

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chairman and Federal Representative

For Kansas

Jennifer Gimbel, Denver

Robin Jennison

David Barfield, Topeka

Colin Thompson, Holly

Healy, Kansas

Randy Hayzlett, Lakin

Matt Heimerich, Olney Springs

David A. Brenn, Garden City

December 1, 2010

Mr. David Brenn, Chairman
Mr. Colin Thompson, Member
Mr. Robin Jennison, Ex-officio Member
Operations Committee
Arkansas River Compact Administration

Re: Compact Year 2010 Summary
Assistant Operations Secretary Report

Gentlemen,

In this letter report, I provide my perspective as Assistant Operations Secretary on operations that have occurred over the past Compact Year (CY) 2010, including communications, the Pueblo Winter Water Storage Program (PWWSP), deliveries to Kansas, deliveries to the John Martin Reservoir Permanent Pool, pass-thru & status accounting, the Water Issues Matrix and other issues which were worked on.

Communications

The Operations Secretary, Assistant Operations Secretary and their staffs have set a goal of open and frequent communications regarding Arkansas River operational issues to foster a positive, collaborative, and productive working relationship between the parties.

Meetings: The Operations and Assistant Operations Secretaries met in Lamar, Colorado, on two separate occasions: April 28th and November 19th. These meetings were attended by staff from each State. Summaries of these meetings were not generated.

Among the issues discussed at these meetings were the Colorado Irrigation Improvement Rules, the Water Issues Matrix, reservoir-to-reservoir deliveries, the Livingston transit loss study above John Martin Reservoir (JMR), the Pueblo Winter Water Storage Program (PWWSP), Pueblo Reservoir deviation, and other issues.

Regular Communications: The States communicated throughout the year on a variety of topics including John Martin Accounting System (JMAS) data updates, stockwater and return flow releases from Trinidad reservoir, PWWSP operational issues, JMR permanent pool account deliveries, and Offset Account operations. Emails represented the primary means of communication.

Pueblo Winter Water Storage Program

Kansas has long been concerned about how the split between the Compact conservation storage and PWWSP water passing thru the Arkansas River at Las Animas USGS gage is determined. While both States have spent considerable time evaluating this issue, it has not been resolved. Kansas's key concern is whether or not water being stored under PWWSP includes water that would have otherwise been stored in Compact conservation storage. Figure 1 shows the Operation Secretary's determination of flows attributable to Compact conservation storage thru the Arkansas River at Las Animas gage in CY 2010.

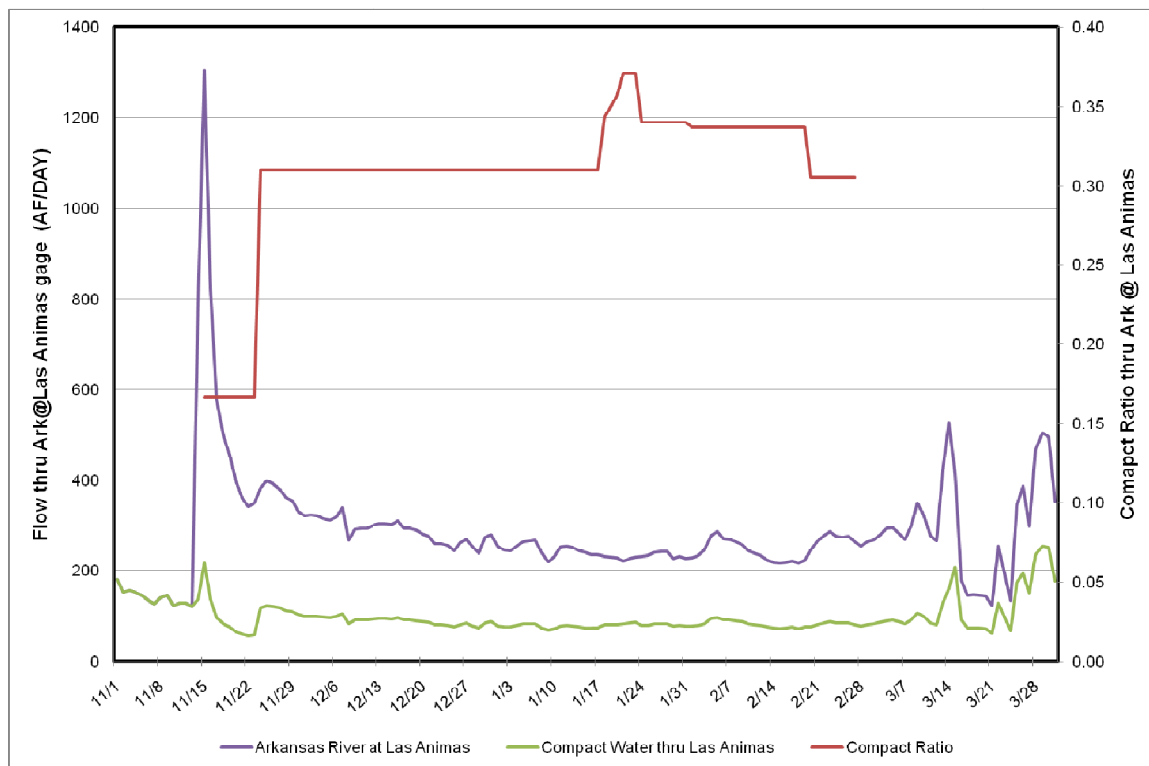


Figure 1 Flows attributed to Compact conservation storage passing thru Arkansas River at Las Animas between November 1, 2009 and March 31, 2010.

In November 2009, between the 14th and the 15th, the flow in the Purgatoire River near Las Animas dropped by 30 cfs with the hydrograph trace looking like a gate operation. See Figure 2. The flow of the Purgatoire River at the Ninemile Dam did not have a similar drop in flow for this period, but rather had relatively stable daily flow values. An initial email inquiry was made on November 18, 2009 and a series of emails

was exchanged. Subsequently, further investigation into the flow conditions were made, both for 2009 and prior years (1948-2009). A series of graphs generated as part of that subsequent investigation have been shared with the Operations Secretary.

