

State of New Mexico Issues and Concerns about the 2008 Rio Grande Project Operating Agreement

By Peggy Barroll, Ph.D.

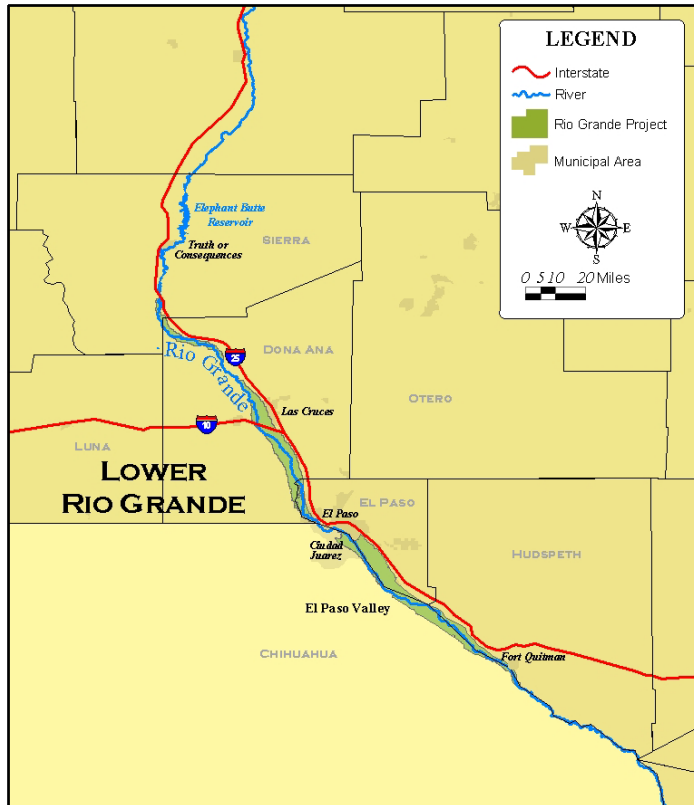
Hydrology Bureau, New Mexico Office of the State Engineer

June, 2010

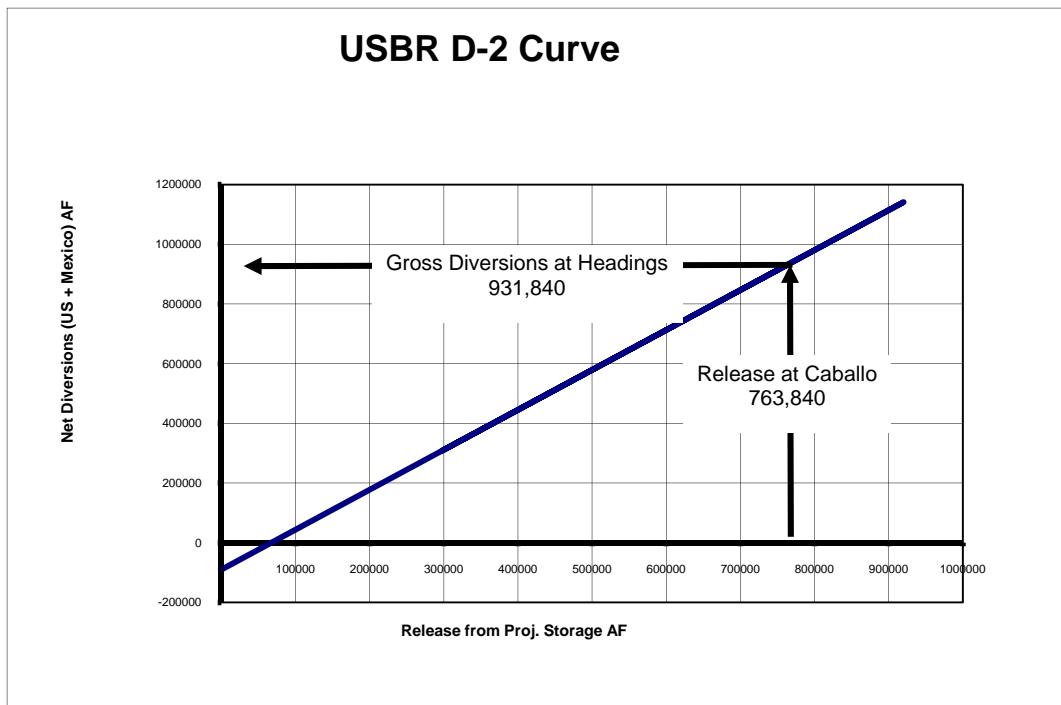
The Rio Grande Project, operated by the U.S. Bureau of Reclamation (Reclamation), delivers surface water to Mexico, the Elephant Butte Irrigation District (“EBID”) in New Mexico, and the El Paso County Water Improvement District (EPCWID) in Texas, collectively, the “Districts”. Water delivered to EPCWID includes water delivered to the El Paso Water Utility for municipal use in El Paso, Texas.

