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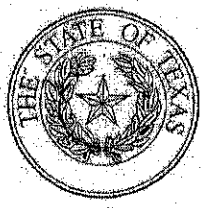

Cathleen Parsley
Chief Administrative Law Judge

October 17, 2011

Les Trobman, General Counsel
Texas Commission on Environmental Quality
P.O. Box 13087
Austin Texas 78711-3087

Re: **SOAH Docket No. 582-10-4184; TCEQ Docket No.; 2005-1490-WR; In Re: Concerning the Application by the Brazos River Authority for Water Use Permit No. 5851 and Related Filings**

Dear Mr. Trobman:

The above-referenced matter will be considered by the Texas Commission on Environmental Quality on a date and time to be determined by the Chief Clerk's Office in Room 201S of Building E, 12118 N. Interstate 35, Austin, Texas.

Enclosed are copies of the Proposal for Decision that has been recommended to the Commission for approval. Any party may file exceptions or briefs by filing the documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than **November 7, 2011**. Any replies to exceptions or briefs must be filed in the same manner no later than **November 17, 2011**.

This matter has been designated **TCEQ Docket No. 2005-1490-WR ; SOAH Docket No. 582-10-4184**. All documents to be filed must clearly reference these assigned docket numbers. All exceptions, briefs and replies along with certification of service to the above parties shall be filed with the Chief Clerk of the TCEQ electronically at http://www10.tceq.state.tx.us/epic/efilings/ or by filing an original and seven copies with the Chief Clerk of the TCEQ. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

William G. Newchurch
Administrative Law Judge

Sincerely,

Hunter Burkhalter
Administrative Law Judge

WGN; HB/nl
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cc: Mailing List

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STYLE/CASE: BRAZOS RIVER AUTHORITY

SOAH DOCKET NUMBER: 582-10-4184

REFERRING AGENCY CASE: 2005-1490-WR

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SOAH DOCKET NO. 582-10-4184
TCEQ DOCKET NO. 2005-1490-WR

CONCERNING THE APPLICATION BY THE BRAZOS RIVER AUTHORITY FOR WATER USE PERMIT NO. 5851 AND RELATED FILINGS	§ § § § §	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

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SOAH DOCKET NO. 582-10-4184
TCEQ DOCKET NO. 2005-1490-WR

CONCERNING THE APPLICATION BY THE BRAZOS RIVER AUTHORITY FOR WATER USE PERMIT NO. 5851 AND RELATED FILINGS	§ § § § §	**BEFORE THE STATE OFFICE** **OF** **ADMINISTRATIVE HEARINGS**

PROPOSAL FOR DECISION

I. INTRODUCTION

The Brazos River Authority (BRA or Applicant) seeks a new System Operation water-right permit (System Operation Permit or SysOp Permit) from the Texas Commission on Environmental Quality (Commission or TCEQ). BRA's application (Application) is very complex. Through operation of 12 reservoirs as a system (system operation), BRA claims it will be able to take advantage of large quantities of unappropriated water that could not otherwise be put to beneficial use without the construction of significant new reservoir storage. BRA's Application also seeks to appropriate return flows that otherwise might be largely un-utilized. The complexity of the Application is further heightened by the need to operate the SysOp Permit at a priority junior to all of BRA's existing water rights, and by the need to account for the variability in available return flows.

BRA contends that approval of its application is strongly in the public interest, will support the public welfare, is consistent with the State Water Plan, and would satisfy anticipated needs for water in the Brazos River Basin over the next 50 years. Because no new reservoir would be required to make the water supply available, BRA contends that significant environmental harm and major capital costs would be avoided, resulting in a lower cost water supply to end users in the Brazos River Basin.

The National Wildlife Federation (NWF), the Friends of the Brazos River (FBR), the Comanche County Growers (CCG), Bradley B. Ware (Mr. Ware), and Dow Chemical Company (Dow) (collectively Protestants) argue that BRA's application fails to comply with several major

legal requirements and must be denied. They especially complain that BRA has not properly proposed points and rates of diversion as required, making it impossible to determine whether unappropriated water is available at the points where BRA would eventually divert water and whether senior water rights would be impaired. They argue that the permit must also be denied because it would be detrimental to the public welfare. While not agreeing on every point, one or more of the Protestants claim that BRA was required, but failed, to adequately consider the protection of instream uses, recreation, tourism, water quality, fish and wildlife habitat, the availability of water for family farmers, and water salinity levels. BRA disagrees.