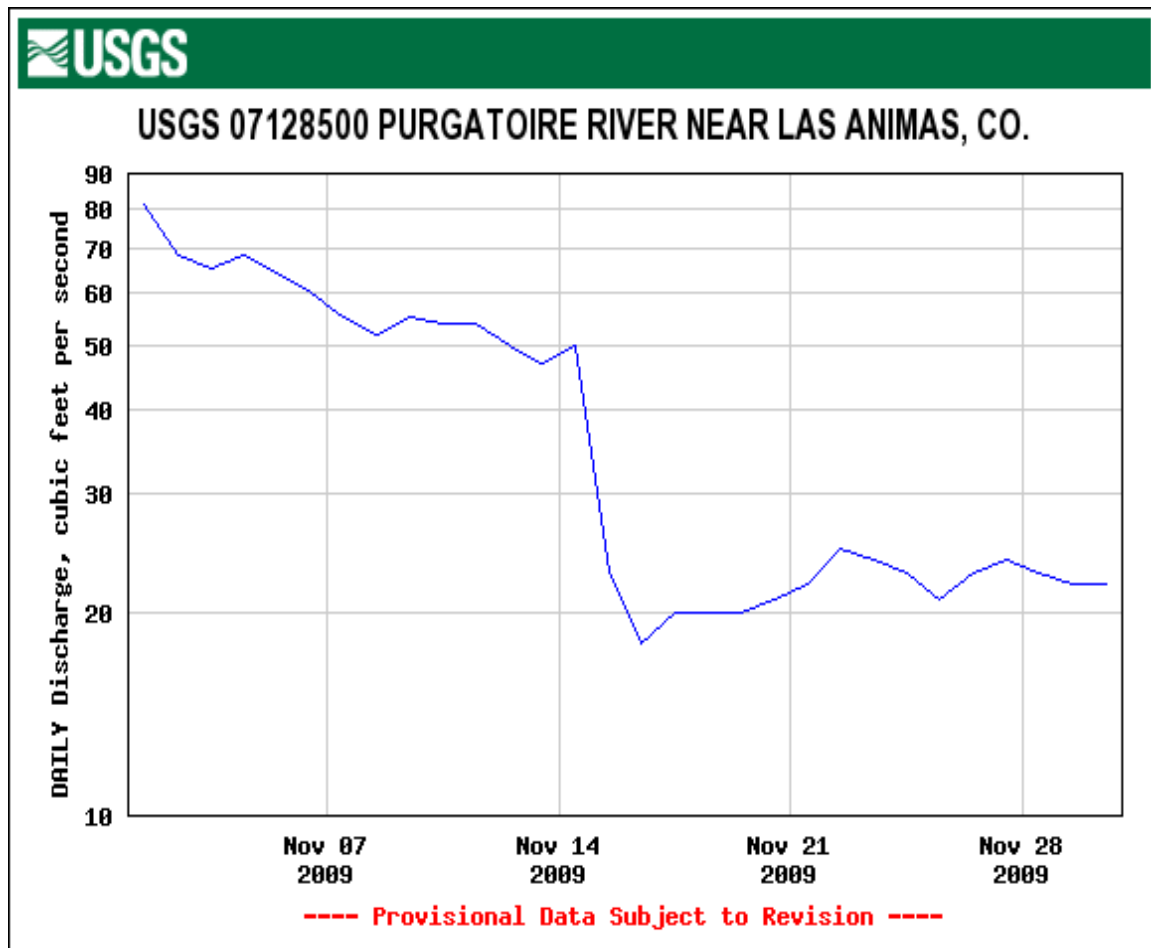


Figure 2 Flows measured at the Purgatoire River near Las Animas gage obtained from the USGS website for November 2009.

Based on the information evaluated from 1979 through 2009, a drop in flow between November 14th and the 15th greater than 7 cfs occurs in 11 of the 31 years. The average flow difference between the 14th and 15th is a decrease of 7.8 cfs for the 1979 through 2009 period: the average of the 11 years where the flow decreases by 7 or more cfs is 19.8 cfs. For the period of 1948-1978, the average flow difference between the 14th and 15th is a decrease of less than 0.7 cfs.

During our April meeting, Steve Witte offered a tour of the Las Animas Consolidated during the period of November 1st to the 15th. On November 8, 2010, I participated in an operational tour of the Las Animas Consolidated ditch with Steve Witte and Lonnie Spady. We specifically looked for locations where water was returned to either the Arkansas or Purgatoire rivers. We found locations where there were small amounts being returned to the river, generally consistent with irrigation operations. The most water we found returning was at the very end of the Las Animas Consolidated

where it tails back to the Arkansas River. During this tour we also noted two wasteways on the west bank and an irrigation return on the east bank which were immediately above the Purgatoire near Las Animas gage: of those three, only the irrigation return had any water running in it.

The operational tour was helpful to understand the operations of this ditch during the first two weeks of November. At the end of the tour, Mr. Witte and I exchanged the idea to monitor the operations of this ditch during this period in future years.

Deliveries to Kansas

On June 17, 2010, Kansas placed a call for 650 cfs to be delivered to the Colorado-Kansas state line (Stateline) from the Kansas Section II Account. The antecedent Stateline flow was less than 150 cfs for the prior ten days; therefore, a concurrent Transit Loss Account release was coordinated between Colorado Division 2 staff (Bill Tyner & Robert Phillips) and Garden City Field Office staff (Brandy Cole & I). We discussed the river conditions as related to potential transit loss on the Kansas Section II delivery. Based on those discussions, the concurrent Transit Loss Account release was set at 115 cfs with agreement to monitor the release and make additional adjustments as needed. See email dated June 17, 2010 (Attachment 1). No further adjustments were made to the transit loss release and that concurrent release continued until the Transit Loss Account was exhausted on June 23rd. A total of 1,691 AF was released from the Transit Loss Account.

Upon exhaustion of Kansas Section II Account on July 8th, Kansas called for an Offset Account release. Given the Stateline flows, the Offset Account release continued at 650 cfs, which is the same as the Kansas Section II release rate. This release rate was maintained until July 18th when Kansas ceased the Offset Account release. A total of 12,482 AF was released from the Offset Account. A graph of the Stateline delivery accounting is shown in Figure 3.

