

New Mexico Addendum to the Engineer Advisers' Report to the Rio Grande Compact Commission

April 2021

At the 2021 Rio Grande Compact Commission (RGCC) Engineer Advisers' meeting, the Engineer Advisers again did not reach unanimous consensus on a method by which to finalize the Rio Grande Compact (Compact) Accounting. The lack of unanimous consensus stems from:

- 1) the continuing disagreement regarding New Mexico and Colorado Credit Water that Reclamation unilaterally released from Elephant Butte Reservoir in 2011 without authorization from either Colorado or New Mexico;
- 2) the appropriate accounting of New Mexico and Colorado deliveries from 2011 thru 2020 that were affected by Reclamation's unilateral and unauthorized 2011 Credit Water release;
- 3) Reclamation's disregard for Article VI in the Compact¹ and the 2006 direction of the RGCC to Reclamation regarding the accounting and release of accrued Credit Water; and
- 4) Reclamation's continued use of Method 1 accounting (see Method 1 accounting sheet) and the impacts on New Mexico of this accounting due to the differences in the timing and duration of the Article VII storage restriction on upstream reservoirs constructed after 1929.

Compact Accounting by Texas/Reclamation using Method 1, as compared to New Mexico's use of Method 2

The Texas Engineer Adviser conducted Compact accounting for the 2020 calendar year using a method (see Method 1 accounting sheets) that reduces Credit Water by subtracting evaporation losses on a monthly basis during the calendar year. This same method was put forward to the RGCC by Texas and Reclamation in 2012 and carried forward by them in subsequent years using the same accounting steps. At the start of calendar year 2020 using Method 1, Colorado had an Accrued Credit of 900 acre-feet, and New Mexico had an Accrued Debit of 34,300 acre-feet. At the beginning of calendar year 2021 using Method 1, Colorado had an Accrued Credit of 1,300 acre-feet and New Mexico had an Accrued Debit of 91,500 acre-feet. This method, however, is contrary to Article VI of the Compact for computing evaporation losses on both Credit and Debit water retained in storage and the 2006 direction of the RGCC to Reclamation. The New Mexico Engineer Adviser has repeatedly apprised the RGCC that approval of Method 1 would require the RGCC to disregard the explicit language of the Compact requiring annual accounting for

¹ Pursuant to Article VI of the Compact, "all credits and debits of Colorado and New Mexico shall be computed for each calendar year" and "such credits and debits shall be reduced annually to compensate for evaporation losses in the proportion that such credits or debits bore to the total amount of water in such reservoirs during the year."

evaporation and is contradictory to the unanimous RGCC directive in 2006. Furthermore, the 2006 resolution cannot be unilaterally rescinded by a single state nor by an Engineer Adviser. Therefore, Method 1 is not acceptable to the New Mexico Engineer Adviser.

The New Mexico Engineer Adviser conducted Compact accounting for the 2020 calendar year using a method (referred to as Method 2, see accounting sheets) that was proposed by both the New Mexico and the Colorado Engineer Advisers in 2012 (see the 2012 New Mexico and Colorado joint addendum to the 2012 Engineer Adviser Report). Method 2 reduces Credit Water for evaporation at the end of the calendar year in accordance with Article VI of the Compact and the 2006 direction of the RGCC to Reclamation. The New Mexico Engineer Adviser carried forward the end of 2011 accounting results with Method 2 through the 2020 calendar year using the same accounting steps (See 2020 New Mexico Addendum). During the 2020 calendar year, Colorado carried an Accrued Credit of 800 acre-feet, and New Mexico carried an Accrued Debit of 38,800 acre-feet by Method 2. The New Mexico Engineer Adviser used these values as inputs for the 2020 Compact accounting. Consequently, the Compact compliance status for 2021, using Method 2, is 1,200 acre-feet of Accrued Credit for Colorado and 96,300 acre-feet of Accrued Debit, for New Mexico. Method 2 accounting sheets and associated tables are attached to this New Mexico 2020 addendum.

For calendar year 2020 Article VII storage restrictions went into effect on June 19, 2020 for both Method 1 and Method 2 accounting, since only a small amount of Colorado Accrued Credit water was present in Elephant Butte Reservoir. No storage of native water occurred in New Mexico after June 19, 2020.

Article VII restriction timing issues that have occurred since Reclamation's 2011 unilateral and unauthorized release of credit water has impacted New Mexico and Colorado up-stream storage benefits as documented in addenda included in the annual report of the Engineer Advisers to the Rio Grande Compact Commission since 2011. For example, as documented in the 2017 New Mexico Addendum to the Engineer Adviser report, if Reclamation's 2011 release had been an authorized relinquishment done in accordance with the Compact, New Mexico and Colorado would have received the ability to store and release 33,825 acre-feet of water when the Article VII storage restriction is in effect. These benefits were denied by Reclamation's unauthorized release of credit water described above. Reclamation's refusal to use Method 2 accounting as directed by the RGCC to determine Usable Water in Rio Grande Project Storage also impacted El Vado Reservoir operations in 2015 and 2016.

Given the lack of resolution on the above issues and absent an explicit agreement by Reclamation to abide by Article VI of the Compact and the RGCC's 2006 directives regarding the accounting and release of Accrued Credit Water, the New Mexico Engineer Adviser again recommends that the RGCC not approve any Compact accounting for 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, and 2020.

For calendar year 2020, New Mexico carried an Accrued Debit of 38,800 acre-feet, in accordance with the New Mexico Engineer Adviser's accounting methodology. Article VI of the Rio Grande Compact states in part that, "*New Mexico shall retain water in storage at all times to the extent of its accrued debit*". For New Mexico, retention of Accrued Debit water occurs in reservoirs constructed after 1929, between Lobatos and San Marcial, which are authorized to store native Rio Grande water. For calendar year 2020, retention of water for New Mexico's Accrued Debit occurred primarily in El Vado Reservoir. In El Vado Reservoir, 36,406 acre-feet were retained in the debit account, and in Santa Fe's McClure and Nichols reservoir system, a total of 948 acre-feet were retained.