BRA contends that the amount of water that can be made available by system operation will depend significantly on the location in the Brazos River Basin at which the water is diverted. BRA has not yet identified those diversion locations and claims that they cannot be adequately identified until BRA first knows how much water it will be allowed to appropriate. BRA proposes provisions in the permit that it currently seeks that would require it to later file a water management plan (WMP) as an amendment to that permit. The WMP would be subject to the contested-case process. In that WMP, BRA would be required to designate and seek approval of specific diversion points, among many other things. Though its appropriation of water and proposed system operation would have already been approved in this case, BRA would not be authorized to divert water or engauge in that system operation until the WMP is approved. BRA refers to its proposal as the Two-Step Process.

NWF, FBR, CCG, Mr. Ware, and Dow object to this proposed two-step process, under which BRA would first be issued a water-right permit then return for approval of a WMP. They contend that state law does not allow this and that BRA's Application lacks required elements to be approved. Accordingly, they claim that the Application must be denied.

BRA claims that its proposal will protect senior water rights. Dow is a downstream senior water right holder, and CCG's members and Mr. Ware claim to be senior water right

holders. They maintain that their rights will not be protected. Several other senior water right holders intervened, but ultimately settled with BRA.

Additionally, BRA claims that its proposal will protect the environment, fish and wildlife habitat, and instream uses. It proposes complex interim restrictions on instream flows that it contends would accomplish those purposes. It also agrees that those interim restrictions are subject to adjustment to comply with the environmental flow standards that the Commission eventually will adopt in the future.

FBR and NWF are particularly concerned about the environment, fish and wildlife habitat, and instream uses. They claim that BRA's proposal would not be adequately protective, and the Office of Public Interest Counsel (OPIC) agrees with them. However, the Texas Parks and Wildlife Department (TPWD) was deeply involved in developing the flow regime that BRA proposes. TPWD claims that the flow regime will be protective, and it supports approval of the Application as requested by BRA.

Among other things, BRA's Application seeks to take advantage of return flows, which BRA claims might otherwise be largely un-utilized. According to BRA, except in limited circumstances, its proposal would not deprive any discharger of return flows of the opportunity to reuse their discharges to meet their own needs. Apparently agreeing, several dischargers intervened in this case, but all of them later settled with BRA.

Finally, the Executive Director (ED) recommends that BRA's Application be approved in part. He agrees with BRA on every significant point but one. The ED reads the law differently than BRA as to the handling of return flows. He argues that BRA may use return flows only to the extent of current discharges. He also argues that BRA may only use return flows that originate from BRA or from treatment facilities owned or operated by BRA.

The ED prepared a draft permit and repeatedly revised it[1] until settling on his current recommendation (ED's Proposed Permit).[2] BRA also prepared a proposed permit (BRA's Proposed Permit).[3] While there are important differences, the ED's Proposed Permit and BRA's Proposed Permit are the same on many points.[4] Both of these proposed permits are attached. To avoid awkward writing, and unless greater specificity is necessary, the ALJs will collectively refer to BRA's and the ED's current recommendations as the "Proposed Permit."

The Administrative Law Judges (ALJs) find that BRA has not shown that water is available for appropriation at the points where BRA would eventually divert water, or that senior water rights would not be impaired by BRA's proposed diversions. That is mostly due to BRA's proposed two-step process. On the other hand, the ALJs conclude that BRA has shown that granting its System Operation Permit would be in the public interest and not detrimental to the public welfare, the environment, instream water uses, or CCG's or Mr. Ware's water rights. BRA has also shown that at least some portion of the volume of water sought by BRA is available for appropriation at United States Geological Survey (USGS) gauges on the Brazos River at Glen Rose, Highbank, Richmond, or the Gulf of Mexico (Gulf). However, BRA refers to those as Control Points and does not wish to actually divert water at those locations.

The ALJs recommend that the Commission either: (1) deny the Application or (2) defer a final ruling on the Application, provide BRA with time to prepare its WMP, and remand the Application back to SOAH for further hearings on the WMP. The Commission might also consider granting the Application in part and only authorize diversions at Glen Rose, Highbank, Richmond, or the Gulf and solely for the quantities identified in the Application for those locations, less certain reductions discussed in the PFD. However, such a partial grant would not resolve all problems.