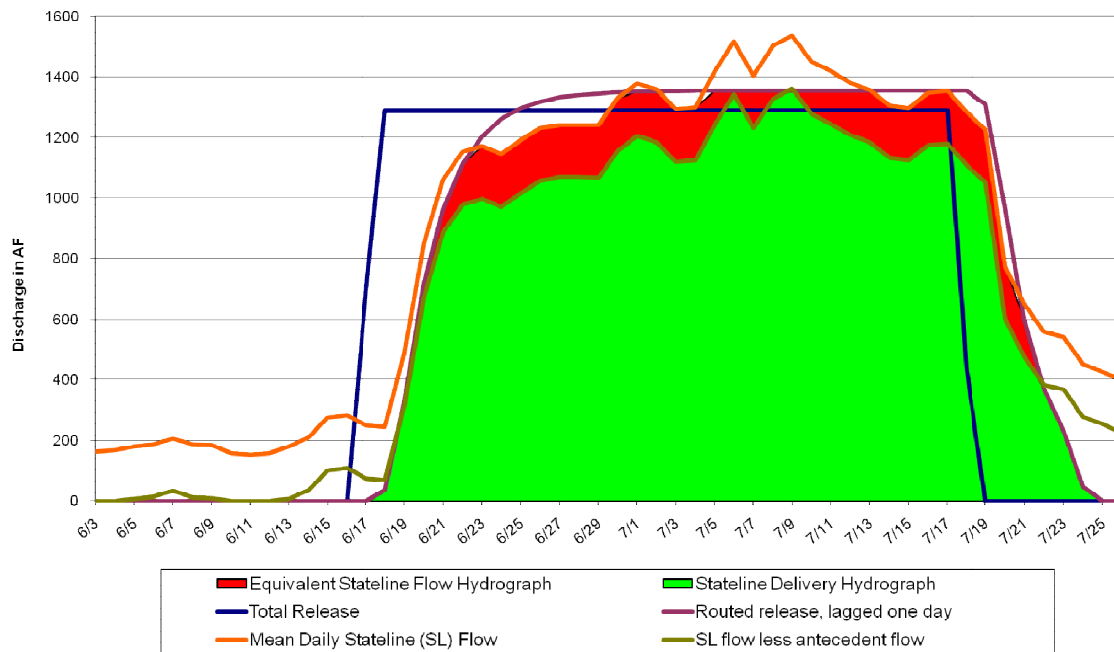


Figure 3 Hydrograph of Kansas Section II and Offset Account releases during June 17 and July 18, 2010, from "KSReleaseJun17-July18_2010(adjusted).xls"

Both States reviewed the accounting and we were in agreement on final Stateline deliveries of both the Kansas Section II Account and Offset Account releases (Table 1).

Table 1. Summary of Kansas Section II and Offset Account releases during June 17 and July 18, 2010 (see email, August 23, 2010 / Attachment xx)

Offset Delivery Efficiency =	89.98%
Offset Net Delivery =	11,232 AF
Offset Consumable Delivery =	10,105 AF
ESF Delivery Efficiency =	100%
Section II Delivery =	27,334 AF
Section II Delivery Transit Loss =	0 AF
Evaporation Delivery Credit =	0 AF
Total Offset =	12,482 AF
Transit Loss on Consumable =	1,125 AF
Granada Transit Loss Credit Percentage =	58.5%
Transit Loss Model Input JMR to Lamar =	51 AF
Transit Loss Model Input Lamar to Granada =	270 AF
Transit Loss Model Input Granada to Stateline =	294 AF
Total Transit Loss Model Input =	616 AF

Modification to Kansas delivery accounting: While working on the Colorado State Engineer's report on the Offset Account, Colorado staff found errors in how a transfer to the Offset Account was recorded. This involved a transfer of Colorado Section II account water by LAWMA. Some of the LAWMA Section II Account was

transferred to both the Compact conservation storage and the Kansas Section II Account instead of the intended destination of Offset Account subaccounts for return flow maintenance. Correcting this transfer required changing the Stateline delivery accounting (Table 2).

Table 2. Modified Stateline delivery accounting

Offset Delivery Efficiency =	89.98%
Offset Net Delivery =	11,579 AF
Offset Consumable Delivery =	10,241 AF
ESF Delivery Efficiency =	100%
Section II Delivery =	26,949 AF
Section II Delivery Transit Loss =	0 AF
Evaporation Delivery Credit =	0 AF
Total Offset =	12,868 AF
Transit Loss on Consumable =	1,140 AF
Granada Transit Loss Credit Percentage =	58.5%
Transit Loss Model Input JMR to Lamar =	52 AF
Transit Loss Model Input Lamar to Granada =	274 AF
Transit Loss Model Input Granada to Stateline =	298AF
Total Transit Loss Model Input =	624 AF

Deliveries to John Martin Reservoir Permanent Pool

There were three (3) transmountain deliveries made to the JMR Permanent Pool account in June, September and October. See Table 3. Kansas continues to have concerns related to how these deliveries are accounted for in John Martin Reservoir, but there were no new concerns identified. I would refer to the past AOS reports and the attached Water Issues Matrix for those specific concerns.

For the deliveries to the permanent pool account this year, the amounts credited at John Martin Reservoir included unconsumed transit loss (bank storage) as if it had arrived with the release for two of the deliveries. During actual conditions, that unconsumed transit loss does not arrive with the release, but may arrive later provided certain limitations on diversions are maintained after the release is ended. For the September delivery, the delivery was credited over a period of seven days, which was two days longer than its release.

Table 3. JMR permanent pool delivery summary for CY2010

	Transmountain Water Source	Release dates (# of days)	Inflow dates into JMR Permanent Pool	Amount Released (AF)	JMR Perm Pool inflow amount (AF)
June	Lake Meredith / Aurora	June 11 to June 21 (11 days)	June 14 to June 24 (11 days)		3982.00
September		September 21 to September 25 (5 days)	September 25 to October 1 (7 days)		422.97
October	Pueblo Reservoir / CDOW	October 1 to October 4 (4 days)	October 4 to October 7 (4 days)	210.73	202.62

Pass-thru and Status Accounting

The storage, inflows and releases from JMR were tracked by the Garden City Field Office for CY2010. A spreadsheet calculates the amount of water being passed thru JMR and the “status” of the reservoir. The status is the difference between the JMR content based on a staff gage reading and the content based on JMAS. This spreadsheet was regularly reviewed by the Garden City Field Office staff and was provided occasionally throughout the irrigation season to the Operations Secretary. The final spreadsheet was provided to the Operations Secretary on November 12th for inclusion in his report.