1) Introduction and History

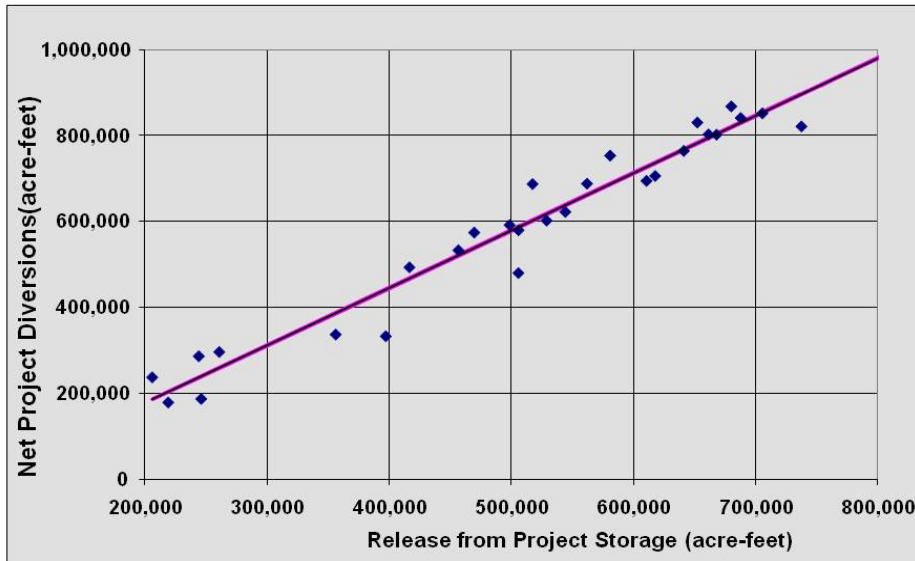
- a) The Rio Grande Project (Project) was developed in the first part of the 20th century, to supply surface water for irrigation to lands in Texas and New Mexico, and to ensure delivery of water to Mexico under International Treaty. Reclamation built dams and developed reservoir storage to improve the reliability of water supply which previously had been intermittent and undependable.



- b) For many years, the U. S. part of the Rio Grande Project was operated as one system. Reclamation delivered water equally to all Project Lands in New Mexico and Texas.
- i) After transfer of title for a portion of the Project in the late 1970's, Reclamation delivered water to the Irrigation Districts, i.e. EBID in New Mexico and EPCWID in Texas, at various specified canal-heading locations. Reclamation's goal was to deliver enough water to the Districts so that the Districts could deliver the same amounts of water to the farmers that Reclamation had.
 - ii) During the 1980's, Reclamation developed draft Operating Agreements and Water Resource Allocation Procedures for delivery of water to the Districts. The Districts were then responsible for delivery to farmers.
 - iii) Reclamation developed the D2 curve based on the correlation between the releases from reservoir storage (Caballo Dam) and total canal heading diversions from 1951-1978. D2 reflects the delivery efficiency of the Rio Grande Project for that time period.



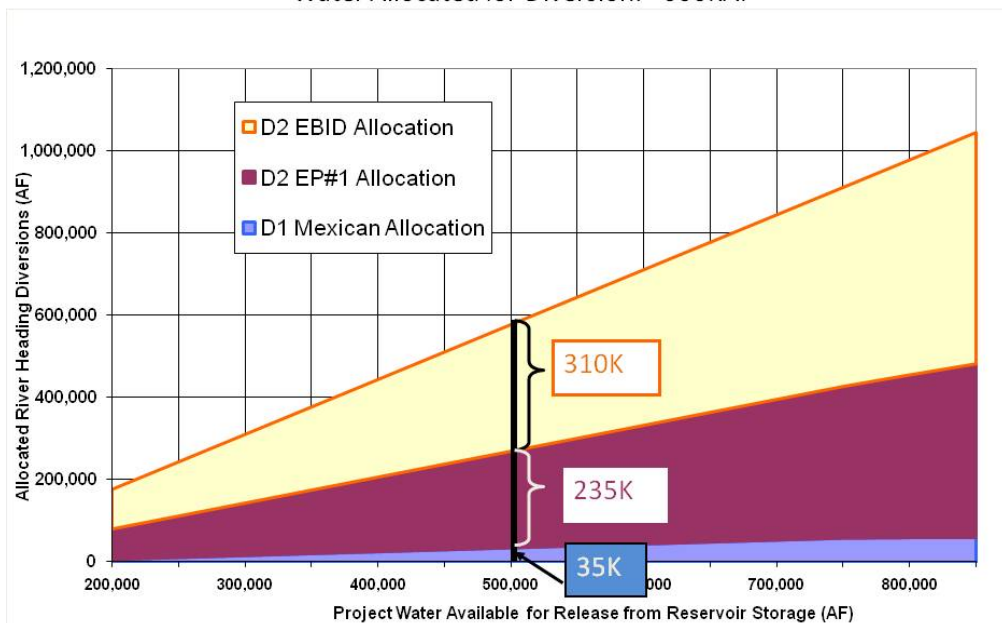
D2 Curve with D2 Data (1951-1978)



