

**AGREEMENT CONCERNING
MODIFICATIONS TO APPENDIX A.1**

This agreement is entered into by the State of Colorado and the State of Kansas (referred to herein individually as "State" and collectively as "States").

WHEREAS, Appendix A.1 of the Judgment and Decree in *Kansas v. Colorado*, No. 105, Original, U.S. Supreme Court ("*Decree*"), provides Compact Compliance and Repayment Procedures, including when there is a Shortfall determined in the Ten-year Compact Compliance table;

WHEREAS, Appendix A.1 provides that the estimated transit loss is to be compared to the actual transit loss:

Comparison of Transit Loss: When the Offset Account includes Shortfall Makeup, a comparison between the estimated transit loss (as a percentage) and the actual transit loss (as a percentage) will be made based on *the next Offset Account release after June 1* that includes any consumable subaccount water. This comparison is to assure that the estimated transit loss provided with the Shortfall Makeup was sufficient. The actual transit loss on the Offset Account release will be determined based on the entire volume of that release using the Offset Account Crediting Agreement (Appendix F.2 of this *Decree*). If the actual transit loss is more than the estimated transit loss, then Colorado shall make an additional delivery to the Colorado Consumable Subaccount(s) of the Offset Account within 45 days of the end of the delivery based on the transit loss percentage difference times the amount of the Shortfall and shall not be transferred to the Kansas Consumable Subaccount until the next succeeding July 1. (*emphasis added*)

WHEREAS, the States had different interpretations of "...*the next Offset Account release after June 1...*" that resulted in different determinations of actual transit loss;

WHEREAS, the States agreed to modifications to Appendix A.1 to resolve future controversy over determining the actual transit loss on a Shortfall Makeup delivery;

NOW THEREFORE, BE IT RESOLVED that the States have agreed to the attached modified Appendix A.1 (Attachment 1).

JOINTLY APPROVED AS OF this 6^m day of December, 2023.



Kevin Rein
Colorado State Engineer



Earl Lewis
Kansas Chief Engineer

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Attachment 1

Appendix A.1

As Amended December 6, 2023

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AMENDED APPENDIX A.1

Compact Compliance And Repayment Accounting Procedures

As Amended December 6, 2023

1. Introduction

The Annual Calculations to determine Compact compliance with respect to Groundwater Pumping in accordance with this Judgment and Decree (“Decree”) shall start with the annual results of H-I Model runs using the procedures set forth in Appendix B of this Decree and credits for deliveries of water released from the Offset Account and evaporation from the Offset Account determined in accordance with Appendix F of this Decree. Accumulation of accretions shall be limited as described in Appendix D of this Decree.

2. Ten-Year Accounting

Each year, after completion of H-I Model runs for the annual update to the H-I Model in accordance with the schedule and procedures described in Appendix B of this Decree and calculations to determine Offset Account credits and accretion limits, not later than March 31, Colorado shall provide Kansas, using the form of the attached Table 1, its H-I Model results for the preceding year and its calculation of Offset Account delivery and evaporation credits, including the results from the immediately preceding nine years, which shall be summed as shown on Table 1 including its determination of any Shortfall (Colorado Shortfall). If there is a Shortfall, Colorado shall submit a description of sources designated for making up the Shortfall by April 1 in a form consistent with the attached Table 2 as more particularly described in Appendix A.2 of this Decree, to be supplemented with additional sources as they are designated. Not later than May 15 of each year, Kansas shall provide Colorado with results, including its determination of any Shortfall (Kansas Shortfall), using the same form, if they differ from the results and calculation by Colorado.

By June 1, the States shall seek agreement to the accounting using the form of the attached Table 1. If the States have not reached agreement on the accounting by June 1, the dispute shall be submitted to the Dispute Resolution Procedure as set forth in Appendix H of this Decree as a Fast Track Issue, with the period for expert meetings and discussion beginning on June 15.

If Colorado’s ten-year accounting shows a Shortfall, then Colorado shall make up the Shortfall by June 1, in addition to current-year replacement requirements as demonstrated in Appendix A.2 of this Decree, and implemented as described in Section 4 or Section 5 of this Appendix, whichever is applicable.