Water Issues Matrix

This is a joint work product of the States which is designed to track the various disputed issues. The latest is attached to this report (Attachment 2). A summary table showing the status of the 35 issues (10 pending, 7 removed-suspended and 18 resolved) is attached (Attachment 3). At the November OS-AOS meeting, it was noted that Issue #22 should be modified to include the question of Purgatoire River flows and the impacts of the snowpack that covered southeast Colorado at the end of 2006 and the beginning of 2007. Those modifications have not been made, but will be included in the next version of the matrix.

Other Issues

In addition to the items above, considerable time was spent was by the States on the following additional issues since the last Compact meeting:

- *Compact rules governing improvements to surface water irrigation systems in the Arkansas River Basin in Colorado* (Irrigation Improvement Rules)¹
- Special Engineering Committee issues
- Development of an outline for an Offset Account review joint report
- Kansas submission of a proposed H-I Model change to recognize ground water irrigation efficiency improvements
- Pueblo reservoir deviation
- Trinidad Ten-year review for 1995-2004

The States will continue to be engaged in various Compact compliance issues as they implement the Judgment and Decree in *Kansas v Colorado*. The Decree calls out specific accountings and reviews that will be conducted into the future.

Summary

In this report, I provided my perspective on JMR operations that have occurred in Compact Year 2010. Communication between Kansas and Colorado staff is important to working through operational issues between the States. There are several long standing issues that remain between the States and, based on the past year's success, I am optimistic that those issues will be advanced and/or resolved in the upcoming year.

Sincerely,



Kevin L. Salter, P.E.
Assistant Operations Secretary

Attachments

¹ The Assistant Operations Secretary would note that these rules are not rules of the Arkansas River Compact Administration.

Attachment 1

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Cole, Brandy

From: Cole, Brandy
Sent: Thursday, June 17, 2010 11:39 AM
To: 'Phillips, Robert'
Cc: Salter, Kevin; 'Tyner, Bill'; 'Steve.Witte@state.co.us'
Subject: Kansas Section II Call/ Transit Loss Release
Attachments: image001.gif

Rob:

This email will document our discussions this morning related to Kansas calling for water out of their Section II account. The release was discussed between Rob Phillips of Colorado Division 2 and Kevin Salter and myself for Kansas Division of Water Resources.

With Stateline 10-day antecedent flow being less than 150 cfs, we reviewed and discussed the transit loss calculation for this release to the State line. Rob related that he discussed the transit losses with Bill Tyner and Dan Neuhold and all were in agreement that 15 % or approximately 115 cfs on a Section II release of 650 cfs would get the water to the Stateline given the dry conditions. Kansas agreed and Rob Phillips will make the appropriate gate change today.

We decided to set the transit loss release rate at 115 cfs on top of the Section II release of 650 cfs. We will monitor the flows thru the weekend and adjust as needed.

Brandy Cole

Environmental Scientist

Dept. of Ag/Div. of Water Resources

Garden City Field Office

620-276-2901

New email address: Brandy.Cole@kda.ks.gov

DWR's improved website: www.ksda.gov/dwr

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Attachment 2

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Water Issues Matrix

Pending JMR Accounting Issues	2
10 – Resolved.....	2
11 – Removed	2
12 – Consideration of new sources for permanent pool water – no specific source has been identified for consideration.....	2
13 – Removed	2
20 – Resolved.....	2
21 – Resolved.....	2
22 – Criteria for determining Section III storage under the Pueblo Winter Water Storage Program (PWWSP).....	3
23 – Resolved.....	3
24 – Utilization of “Summer storage season” as defined by the 1980 Operating Plan ..	3
25 – Criteria for Summer storage event trigger – Section II. B 1	4
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27 – First reference to Section II in Section III (A).....	5
30 – Resolved.....	5
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32 – Resolved.....	5
33 – Transit loss on reservoir-to-reservoir deliveries	6
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43 – Resolved.....	7
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61 – Resolved.....	10
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65 – Removed	10
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Pending JMR Accounting Issues

10 – Resolved -- Permanent Pool evaporation charges calculated by pro rata volume vs. incremental area	
11 – Removed -- Transfer of Account water to Permanent Pool during flood control operations in JMR	
12 – Consideration of new sources for permanent pool water – no specific source has been identified for consideration	
<i>ARCA Committee</i>	Engineering
<i>Issue Category & Priority¹</i>	B – 8
<i>Legal² – Policy³ – Technical⁴</i>	Policy
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
<i>ARCA Committee or other general comment(s)</i>	
<ul style="list-style-type: none"> • LAWMA made a conceptual proposal at the December 2005 ARCA Annual Meeting • LAWMA provided additional detail for this proposal in February 2007 • Informal discussion between Kansas, LAWMA and Colorado • A timeline for discussion between Kansas & LAWMA was established at 2007 ARCA Annual meeting. • David Barfield letter (26 December 2007) • Matt Heimerich letter (January 7, 2008) • David Barfield provided a list of discussion items (email Jan 18, 2008) • Discussion between Barfield & Heimerich on proposal (call Feb 5, 2008) • Email from Matt (Feb 5, 2008) to Colorado team / Barfield agreed to provide a list of LAWMA Colorado Water Rights for use as a source for the permanent pool • LAWMA withdraws its request by letter dated (letter July 1, 2008) • LAWMA has an obligation to provide a source of water for the JMR Permanent Pool, so this issue remains active • David Barfield provides to Matt Heimerich principles that would guide Kansas evaluation (letter dated Nov 25, 2008) 	
13 – Removed -- 1980 Operating Plan's Restriction on use of Section III related to Perm Pool	
20 – Resolved -- Winter Water Account of convenience	
21 – Resolved -- Timely distribution of Section III storage charge during Pueblo Winter Water Storage Program (PWWSP)	

