences between the model versions. The conclusion is to use the Version 4.4 (RiverWare). HC also approved the use of data set 2.5.2 (RiverWare) and 2.6 (Revised Jicarilla Baseline).

REVIEW OF NEW ACTION ITEMS

- Change language in action item #115 (to research issues associated with leasing or programming) per John Whipple's comments.
- Pat Page will e-mail current O & M budget report to committee.
- Ron Bliesner and Dave will work together on documentation for depletion differences for Gen 2 & Gen 3 specifically on NM non-Indian.
- Draft EA comments due by 5/21/04.
- Eric Knight (Bureau of Reclamation) will posted 2.6 on Web page.
- Update on any new projects. HC members will report to the rest of the committee on any new projects in the works at each meeting.
- Follow-up on gauge (USGS) at Archuleta right-of-way.
- Draft documentation to Hydrology Committee July 6, 2004.
- Comments on documentation are due August 10, 2004.
- Generation 3 Model is to be completed by September 15, 2004.
- Develop draft budget for FY 2005 at July 13th, 9 am-Noon Conference Call.

MEETING AJDOURNED 2:45 PM