If Kansas’ ten-year accounting on May 15 shows a different result with which Colorado does not agree, a Provisional Incremental Shortfall will be determined, unless the Kansas Shortfall is smaller. If the Kansas Shortfall is greater, the Provisional Incremental Shortfall will be determined as follows. The Provisional Incremental Shortfall will be determined using one of the three following conditions: (1) If both States have calculated a Shortfall and if the difference in results is 1,000 acre-feet (AF) or less, the Provisional Incremental Shortfall will be half of the difference

of both States' positions; (2) If both States have calculated a Shortfall and the difference in results is larger than 1,000 AF, the Provisional Incremental Shortfall will be 500 AF plus 25% of the difference that is more than 1,000 AF; or (3) If one State has calculated an accretion to Usable Stateline Flow and the other State has calculated a Shortfall, the Provisional Incremental Shortfall will be 50% of a calculated Shortfall that is less than or equal to 1,000 AF and will be 500 AF plus 25% of any of the calculated Shortfall that is over 1,000 AF. The Provisional Incremental Shortfall will be quantified on May 15 and that value will be provided to Colorado by Kansas with the Kansas ten-year accounting. The Colorado Shortfall and the Provisional Incremental Shortfall amount will be delivered to Kansas by June 1 as described in Section 4 or Section 5 of this Appendix, whichever is applicable.

Once the ten-year accounting is finalized by agreement or dispute resolution, if additional water to make up a Shortfall (Shortfall Makeup) is required above the Colorado Shortfall plus the Provisional Incremental Shortfall amount, it shall be delivered to Kansas within 45 days as described in Section 4 or Section 5 of this Appendix, whichever is applicable.

Notwithstanding the foregoing, unless the States otherwise agree, when final crop statistics become available, the States shall make revised H-I Model runs based on the final crop statistics. The revised H-I Model results shall be used in place of the earlier H-I Model results and a revised Table 1 shall be used to determine the final accounting for that year and shall be used in subsequent ten-year accounting. If the revised result of the ten-year accounting indicates a greater Shortfall than previously determined, then Colorado will deliver to Kansas the additional Shortfall within 45 days as described in Section 4 or Section 5 of this Appendix, whichever is applicable.

3. Determining Adequacy of Replacement Requirements

The Colorado State Engineer shall demonstrate to the Kansas Chief Engineer, in accordance with the provisions of Appendix A.2 of this Decree, that Colorado has sufficient water to provide for replacement obligations for the current year as well as water needed to make up any Shortfall.

4. Making up a Shortfall if the Offset Account Exists

If the Offset Account exists, the agreed upon Shortfall, or if there is a dispute, the Colorado Shortfall and the Provisional Incremental Shortfall, determined in accordance with the methodology set forth in Section 2 of this Appendix, along with its estimated transit loss and pre-funded evaporation, shall be delivered to the Colorado Consumable Subaccounts of the Offset Account by June 1, less water existing in either the Kansas Consumable Subaccount or the Colorado Consumable Subaccounts that is not designated for current-year replacement requirements.

If the Offset Account exists, any additional Shortfall Makeup required from a subsequent final determination by agreement or dispute resolution, or additional Shortfall Makeup required as a result of the revised H-I Model run based on final crop statistics, determined in accordance with the methodology set forth in Section 2 of this Appendix, along with its estimated transit loss and pre-funded evaporation, shall be delivered to the Colorado Consumable Subaccounts of the Offset

Account within 45 days and shall not be transferred to the Kansas Consumable Subaccount until the next succeeding July 1.

Notice of Shortfall Delivery: Paragraph 3 of the Offset Account Resolution (Appendix L of this Decree) provides that the Colorado State Engineer is to provide “timely notice” to the Kansas Chief Engineer of deliveries to the Offset Account. For the purposes of delivering water to make up a Shortfall, timely, prior notice shall be given of a delivery for this purpose as soon as practicable after Colorado has determined the source of the water to be delivered. Colorado will provide notice including the amount of water, the purpose for which the water is delivered, the time of delivery, rate of delivery, the extent to which the water is fully consumable, and the quantity, timing, and location of any associated return flows.

To the extent space is not available in the Offset Account, Colorado shall notify the Kansas Chief Engineer of that fact. Colorado shall deliver the remaining water to make up the Shortfall as space becomes available in the Offset Account, with prior notice to the Kansas Chief Engineer, or at a later time if agreed to by the Colorado State Engineer and the Kansas Chief Engineer.

Estimated Transit Loss: Water transferred or delivered to the Offset Account shall include an amount for estimated transit losses to deliver the water from the Offset Account to the Stateline. The expected transit loss shall be computed annually based on the volumetrically-weighted average transit loss of Offset Account deliveries over the last three years in which Offset Account deliveries were made. The volumetrically-weighted average transit loss shall be based on total volumes released from all subaccounts of the Offset Account during the releases and on their deliveries as determined by the Offset Account Crediting Agreement (Appendix F.2 of this Decree).

Pre-Funded Evaporation: Water transferred or delivered to the Offset Account shall include an amount for pre-funded evaporation while Colorado is responsible for the evaporation on the Shortfall Makeup. To determine the pre-funded evaporation amount the following quantities should be summed:

- Shortfall Makeup determined herein, and
- Estimated transit loss determined above.