¹ Categories: **A** – capable of resolution; **B** – may need to be addressed by an ARCA Committee other than Operations; and **C** – staffs have taken this issue as far as they can. The priority based on two groupings “A” issues and “B & C” issues. From memos dated 5 Feb 2004 and 19 August 2004 (Witte & Rude)

² **Legal** is defined as an issue that is not resolvable at this time or within ARCA

³ **Policy** is defined as an issue that needs to have input or guidance from either Operations Committee or ARCA

⁴ **Technical** is defined as an issue that can be resolved by the respective State staffs

22 – Criteria for determining Section III storage under the Pueblo Winter Water Storage Program (PWWSP)	
ARCA Committee	Operations
Issue Category & Priority	A – 4
Legal – Policy – Technical	Legal 1 st / Technical 2 nd
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
The criterion used by Colorado fails to adhere to what was established under the 1980 Operating Plan, specifically: “The Amity may store such water as it could otherwise divert from the Arkansas River for storage in the Great Plains Reservoir system ...” (Section III.A.) and for the Fort Lyon and Las Animas Consolidated they may deliver water under the PWWSP but “the delivery cannot include water that otherwise would have accumulated in conservation storage” (Sections III.B. and C.).	The criteria used to divide inflow to JMR into conservation storage/Section III is not provided in the 1980 Operating Plan, but has been continuously used. Since KS did not prove PWWSP caused injury, CO is reluctant to change.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
ARCA should establish criteria for determining the water available for Section III storage in JMR to protect inflows to conservation storage. Water delivered to JMR under the PWWSP should meet those criteria.	Colorado consideration of changes may occur.
<i>ARCA Committee or other general comment(s)</i>	
The Operation Secretary and the Assistant Operation Secretary should continue to work on this issue (10 May 2002).	

23 – Resolved --Reporting of Winter Water vs. Winter Compact storage split calculation

24 – Utilization of “Summer storage season” as defined by the 1980 Operating Plan	
ARCA Committee	Operations
Issue Category & Priority	
Legal – Policy – Technical	
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
The 1980 Operating Plan defines the "Summer storage season shall be the period of time commencing at the first exhaustion of conservation storage and continuing to and including the next succeeding October 31."	
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
The 1998 Operations Secretary's Annual Report notes that the Operations Secretary deviate from ...	This is an aspect of Kansas' complaint regarding Agreement B (Issue # 60), not a separate issue and therefore should be removed.
<i>ARCA Committee or other general comment(s)</i>	

25 – Criteria for Summer storage event trigger – Section II. B 1	
ARCA Committee	Operations Committee
Issue Category & Priority	na
Legal – Policy – Technical	technical
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
ARCA needs to address Section II. B (1) with respect to determination of “existing irrigation requirements” for ditches that no longer engage in irrigation. Also the criteria related to how the 1,000 AF over then existing irrigation requirements is applied.	Colorado law defines the extent of a water right based on historical use. Water rights submitted for adjudication of changed uses must meet standard of non-injury to other water users. This issue may be resolved by striking the word “irrigation” from the phrase quoted at left. The 1980 Operating Resolution should also be amended to add the words “per day” to follow “1000 AF”, to resolve the second concern
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
In general, this appears to be primarily a technical issue and we need to discuss the mechanics of how to quantify the “then existing irrigation requirements.” This issue does have some relationship with Issue 26	
<i>ARCA Committee or other general comment(s)</i>	

26 – Section II limitations on use made of account water to irrigation only	
ARCA Committee	Operations Committee
Issue Category & Priority	na
Legal – Policy – Technical	policy &/or legal
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
Use of Section 2 account water for uses other than irrigation is not allowed unless approved by ARCA. Such approval should be conditioned such that the historic flow regime of the river under irrigation is maintained and would be done on a case-by-case basis.	Colorado is not aware of any restrictions on the use of water stored in the respective Section II accounts of Kansas or the Colorado Water District 67 ditches. Water stored in the Section II accounts has been used to replace depletions from well pumping for many years without objection by Kansas.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
Both the Compact and the 1980 Operating Plan are predicated on irrigation use. Any changes need to maintain the flow regime of the river as if irrigation was the only use of the water. ARCA has governance over operations of John Martin Reservoir, including storage accounts created under the 1980 Operating Plan. Any deviations from irrigation operations need to have those operations approved by ARCA so that the flow regime of the river can be maintained. This issue does have some relationship with Issue 25.	
<i>ARCA Committee or other general comment(s)</i>	
xx	

27 – First reference to Section II in Section III (A)	
ARCA Committee	Operations Committee
Issue Category & Priority	na
Legal – Policy – Technical	Policy
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
The language in Section III.A is not consistent with other provisions of the 1980 Operating Plan. For example, Section II.G where water stored in Section III.A is called to spill specifically before the Section II account water.	The reference granting Amity permission to “store such water as it could otherwise divert for storage in the Great Plains Reservoir system in its account granted in Section II ” (emphasis added) appears to be inappropriate and is contrary to longstanding practice.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
<i>ARCA Committee or other general comment(s)</i>	
■ Added to matrix at direction of Operations Committee in Dec 2009	

30 – Resolved -- Determination of transit loss under Section II(E)(4)
31 – Resolved -- Sections II (E)(4) and III (D) are unclear as to where transfers to make up deficits should be made
32 – Resolved -- How should transit loss account be used?

