Notes from the Upper Rio Grande Basin Water Operations Review ID Team Meeting, September 9, 1999, 1:00 PM, Corps of Engineers Building, Albuquerque

In attendance:

Mike Bitner, CH_2M Hill
William DeRagon, Corps
Kathy Dickinson, Bureau of Reclamation
Ellen Dietrich, SAIC
Richard Fike, Corps
Rhea Graham, Pueblo of Sandia
Javier Grajeda, Bureau of Reclamation
Alan Hatch, Pueblo of Santa Ana
Conrad Keyes, Jr., RGCC–TX
Clay Mathers, Corps
Robert Padilla, Bureau of Reclamation
Lori Robertson, Bureau of Reclamation
Gary Rutherford, Corps
Bill Skinner, NMED/SWQB
Bill Spurgeon, Corps
Gail Stockton, Corps
John Stomp, City of Albuquerque
Wayne Treers, Bureau of Reclamation
Pat Turney, NMISC
Rae Van Hoven, NMSHTD
Chris Velasquez, Corps
Doug Wolf, Corps
Jim Zokan, Pueblo of Santa Ana

- John Stomp, Water Resources Manager for the City of Albuquerque, presented a slide show and discussion of the City's Water Resources Strategy Implementation. A printout of the slides was distributed. Discussion and some important points are summarized below.
  - The purpose of the presentation was to get information out about the City's strategy to take full delivery of all water to which they are entitled.
    - This includes the diversion of 65 cubic feet per second (cfs) of San Juan-Chama water and 65 cfs of native water within the period of a year (84 million gallons per day [mgd]) on average, or approximately 160 cfs if water were diverted only during 10 months of the year.
    - The water treatment plant capacity will be approximately 120 mgd.
    - Options will be available to reduce water delivery during a drought, when they will use stored groundwater.
  - Seven rate increases will fund the implementation effort.
  - Part of the strategy includes developing an Environmental Impact Statement (EIS). They anticipate that preparing the Draft EIS will take 18 months after scoping is completed.
  - The projects discussed were industrial water recycling, southside water recycling, nonpotable surface water reclamation, and the drinking water project.
    - The Environmental Assessment that addressed the industrial water recycling project was published in November 1999. Construction has begun.
    - Delivery of this water is anticipated to occur in April 2000.

- The City hopes to use URGWOM to model the effects of taking these water deliveries.
- They would like to work with other interested groups on silvery minnow and southwestern willow flycatcher issues.
- The water diversion options were discussed in some detail.
  - Subsurface facilities are now restricted to Bernalillo County.
  - Some alternatives to be considered in the EIS will limit the use of specific diversions due to their locations.
  - The infiltration gallery alternative may be eliminated from consideration because, in its proposed location, most of the water would be drawn from the riverside drain, not the river.
  - In-river subsurface facilities are now considered feasible.
- The bill to enable aquifer storage and recovery was passed during the last legislative session.
- The City would like to use Abiquiu Reservoir to regulate flows, and draw its water from Heron Reservoir.
- Questions and answers
  - Why was the Isleta Diversion eliminated? Too much pumping would be necessary because it is too far downstream from the sewage treatment plant. A large pump station would be required.
  - Why would so many collectors be needed to supply the radial collector wells? Estimates are conservative and are based on modeling and field data.
  - For the EIS, what will they use as baseline flows? They are considering this issue, especially regarding San Juan-Chama water. Supplemental water that has been provided to the Bureau of Reclamation under one-year agreements would not be included in the baseline.
  - What would be included in the No-Action Alternative? They have not decided this yet, but it could differ from the baseline in how San Juan-Chama water is used.
  - How will the City know when to divert flood flows? They must have a way to gauge and manage flows in the middle Rio Grande, so they will know when they can divert and store water to maximize its use. They are making a separate application to the State Engineer to consider storage of water in Abiquiu. This would involve a separate EIS with the Corps of Engineers.
  - If water uses are regionalized, could the northern site for water treatment be at a different location? Yes.

- Clay Mathers and Doug Wolf presented information to the technical teams on the potential and pitfalls of using Geographic Information Systems (GIS).
  - GIS was defined as a spatially referenced database with a capacity for storing, manipulating, and displaying spatial data.
  - Three basic models are used—raster, vector, and object-oriented—to analyze spatial data and affect the analysis and resolution of GIS.

- GIS was compared to Computer Aided Design (CAD) and desktop mapping, both of which can draw maps, but offer less ability to do spatial analysis.
- GIS is not a complete analytical tool.
  - It is good at performing terrain analysis and network analysis, for example.
  - It is not as good as a thematic mapping program in preparation of cartographic maps.
- GIS analysis is a staged process involving:
  - Pattern recognition;
  - Follow-up which is more sophisticated than the initial step;
  - Design and displaying of results.
- The result of GIS analysis may not always be a map. It could be a histogram, the name of a property, or a mathematical value.
- GIS and Data Quality
  - A user must consider the fitness of GIS data for a specific purpose or its appropriateness for a specific use.
  - Error is inherent and should not be masked.
  - The "fuzziness" of data must be considered. Often boundaries are not clean, and actually grade from one classification to another on the ground.
  - Sources of error:
    - The inherent properties of nature.
    - Original measurement error.
    - Errors produced during manipulation.
  - Ways to reduce error:
    - Talk to the collector of the data.
    - Use common sense—know the limits of data and methods of data collection.
    - Develop better metadata.
    - Use error detection methods.
- Clay summarized by telling the group that GIS offers an opportunity to have an integrated, interdisciplinary analysis for the Water Operations Review. Technical teams can look at the concerns and issues of each resource using the same tool.

❖ Clay presented some information on the progress of the Cultural Resources technical team.

- In order to assess available resources, they need to obtain information on data quality, incorporate knowledge into Flo-2D modeling, and assess impacts.
  - For data quality assessments, they will collect information on surveyed space from the State Historic Preservation Officer.
  - Impact analysis will evaluate the vulnerability of significant sites. An assessment of archaeological significance depends on the context of the sites.

- Clay also told the group that he is working with the Riparian Habitat technical team to identify data that will help them evaluate the impacts of water operations changes on existing plant and animal communities.
- Robert Padilla, on the Geomorphology technical team, distributed a revised list of river reaches. This list was agreed to by the technical team members at the last meeting, with reaches that correspond to those for URGWOM. He also distributed a revised technical team work plan and a task list.
- Other project activities.
  - Gail Stockton reported that the joint lead agencies, the Corps, Bureau of Reclamation, and NMISC, are still working on their Memorandum of Agreement.
  - Letters have been sent to potential cooperating agencies by both the Corps and the NMISC to inform them about the Water Operations Review, and to ask if they are interested in participating in the effort. About five responses have been received so far. Some are interested in getting additional information. The letters requested that responses be supplied by September 15.
- The next meeting of the Upper Rio Grande Basin Water Operations Review will be held on Wednesday, November 10 at 1:00 PM instead of on the regularly scheduled Thursday meeting, which falls on Veterans Day.