The Middle Rio Grande Conservancy District (MRGCD) made an emergency request to the Rio Grande Compact Commission, through the New Mexico Engineer Adviser, for release of accrued debit water retained in El Vado Reservoir via email on July 6, 2020. The emergency request was made due to extreme drought conditions to benefit endangered species in the middle valley of the Rio Grande as well as to assist middle valley irrigators. Based on that request, the New Mexico Commissioner sought and received responses from the Commissioners for Colorado and Texas. The Colorado Commissioner did not object to the request and the Texas Commissioner, consented to the request with conditions. The New Mexico Commissioner received those responses on July 16, 2020. The New Mexico Commissioner then issued a State Engineer Order on July 17, 2020, which contained requirements consistent with the conditions specified by the Texas Commissioner. On July 18, 2020, releases of the debit water began. A total of approximately 32,000 acre-feet of retained debit water were released from El Vado Reservoir between July 18, 2020 and September 7, 2020.

TABLE 12.

**EVAPORATION LOSS ON RIO GRANDE WATER STORED
IN RESERVOIRS ABOVE OTOWI AND TOTAL
RIO GRANDE STORAGE AT EL VADO AND ABIQUIU.**

(Method 2, Calendar Year 2020)

(UNIT = ACRE-FEET)

TABLE 12. Evap abv Otowi	EL VADO AND ABIQUIU RIO GRANDE STORAGE	R.G. COMPACT DEBT WATER STORED IN EL VADO	LOSSES ON R.G. COMPACT DEBT WATER STORED IN EL VADO	LOSSES ON RIO GRANDE STORED IN EL VADO	LOSSES ON RIO GRANDE STORED IN ABIQUIU	OTOWI EVAPORATION ADJUSTMENT
MONTH	(1)	(2)	(3)	(4)	(5)	(6) = (4) + (5)
JANUARY	4678	0	0	0	0	0
FEBRUARY	8475	0	0	0	0	0
MARCH	14951	0	0	100	0	100
APRIL	35988	0	0	141	0	141
MAY	60759	0	0	460	0	460
JUNE	54558	36,164	251	394	0	394
JULY	44245	30,620	197	318	1	319
AUGUST	14175	8,014	25	95	-7	88
SEPTEMBER	3801	3,489	47	94	3	97
OCTOBER	3672	3,394	121	125	-3	122
NOVEMBER	3563	3,362	101	104	2	106
DECEMBER	3444	3,350	123	127	0	127
ANNUAL			865	1958	-4	1954

(1) SUM OF NATURAL STORAGE IN EL VADO AND ABIQUIU.

(2) AMOUNT OF DEBT WATER IN STORAGE IN EL VADO. TABLE DOES NOT REFLECT 948 AF OF DEBT WATER RETAINED IN SANTA FE RESERVOIRS WHICH WAS HELD CONSTANT DURING CALENDAR YEAR 2020 BY THE CITY OF SANTA FE.

(3) ACTUAL NET EVAPORATION LOSS TO DEBT WATER IN EL VADO EQUAL TO PERCENT DEBIT WATER TO TOTAL NATIVE TIMES NET LOSS. APPLIED ANNUALLY.

(4) ACTUAL NET EVAPORATION LOSS TO NATURAL POOL IN EL VADO.

(5) ACTUAL NET EVAPORATION LOSS TO NATURAL POOL IN ABIQUIU.

(6) SUM OF NET EVAPORATION LOSSES IN EL VADO AND ABIQUIU.

2020 Evaporation Loss On Rio Grande Compact Water Stored in Elephant Butte Reservoir

(Unit = Acre-Feet) Except Col. (8)

(New Mexico Accounting Method-2)

Month	Total Rio Grande Stored in Elephant Butte (Ac-Ft)	Total Net Evap on Rio Grande Stored in Elephant Butte (Ac-Ft)	Colorado's Rio Grande Compact Credit Water Stored in Elephant Butte (Ac-Ft)	Colorado's Credit Water Evaporation Adjustment (Ac-Ft)	New Mexico's Rio Grande Compact Credit Water Stored in Elephant Butte (Ac-Ft)	New Mexico's Credit Water Evaporation Adjustment (Ac-Ft)	Total Credit Water Evaporation Adjustment (Ac-Ft)	Total Rio Grande Usable Water Stored in Elephant Butte (Kaf)	Total Water Relinquished (Ac-Ft)	CO Credit Water Relinquished (Ac-Ft)	NM Credit Water Relinquished (Ac-Ft)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
BOY Credit (2020)			800		0				NA	NA	NA
January	577171	3462	800	5	0	0	5	576	0	0	0
February	609291	3511	800	5	0	0	5	608	0	0	0
March	552672	7848	800	11	0	0	11	552	0	0	0
April	500332	11704	800	18	0	0	18	500	0	0	0
May	402017	14114	800	27	0	0	27	401	0	0	0
June	285652	12129	800	31	0	0	31	285	0	0	0
July	175554	6764	800	27	0	0	27	175	0	0	0
August	108385	5522	800	34	0	0	34	108	0	0	0
September	82592	2971	800	23	0	0	23	82	0	0	0
October	87325	2958	800	21	0	0	21	87	0	0	0
November	100038	2226	800	13	0	0	13	99	0	0	0
December	127091	1361	800	6	0	0	6	126	0	0	0
Annual		74570		221		0	221		0	0	0

(8) = (1) - [(3) + (5)] Total usable Rio Grande water in Elephant Butte Reservoir.