33 – Transit loss on reservoir-to-reservoir deliveries	
ARCA Committee	Operations Committee
Issue Category & Priority	na
Legal – Policy – Technical	Technical
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
Given Livingston's assumptions regarding the nature of the transit loss and other river operations that could consume "unconsumed" transit loss, the credited delivery for unconsumed transit loss to John Martin is too large. If there is an unconsumed transit loss portion that can be recovered, then the accounting for that portion should correspond with actual timing of when it is delivered to the JMR.	The 1978 Livingston Report provides a sound and reasonable basis for determining transit losses and should be relied upon until improved by a subsequent study.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
<p>Kansas' basis described in 12/1/07 AOS Report to ARCA Operations Committee, pg 6-10. From that report:</p> <p>"The Livingston 1978 Report notes that the transit loss model simulates response during steady-state conditions and that during un-steady state condition the transit losses are approximations. Tributary inflows, canal diversions, or water table conditions are listed as factors that would affect transit losses (page 21 of Livingston 1978 Report). The report also notes that conditions that are significantly different from the conditions that existed at the time of the calibration release (Sept 1975) would also affect the accuracy of the transit loss estimation.</p> <p>In addition, Livingston 1978 Report noted an administrative decision was made by the Colorado State Engineer and the Southeastern Colorado Water Conservancy District for reservoir to headgate transit loss determinations. It was noted that some of the bank storage would return for an extended period, particularly for water that is temporarily stored in the river banks. This decision appears to reflect the difficulty in distinguishing water that was part of a release from natural flow soon after the end of the release."</p> <p>Based on the above, it appears that other river operations may result in the delay of the unconsumed portion return to the river, or in the diversion and/or consumption of the unconsumed transit loss.</p>	Colorado's basis is described in a memorandum to the Operations Committee captioned: "Response to (2007) Assistant Operations Secretary's Report.
<i>ARCA Committee or other general comment(s)</i>	

- Added to matrix at direction of Operations Committee in Dec 2008
- An investigation to determine transit losses and travel times of reservoir releases from Pueblo Reservoir to John Martin Reservoir is being conducted by Russell K. Livingston, to update a similar report he developed under the auspices of the U.S.G.S. in 1978. This investigation was commissioned by the Colorado Water Conservation Board, the Colorado Division of Water Resources, the Lower Arkansas River Valley Water Conservancy District and the Southeastern Colorado Water Conservancy District and is scheduled to be completed at the end of December 2010. Further discussion of this issue has been suspended by mutual consent pending consideration of the results of this investigation.

40 – Resolved -- Exchange of daily reservoir status accounting

41 – Resolved -- Non-reporting of Section II(C)(1) determinations

42 – Resolved -- Summer season interruption of transfers from conservation storage to accounts

43 – Resolved -- Winter storage period interruption of transfers from summer conservation storage to accounts

44 – City of Lamar regulating account

<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
[Working on a current position related to the engineering report submitted in December 2007.]	City of Lamar requested a permanent account at December 2006 meeting of ARCA. Matter referred to the Engineering Committee.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
The City of Lamar should propose an account in JMR to allow for the re-regulation of flows from other releases. Consideration should be given to conditions contained in the minutes of 1989 ARCA Annual meeting and Kansas comments from ARCA Special Meeting May 2002.	An engineering proposal describing proposed operations was provided to the Engineering Committee in December 2007.
<i>ARCA Committee or other general comment(s)</i>	
City of Lamar renewed their request at the December 2006 ARCA Annual Meeting / ARCA referred to Engineering Committee / engineering report provided in December 2007	
<ul style="list-style-type: none"> ■ Colorado and Kansas provided comments on the City of Lamar's proposal in Dec 2008 ■ 	

50 – Commencement of a spill event	
ARCA Committee	Full ARCA
Issue Category & Priority	C – 6a
Legal – Policy – Technical	Policy
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
The language places the event on the physical operation of the projects control structure and not on the elevation of the water surface or some other trigger. Colorado's timing of spill accounting is not suggested in the governing language.	Compact Article IV C (3) provides that the conservation pool will be operated for the benefit of water users in CO and KS...as provided by the Compact. See also, Art. IV C (2).
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
Rely on the physical operations of the project control structure to govern the loss of account water. No change to the language is required, unless clarifying language is desired.	Kansas' position ignores Corps of Engineers exclusive authority to determine flood control releases when JMR surface elevation rises into flood pool space. Contrary to express language of 1980 Operating Plan, water does not "spill physically over the project's spillway" during flood operations. Flood releases are normally made through the outlet works.
<i>ARCA Committee or other general comment(s)</i>	
OS recommendation 12/08/03: amend Section II G of 1980 Operating Resolution to clarify criteria defining the commencement of spill.	
Operations recommended moving this issue to Full ARCA. (14 December 2004)	
Moved to Special Engineering Committee pursuant ARCA 2005-01.	
51 – Resolved -- Spilling accounts	

52 – Upstream storage during JMR spill events	
ARCA Committee	Administrative & Legal
Issue Category & Priority	B - 10
Legal – Policy – Technical	Legal
Kansas Staff Position	Colorado Staff Position
Upstream storage is not in priority until Section II accounts is completely spilled.	Compact not intended to impair use of water by either state if no material depletion to useable Stateline flows results. Apportioning water during flood operations may be a Compact issue for negotiation by ARCA, but is clearly not a 1980 Operating Plan issue to be determined by the Operations Committee. See earlier exchange of letters between Mr. Simpson and Mr. Pope on this issue.
Kansas Staff Comments	Colorado Staff Comments
Discontinue the practice until authorized by resolution of ARCA.	
ARCA Committee or other general comment(s)	
OS recommendation 12/08/03: Operations Committee should refer this issue to the Administrative and Legal Committee.	
Operations Committee transferred this issue to the Administrative and Legal Committee by memo dated 8 October 2004.	

53 – Adjusted JMR inflows during times of spill	
ARCA Committee	ARCA
Issue Category & Priority	C – 6c
Legal – Policy – Technical	Policy*
Kansas Staff Position	Colorado Staff Position
The 1980 Operating Plan does not provide for these adjustments. *Only can be resolved if 52 is resolved	Adjustments to inflow are necessary to account for the effect of post-compact upstream storage during the period that JMR is spilling.
Kansas Staff Comments	Colorado Staff Comments
Discontinue the practice until authorized by resolution of ARCA.	Inappropriate accounting related to conservation storage balances jeopardizes entitlements afforded by Compact Article V (f)
ARCA Committee or other general comment(s)	
OS recommendation 12/08/03: Operations Committee should table this matter until issue #52 is resolved.	
Operations recommended moving this issue to Full ARCA. (14 December 2004)	
Moved to Special Engineering Committee pursuant ARCA 2005-01.	