- c) Under D2 Allocation, as described in Reclamation drafts from the 1980's, Mexico was allocated its share under the International Treaty, then EBID and EP#1 were allocated the remainder of the project River Heading Diversion amount, split 57:43 (based on the original Project acreage distribution).

Theoretical Allocation of Water Under D2

Example: Project Water in Storage: 500KAF
 Water Allocated for Diversion: ~600KAF



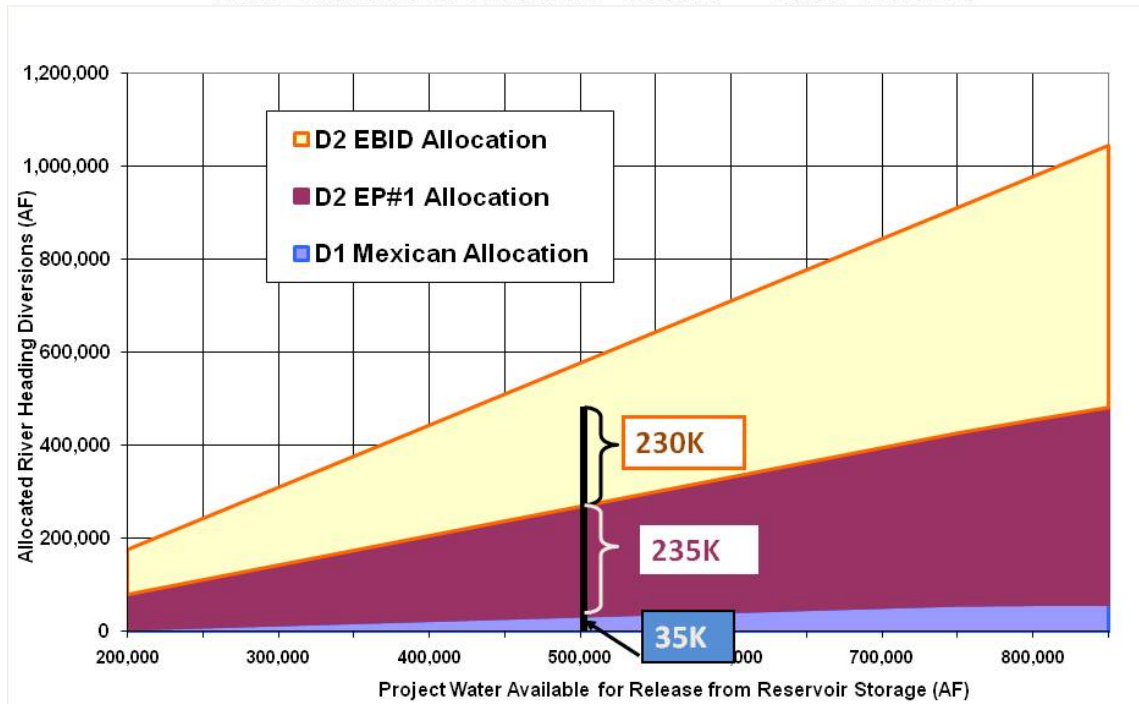
- d) A number of Operating Agreements were drafted during the 1980's, 1990's, and 2000's but none were signed by both Districts.
- e) EBID, EPCWID and Reclamation continued to negotiate to achieve a signed Operating Agreement. The parties negotiated for years without achieving a signed Agreement.
- f) Litigation during the 1990's and 2000's:
 - i) Various lawsuits were filed over Project operations and other Lower Rio Grande issues.
 - ii) Texas threatened interstate litigation against New Mexico.
- g) Reclamation unilaterally implemented Operating Procedures in 2007, based on some of the technical principles then under negotiation.