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[1] BRA Ex. 7 & ED Exs. RE-2 & K2.

[2] ED Ex. K2. *See* attachment A of the PFD.

[3] BRA Ex. 8B. *See* attachment B of the PFD.

[4] BRA Ex. 8A (showing differences between BRA's and the ED's Proposed Permits).

II. BRA'S CURRENT WATER RIGHTS

BRA currently holds many water rights, as detailed below:

BRA's WATER RIGHTS[5]			
Permit or COA No.	**Location**	**Diversion Amount (Acre/Feet)**	**Priority Date**
12-5155	Possum Kingdom Lake	230,750	4/6/1938
5730	Interbasin Transfer in Williamson County	25,000	3/7/1938
12-2939	Leon River	38,800 (hydro)	2/7/1949
12-5159	Lake Proctor	19,658	12/16/1963
12-5160	Lake Belton	100,257	12/16/1963
12-5161	Lake Stillhouse Hollow	67,768	12/16/1963
12-5164	Lake Somerville	48,000	12/16/1963
12-5156	Lake Granbury	64,712	2/13/1964
12-5162	Lake Georgetown	12,610	2/12/1968
12-5163	Lake Granger	19,840	2/12/1968
12-5165	Lake Limestone	65,074	5/6/1974
BRA 12-5158	Lake Aquilla	13,896	10/25/1976
BRA 12-5159	Lake Whitney	18,336	8/30/1982
BRA 2925A	Allens Creek[6]	99,650	9/1/1999
BRA 12-5167/2661 (as amended)	Interbasin Transfer in Fort Bend County	170,000	None
BRA 12-5166/2947 (as amended)	Excess Flows	650,000	None

To conserve water, BRA is also currently authorized, pursuant to a 1964 System Operation Order, as amended, to manage and operate its tributary reservoirs as elements of a

[5] Dow Ex. 3 & BRA's water rights on CD (officially noticed in Order No. 7).

[6] The City of Houston and the Texas Water Development Board (TWDB) co-own the water right in Allens Creek.

system, coordinating releases and diversions from the tributary reservoirs with releases and diversions from the BRA's mainstream reservoirs.[7]

III. APPLICATION DETAILS

In its Application, BRA seeks authority to take advantage of water savings achieved through coordinated operation of its various existing water rights, as well as the right to make additional appropriations. Specifically, the Application seeks:

- A substantial new appropriation of state water for multiple uses on a firm basis in the Brazos River Basin. The new appropriation would include current and future return flows. The amount of water that could be appropriated will vary depending upon where it is diverted from the river.

- The right to divert the water authorized by the permit from: (i) the existing diversion points authorized by BRA's existing water rights; (ii) the United States Geological Survey (USGS) gauge on the Brazos River at Glen Rose (Glen Rose); (iii) the USGS gauge on the Brazos River at Highbank (Highbank); (iv) the USGS gauge on the Brazos River at Richmond (Richmond); (v) the Brazos River at the Gulf; (vi) any other location within the Brazos River below Possum Kingdom Lake and its tributaries; (vii) any other diversion points that may be later identified and included in a Water Management Plan (WMP) for the permit; and (viii) any other location that may be authorized in the future.

- The right to use of up to 90,000 acre-feet of the permitted firm supply to produce, along with other unappropriated flows, an interruptible water supply of up to 670,000 acre-feet (depending upon the location of diversion) per year and the right to appropriate that interruptible supply.

- An exempt interbasin transfer authorization to transfer and use the water: (i) in the San Jacinto-Brazos Coastal Basin; (ii) in the Brazos-Colorado Coastal Basin; and (iii) in any county or municipality that is partially within the Brazos River Basin for use in that part of the county or municipality not within the Brazos River Basin.

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[7] ED Ex. KA-3 at 1; BRA 35 at 4-7.

- The right to appropriate current and future return flows to the extent that such return flows continue to be discharged or returned into the bed and banks of the Brazos River, its tributaries, and BRA's reservoirs.

- The right to exercise operational flexibility to: (i) use any source of water available to BRA to satisfy senior water rights to the same extent that those water rights would have been satisfied by passing inflows through BRA's reservoirs; and (ii) release, pump, and transport water from any of BRA's reservoirs for subsequent storage, diversion, and use throughout BRA's service area.