54 – Resolved -- Section II spill volume during summer storage season
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60 – Section II(C)(2) compliance (Agreement B)	
ARCA Committee	Administrative & Legal
Issue Category & Priority	B - 9
Legal – Policy – Technical	Legal
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
District 67 priority calls under pre-JMR conditions are to occur when conservation storage is exhausted into accounts. Colorado does not comply with this requirement of the 1980 Operating Plan.	Agreement B is a separate document, not part of the 1980 Operating Plan, whereby Colorado water right owners agreed to subordinate certain aspects of their entitlement to enforce the priority of their water rights and is entirely consistent with administration of the priority system in Colorado. This issue is not properly before the Operations Committee.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
Operate according to the 1980 Operating Plan as written or propose changes to the plan for consideration by the administration.	Agreement B is necessary to maintain the respective benefits of JMR between Colorado water rights above and below JMR granted under the Compact. It is not inconsistent with the Compact, the 1980 Operating Plan, or administration by Colorado of its priority system.
<i>ARCA Committee or other general comment(s)</i>	
<p>No further progress can be made at this time.</p> <p>OS recommendation 12/08/03: Committee should refer this matter to the Administrative and Legal Committee with a recommendation that no further consideration be given to this issue.</p> <p>Operations Committee transferred this issue to the Administrative and Legal Committee by memo dated 8 October 2004.</p> <p>Moved to Special Engineering Committee pursuant ARCA 2005-01.</p>	
61 – Resolved – Retroactive adjustments of accounting for prior years if accounting methods are revised	
62 – Resolved -- OS Report status for 1994 through 2006	
63 – Removed -- Status of Assistant Operations Secretary Reports: 1998, 1999, 2000, 2001 & 2002	
64 – Resolved -- Assistant Operations Secretary Reports: purpose and timeliness	
65 – Removed -- Consider Moving Date of Annual Meetings to January or February	
66 – Resolved -- Need for definite process for introducing and resolving operational issues	
67 – Resolved -- When issues are resolved, is it in the form of separate resolutions and /or revisions to the 1980 Operating Plan?	

70 – Trinidad Reservoir: Passing of inflows exceeding 1,000 cfs	
ARCA Committee	Operations
Issue Category & Priority	
Legal – Policy – Technical	
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
Releases exceeding 1,000 cfs should be passed as soon as possible, up to the channel capacity called for.	December 3, 1999 letter from Hal Simpson to USBR includes revised ‘Criteria for Temporary Detention and Subsequent Release of Flood Flows Below Flood Control Capacity...’ recognizes a 3000 cfs ‘non-damaging flow’ constraint directed by the Corps of Engineers by letter dated April 16, 1993.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
Inflows to Trinidad Reservoir exceeded 1,000 cfs on two separate occasions in August 2004. Those releases should have been passed through the reservoir and may have triggered a summer storage event at John Martin Reservoir.	The Water Commissioner requested that the release of these inflows be made: beginning at 1,000 cfs on Friday afternoon, August 6, 2004. He requested that the release be increased to 1,500 cfs on Saturday afternoon. The Corps rating curve for a downstream gage had a maximum release of 1,000 cfs. The Corps should reconsider the allowable release criteria in light of the USBR’s October 2009 Hydraulic Modeling Results. There is no controversy at issue between the states. Furthermore, ARCA has no authority to determine the non-damaging flow below Trinidad Reservoir. Therefore, this matter should be removed from the matrix.
<i>ARCA Committee or other general comment(s)</i>	
A letter was received from the Corps, dated 1 Nov 2004. This letter explains the events in August and steps that have been and will be taken to assure these releases will be passed in the future.	
Moved to Special Engineering Committee pursuant ARCA 2005-01.	
Channel capacity study for the Purgatoire River below Trinidad Reservoir through Trinidad, Colorado, has been undertaken in 2008.	

Notes on Water Issues Matrix

Resolutions:

- ❖ ARCA Adopted Resolution 2006-01 (John Martin Reservoir Permanent Pool Evaporation Method) on 12 Dec 2006 based on ARCA Special Engineering Committee Recommendation A
- ❖ ARCA Adopted Resolution 2006-02 (Winter Water and District 67 Winter Water Storage Charge Holding Accounts in John Martin Reservoir) on 12 Dec 2006 based on ARCA Special Engineering Committee Recommendation B
Colorado should have a draft resolution on the Winter Water Program account. – May 2002
-- Kevin Salter responded to the Colorado draft resolution in October 2003
- ❖ ARCA Adopted Resolution 2006- 03 (Transfer of Conservation Storage to Section II Accounts
under the 1980 Operating Plan) on 12 Dec 2006 based on ARCA Special Engineering Committee Recommendation C
- ❖ ARCA Adopted Resolution 2006-04 (Section II Account Spill Volume) on 12 Dec 2006 based on ARCA Special Engineering Committee Recommendation D
- ❖ For Issues #31 and 32, ARCA Special Engineering Committee Recommendation E addresses clarification of the 1980 Operating Plan for these two issues.
Issue #31 has been resolved, but need to look at clarification of the 1980 Operating Plan. Steve Witte has drafted proposed resolution for this clarification.
-- Kevin Salter has presented an interpretation of the 1980 Operating Plan that may negate the need for a resolution or amendment in August 2003.
- ❖ xx
- ❖ xx

City of Lamar is expected to submit at the May ARCA meeting a resolution for a regulating account in JMR.

- Colorado indicated that this issue has been tabled indefinitely
- LAWMA & DOW made presentation at December 2005 ARCA Annual Meeting
- December 2006 ARCA referred renewed request to Engineering Committee