For this amount of water, the amount of pre-funded evaporation will be determined using the evaporation rates and the John Martin Reservoir contents in Table A below applied from the date of the transfer or delivery until July 1. Partial deliveries will be calculated in the same manner, from date of delivery to July 1.

Table A: Evaporation rates to determine pre-funded quantity to be delivered with Shortfall Makeup based on daily John Martin Reservoir Accounting from the John Martin Accounting System (JMAS) for Compact Years 1980 through 2004.

| Month | Evaporation Rate (AF evap per AF total contents per day) | |
|-----------|--|---|
| | JMR Content less than 77,000 AF as of April 1 | JMR Content greater than 77,000 AF of April 1 |
| January | 0.00016 | 0.00013 |
| February | 0.00042 | 0.00025 |
| March | 0.00102 | 0.00061 |
| April | 0.00163 | 0.00085 |
| May | 0.00238 | 0.00113 |
| June | 0.00266 | 0.00145 |
| July | 0.00306 | 0.00164 |
| August | 0.00264 | 0.00149 |
| September | 0.00213 | 0.00127 |
| October | 0.00141 | 0.00084 |
| November | 0.00059 | 0.00041 |
| December | 0.00034 | 0.00024 |

If on July 1 the actual amount of evaporation is greater than estimated and if there is not water available in the Colorado Consumable Subaccounts to deliver the entire Shortfall Makeup and estimated transit loss, then Colorado shall make an additional transfer or delivery to the Kansas Consumable Subaccount within 30 days of July 1 to make up the difference, provided that Kansas has not taken delivery of the Kansas Consumable Subaccount.

Assignment of Shortfall Evaporation: Evaporation from Shortfall Makeup water shall be assigned under the provisions of the Offset Account Resolution (Appendix L of this Decree) and the Offset Account Crediting Agreement (Appendix F.2 of this Decree). No earlier than March 31, based upon its annual update to the H-I Model in accordance with the procedure set forth in Section 2 of this Appendix, Colorado shall provide notice to Kansas for any water already residing in the Colorado Consumable Subaccounts of the Offset Account that is intended to be used for Shortfall Makeup, and 30 days after that notice the water shall be transferred to the Kansas Consumable Subaccount. For any Shortfall Makeup not yet delivered to the Offset Account, Colorado will provide notice of delivery for additional water to the Colorado Consumable Subaccount(s) that is intended to be used for Shortfall Makeup and such water will be transferred to the Kansas Consumable Subaccount 30 days after the last delivery day of the water delivered under that notice.

Offset Account Release that Contains Shortfall Makeup Water: An Offset Account release, whether from the Colorado Downstream Consumable and/or Kansas Consumable Subaccounts, will be considered a Shortfall Makeup release only if the release begins after the Notice of Shortfall Delivery and Exhibit 1 of Appendix A.2 have been provided to Kansas. The Offset Account release containing Shortfall Makeup water may be released in combination with a Kansas Section II Account release.

Determination of Shortfall Makeup Actual Transit Loss: When a Shortfall Makeup release occurs, the difference between the estimated transit loss and the actual transit loss associated with that release shall be determined after the release has concluded.

The determination of the difference between the estimated transit loss and the actual transit loss is needed in order to assure the estimated transit loss water released was sufficient to deliver the Shortfall Makeup to the Stateline. The actual transit loss on the Shortfall Makeup shall be determined based on the entire volume of the release containing Shortfall Makeup water using the Offset Account Crediting Agreement (Appendix F.2 of this Decree) with the exclusion of any Transit Loss Account water released. The Shortfall Makeup may be delivered in one or more Offset Account releases. If Shortfall Makeup is delivered in more than one Offset Account release, each Offset Account release will be evaluated individually. Colorado shall receive credit for Shortfall Makeup delivered to the Stateline in the same manner as it receives credit for other Offset Account consumable deliveries. These shall be included in column 4 of Table 1 for purposes of subsequent ten-year accounting.

If the actual transit loss was less than the estimated transit loss water released, no further action is needed as the excess transit loss water that had been provided would become part of the credited consumable Offset Account delivery as determined by the Offset Account Crediting Agreement and included in column 4 of Table 1.

If the actual transit loss was greater than the estimated transit loss water released, then the amount(s) of additional transit loss(es) shall be subtracted from the credit for a Stateline Delivery to Kansas, if any, in column 4 of Table 1 for the next H-I Model year being added to Table 1 that has an Offset Account release that contains Shortfall water.