2) **New Operating Agreement.** In February of 2008, as part of confidential settlement negotiations Reclamation, EBID and EPCWID signed an Operating Agreement and then collaborated to draft an Operations Manual. The Operating Agreement and/or Operations Manual include the following changes from previous Project operations:

- a) New Allocation Method (referred to as D3 Allocation):
 - i) EPCWID is allocated its D2 share based on 1951-1978 operations and delivery efficiency, as illustrated in the D2 graphs above.
 - ii) EBID's allocation is calculated based on a new term: "Diversion Ratio", which is calculated using each year's charged diversions and releases from Caballo Reservoir. If the year's Diversion Ratio is less than the D2 Delivery Efficiency, EBID gets a reduced allocation. As a result, only EBID "pays" (by way of a decreased allocation) for anything that reduces the present delivery efficiency or Diversion Ratio of the Rio Grande Project, including such factors as drought, accounting credits, and the effects of groundwater pumping in New Mexico, Texas and Mexico on Project surface water supplies.
 - iii) The calculation of the Diversion Ratio includes accounting credits. Many of these credits are of relatively recent origin, and their presence in the calculation tends to reduce the Diversion Ratio, and thus reduce EBID's allocation.

Allocation of Water Under D3

Example: Project Water in Storage: 500KAF
Water Available for Diversion: ~500KAF -- Below D2 levels



- b) Each District's unused diversion allocation goes into a carryover diversion allocation account (Carryover Account) which can augment that District's supply the following year.
 - i) Carryover Accounts are capped.
 - ii) If a District's Carryover Account cap is exceeded, the excess transfers to the other District's carryover account at the end of the year.
 - iii) As currently described and documented, Carryover Accounts are not charged for evaporative or any other kind of loss.
- c) Each District's total annual allocation includes both its D3 allocation of new water and the amount in the District's Carryover Account. This total annual allocation can be greater than the District's historical full supply delivery amount.

3) Results

- a) The 2008 Operating Agreement resolved some of the ongoing litigation over the Project.
- b) The Operating Agreement reduced the interstate litigation threat from Texas.
- c) Increased cooperation between the Irrigation Districts
- d) Project operations have and continue to be modified as problems arise under the new Operating Agreement and/or Operations Manual. Modifications during 2009 include:
 - i) Setting the date of October 31, instead of late July or early August, for determination of the final annual allocation to both Districts and Mexico.
 - ii) Transferring carryover from one District to another during the calendar year.
 - iii) Changes to the water allocation formulas in the Operating Agreement.
- e) There have been significant reductions in EBID's allocation.
 - i) A full-supply allocation for EBID is 495,000 acre-feet, which was last allocated to EBID in the years 2001 and 2002. Recent EBID allocations have been much lower, even when a full surface water supply has been available to the Project. EBID's allocation in 2008 was 320,000 acre-feet, and in 2009 EBID's allocation was 345,000 acre-feet, despite the fact that there was a full surface water supply available to the Rio Grande Project in those years. EBID's 2010 allocation, as of June, is 253,000 acre-feet.

4) State of New Mexico interests

- a) New Mexico water resource protection;
- b) Consistency with the Rio Grande Compact;
- c) Sustainability of the Operating Agreement and the Operations Manual;
- d) Equity and fairness;
- e) Transparency.

5) More Detailed Technical Concerns

- a) Is the agreement, as currently implemented, physically sustainable?
- b) Are the full effects of this agreement on the Rio Grande Compact fully understood?
 - i) Article IV – New Mexico delivery obligation
 - ii) Article VI – Spill provision
 - iii) Article VII – Ability to store Rio Grande water in reservoirs constructed after 1929
 - iv) Article VIII – Release of stored debit water
- c) Are the effects of groundwater pumping in Texas properly evaluated and offset?
- d) Are the methods used to calculate diversions and (therefore diversion ratio) comparable to those used during the period of time in which the D2 relationship was developed? Systematic changes in accounting methods could result in systematic changes in allocation.
- e) Are additional constraints necessary on the use of Districts' carryover accounts? Are changes to carryover accounting necessary?
- f) Is the Operating Agreement sufficiently well documented to ensure continued operation in accordance with the understandings and intentions of the Parties during the 40 year life of the Agreement?

6) What is the State of New Mexico doing to investigate these concerns?

- a) New Mexico is analyzing recent and historical operations data.
- b) New Mexico has been meeting with the State of Texas, Reclamation, EBID and EPCWID to learn more about the Operating Agreement and Operations Manual.
- c) New Mexico delivered a letter to Reclamation outlining its concerns.
- d) New Mexico is modeling surface and ground water operations in the Project. (Modeling has proved difficult since modifications to the Operating Agreement and/or Operations Manual are still ongoing).
- e) New Mexico will continue technical analysis and modeling of Project operations, and will continue monitoring Project Operations and accounting. New Mexico hopes to collaborate with Reclamation and the Districts on this technical analysis.