Water Issues Matrix Versions		
Version	Modification Date	Description of Modification(s)
		Issues #32 & 67 were added 24 October 2003 at a meeting between State staffs
2002issues_table09b.doc	14 June 2004	Incorporate changes suggested by Steve Witte as transmitted by email dated 21 Jan 2004. Change status of issues based on Joint categorization of issues document dated 5 Feb 2004. I also made formatting and grammatical changes (KLS).
2005issues_table09c.doc	19 August 2004 12 Nov 2004 19 April 2005	-- Add a Trinidad Issues category. Specifically, Issue #70, the passing of inflows exceeding 1,000 cfs. -- Show Issue 52 & 60 as being transferred to the Admin & Legal Committee. -- add Issue #13 & 24 (19 April 2005), make formatting changes to table, adjust according to 19August 2004 Joint Prioritization memo, rename columns combining Legal, Policy & Technical and adding ARCA Committee and issue categorization
2005issues_table09d_letter.doc	20 April 2005	-- Changed format to 8-1/2 by 11 inch and reorganize sections -- Add actions taken at ARCA CY2004 Annual meeting
2006issues_table09d_letter.doc	11 December 2006	-- Add actions proposed by the ARCA Special Engineering Committee (created by ARCA Resolution 2005-01) on Issues 10, 20, 21, 30, 32, 42, 43 & 54.
2006issues_table10a_letter.doc	18 December 2006	-- Add ARCA actions taken at the 2006 ARCA Annual meeting -- Remove issues resolved by ARCA accepting Special Engineering Committee recommendations
2006issues_table10b_letter.doc	19 December 2006	-- Steve Witte offered suggestions for modifications in conference call with Kevin Salter on this date.
2007issues_table10bb_letter.doc	11 April 2007	-- working draft -- added Issue #25 & 26 according to the Operations Committee instructions -- added ARCA Resolutions information -- added ARCA Special Engineering Committee Recommendations on 31 & 32
2007issues_table10c.doc	1 December 2007	-- added Table of Contents -- modified according to 19 Nov OS-AOS meeting
2008issues_table10d.doc 2008issues_table10e.doc	1 December 2008	-- updated issues / Recommendation G / added City of Lamar / removed resolved issue(s)
2009issues_table11a.doc	22 December 2008	-- added reservoir-to-reservoir delivery issue -- updated issues / ARCA resolution adopting Recommendation G
2010issues_table11c.doc	17 September 2010	-- added Issue 27 (Section III.A language) -- updated Issue 33 positions & comments

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Attachment 3

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Water Issues Matrix Summary Table

Version Date : 9/17/2010

Issue #	Description	April 2005	Pending	Suspended	Removed	Resolved	ARCA Resolution	Comment
35	Totals	31	10	3	4	18		
10	Permanent Pool evaporation charges calculated by pro rata volume vs. incremental area	X				X	2006-01	Special Engineering Committee Recommendation A
11	Transfer of Account water to Permanent Pool during flood control operations in JMR	X			X			
12	Consideration of new sources for permanent pool water	X		X				LAWMA & CDOW made a conceptual proposal before Dec 2005 ARCA Annual Meeting. Issue has been removed from consideration by LAWMA.
13	1980 Operating Plan's Restriction on use of Section III related to Perm Pool	X			X			Steve Witte will review this to determine if it is still an issue.
20	Winter Water Account of convenience	X				X	2006-02	Special Engineering Committee Recommendation B
21	Timely distribution of Section III storage charge during Pueblo Winter Water Storage Program (PWWSP)	X				X	2006-02	Special Engineering Committee Recommendation B
22	Criteria for determining Section III storage under the Pueblo Winter Water Storage Program (PWWSP)	X	X					
23	Reporting of Winter Water vs. Winter Compact storage split calculation	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
24	Utilization of "Summer storage season" as defined by the 1980 Operating Plan	X	X					kls -- consider re-characterizing this issue under Issue 60 and remove as a separate issue per Steve's recommendation on 19 Nov 2007.
25	Criteria for Summer storage event trigger -- Section II.B 1		X					Placed on matrix in April 2007 / not currently before the Special Engineering Committee
26	Section II limitations on use made of account water to irrigation only		X					Placed on matrix in April 2007 / not currently before the Special Engineering Committee
27	First reference to Section II in Section III A appears to be inappropriate		X					Placed on matrix December 2009
30	Determination of transit loss under Section II(E)(4)	X				X		Resolved pursuant to an Agreement between State & Chief Engineers (December 2006).
31	Sections II (E)(4) and III (D) are unclear as to where transfers to make up deficits should be made	X				X	2007-05	Subject of Special Engineering Committee Recommendation E to be considered at the 2007 ARCA Annual meeting.

Water Issues Matrix Summary Table

Version Date : 9/17/2010

Issue #	Description	April 2005	Pending	Suspended	Removed	Resolved	ARCA Resolution	Comment
32	How should transit loss account be used?	X				X	2007-05	Subject of Special Engineering Committee Recommendation E to be considered at the 2007 ARCA Annual meeting.
33	Transit Loss on Reservoir-to-reservoir deliveries (e.g., deliveries of transmountain water to permanent pool)		X					Added in December 2008
40	Exchange of daily reservoir status accounting	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
41	Non-reporting of Section II(C)(1) determinations	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
42	Summer season interruption of transfers from conservation storage to accounts	X				X	2006-03	Special Engineering Committee Recommendation C
43	Winter storage period interruption of transfers from summer conservation storage to accounts	X				X	2006-03	Special Engineering Committee Recommendation C
44	City of Lamar regulating account	X		X				In Engineering Committee / pending further action by City of Lamar
50	Commencement of a spill event	X	X					
51	Spilling accounts	X				X	2007-06	Subject of Special Engineering Committee Recommendation F to be considered at the 2007 ARCA Annual meeting.
52	Upstream storage during JMR spill events	X	X					
53	Adjusted JMR inflows during times of spill	X	X					
54	Section II spill volume during summer storage season	X				X	2006-04	Special Engineering Committee Recommendation D
60	Section II(C)(2) compliance (Agreement B)	X	X					
61	Retroactive adjustments of accounting for prior years if accounting methods are revised	X				X	2008-03	Special Engineering Committee Recommendation G
62	OS Report status for 1994 through 2006	X				X	2008-03	Special Engineering Committee Recommendation G
63	Status of Assistant Operations Secretary Reports: 1998, 1999, 2000, 2001 & 2002	X			X			
64	Assistant Operations Secretary Reports: purpose and timeliness	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
65	Consider Moving Date of Annual Meetings to January or February	X			X			
66	Need for definite process for introducing and resolving operational issues	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.

Water Issues Matrix Summary Table

Version Date: 9/17/2010

Issue #	Description	April 2005	Pending	Suspended	Removed	Resolved	ARCA Resolution	Comment
67	When issues are resolved, is it in the form of separate resolutions and /or revisions to the 1980 Operating Plan?	X				X		Process has been established to address resolution of issues as they were resolved.
70	Trinidad Reservoir: Passing of inflows exceeding 1,000 cfs	X		X				