5. Current-Year Replacement and Shortfall Makeup if the Offset Account Does Not Exist

The States have agreed that they will not exercise their right to terminate the Offset Account prior to January 1, 2013, and that they will commence work not later than September 30, 2010, on an agreement as to how credit for direct deliveries of water to the Stateline for replacement of depletions to usable Stateline flow and to make up a Shortfall shall be determined if the Offset Account does not exist after December 31, 2012. See Appendix A.4 of this Decree.

6. Substitute Water Supply Plans And Colorado Water Court Decrees For Post-1985 Depletions

Accounting for substitute water supply plans and Colorado Water Court decrees for post-1985 depletions will be determined in accordance with the provisions of Appendix A.3 of this Decree.

APPENDIX A.1

Table 1

**An illustrative example showing a ten-year accounting done in 2007 resulting in a 1997 - 2006 Shortfall,
using the concept embodied in Colorado Exhibit 1459 for years 3 through 12**

| Ten-Year Accounting of Depletions and Accretions to Usable Stateline Flow 1997 – 2006 | | | | | | | | |
|--|---------------|---|-------------------------------------|-----------------------|------------------------------|--|----------------------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Year of Ten-year Cycle | Model Year | H-I Model Usable Depletion/ Accretion ¹ | Offset Account Credits ² | | | | Net Credit ⁵ | Remaining Usable Depletion/ Accretion ⁶ |
| | | | Stateline Delivery to Kansas | Evaporation Credit | Gross Credit ³ | Applied to Post-1985 Depletions ⁴ | | |
| 1 | 1997 | -3000 | | | | | | -3000 |
| 2 | 1998 | 1000 | | | | | | 1000 |
| 3 | 1999 | 2000 | | | | | | 2000 |
| 4 | 2000 | -1000 | | | | | | -1000 |
| 5 | 2001 | 2000 | | | | | | 2000 |
| 6 | 2002 | 1000 | | | | | | 1000 |
| 7 | 2003 | 2000 | | | | | | 2000 |
| 8 | 2004 | -2000 | | | | | | -2000 |
| 9 | 2005 | -1000 | | | | | | -1000 |
| 10 | 2006 | 2000 | | | | | | 2000 |
| Total | | 3000 | | | | | | 3000 |
| Shortfall for 2007 | | | | | | | | 3000 |

Water quantities are in acre-feet.

¹ Positive values in Columns 3 and 9 reflect depletions; negative values, accretions.

² Positive values in Columns 4, 5, 6, and 8 reflect credits; negative values, debits.

³ Column 6 is the sum of Columns 4 and 5.

⁴ Column 7, a positive value, is the amount of Offset Credit applied to Post-1985 depletions, determined pursuant to Appendix A.3 of this Decree

⁵ Column 8 is Column 6 minus Column 7

⁶ Column 9 is Column 3 minus Column 8

APPENDIX A.1

Table 2

An Illustrative Example for 2007 due to a 1997-2006 Shortfall

| Table 2: Sources of Water Designated for Shortfall Makeup | | | | | | |
|---|-----------------------|---------------------|---|-----------------------|-------------------------------------|---|
| Replacement Source | Reservoir or Location | Amount ¹ | Estimated Transit Loss to Deliver to Offset Account | Estimated Evaporation | Estimated Transit Loss to Stateline | Net Amount Available for Shortfall Makeup |
| | | (AF) | (AF) | (AF) | (AF) | (AF) |
| Offset Account Upstream Consumable (AGUA-CWPDA) | John Martin Reservoir | 74 | 0 | 5 | 15 | 54 |
| Offset Account Downstream Consumable (LAWMA) | John Martin Reservoir | 1520 | 0 | 78 | 317 | 1125 |
| Offset Account Kansas Consumable | John Martin Reservoir | 0 | 0 | 0 | 0 | 0 |
| Offset Account Pending Evaporation Credits (LAWMA) | John Martin Reservoir | 30 | 0 | 0 | 7 | 23 |
| Section II Consumable (LAWMA) | John Martin Reservoir | 1151 | 0 | 59 | 240 | 852 |
| Pueblo Board of Water Works Consumable (AGUA-CWPDA) | Pueblo Reservoir | 850 | 85 | 39 | 160 | 566 |
| Colorado Springs Consumable (CWPDA) | Lake Meredith | 550 | 36 | 27 | 107 | 380 |
| Offset Account Upstream Consumable (AGUA-CWPDA) | John Martin Reservoir | 74 | 0 | 5 | 15 | 54 |
| | Totals | 4175 | 121 | 208 | 846 | 3000 |
| Remaining Shortfall | | | | | | 0 |

¹Source: Appendix A.2, Exhibit 1. Replacement Supply designated for Shortfall makeup and not available to replace current year pumping depletions.