- Recognition that the SysOp Permit will prevail over inconsistent provisions in BRA's existing water rights regarding system operation.

- The right to use the bed and banks of the Brazos River, its tributaries, and BRA's reservoirs for the conveyance, storage, and subsequent diversion of waters utilized in the SysOp Permit.

- Until the construction of Allens Creek Reservoir is completed, special conditions which would grant the right to appropriate a larger amount of state water under the SysOp Permit than would be allowed after the reservoir is constructed.[8]

IV. PARTIES

The following were admitted as parties to these proceedings:

Party	Representative(s)
BRA	Doug Caroom, Susan Maxwell, and Emily Rogers
ED	Robin Smith and Ross Henderson
OPIC	Eli Martinez
Dow	Fred B. Werkenthin, Jr. and Trey Nesloney
City of Lubbock	Brad Castleberry
City of Bryan and City of College Station	Jim Matthews
Friends of the Brazos River, Helen Jane Vaughn, Lawrence D. Wilson, and Mary Lee Willey (collectively FBR)	Richard Lowerre, Marisa Perales, and Laura Mercer
NWF	Myron Hess
TPWD	Collette Barron Bradsby
Gulf Coast Water Authority (GCWA)	Molly Cagle and Ron Freeman

[8] BRA Ex. 7 at 428-29; BRA Ex. 55 at 6, 11; ED Ex. KA-3 at 1.

City of Round Rock	Steve Sheets
George Bingham, Robert Starks, Frasier Clark, and William D. and Mary L. Carroll (collectively Comanche County Growers or CCG) and Bradley B. Ware (Mr. Ware)[9]	Stephen and Gwendolyn Webb
Mike Bingham	self

In accordance with settlement agreements, Fort Bend County Levee Improvement District Nos. 11 and 15, Sienna Plantation MUD No. 1, Texas Westmoreland Coal Company, and Matthews Land and Cattle Company withdrew their protests and formally withdrew as parties. The Cities of Lubbock, Bryan, College Station, and Round Rock and GCWA also settled with BRA, withdrew their protests, and did not actively participate in the hearing, but they are still parties.

V. PROCEDURAL HISTORY

Below is a list of the major procedural events in this case:

DATE	ACTIVITY
June 25, 2004	BRA filed the Application.
October 15, 2004	Application was declared administratively complete by the ED.
April 22, 2005	Notice of the application was issued by mail to all water-right holders and navigation districts in the Brazos River Basin.
May 11–13, 2005	Notice of the Application was published in 27 newspapers in the Brazos River Basin.
May 17, 2005	Public meeting on the Application was held in Waco, Texas.
May 4, 2006	ED filed a written response to public comments on the Application.

[9] Unless otherwise noted, arguments and positions attributed to CCG are also being made by Mr. Ware.

May 5, 2010	Commission issued an interim order granting hearing requests and referring this case to State Office of Administrative Hearings (SOAH) for a contested case hearing.
May 13, 2010	Notice of preliminary hearing on the Application before the TCEQ was issued by the Chief Clerk of the TCEQ.
June 7, 2010	Preliminary hearing.
June 7, 2010	Commencement of formal discovery.
September 22, 2010	Prehearing conference.
April 8, 2011	All discovery concluded.
May 3, 2011	Prehearing conference.
May 9, 10, 12, 13, 16, 17, 18, 19, 20, and 31, and June 2, 2011	Evidentiary hearing.
July 29, 2011,	Initial post-hearing arguments (Initial Briefs).
August 19, 2011	Post-hearing written reply arguments (Reply Briefs).
October 18, 2011	Proposal for Decision (PFD) deadline.

VI. JURISDICTION

A. The Required Notice Was Provided

At the June 7, 2010 preliminary hearing, evidence was offered to show that the Commission has jurisdiction to consider and grant the application and that SOAH has jurisdiction to conduct a hearing and prepare a PFD. Notice of BRA's application was sent by first-class mail on April 22, 2005, to all navigation districts and holders of certified filings, permits, and claims of water rights in the Brazos River Basin.[10] Additionally, from May 11 to

[10] ED Ex. A.

May 13, 2005, notice of the Application was published in 27 newspapers of which at least one is circulated in each county in the Brazos River Basin.[11]

Numerous persons filed requests for a contested case hearing on the application. On May 5, 2010, the Commission issued an interim order granting hearing requests and referring this case to SOAH for hearing.[12] On May 13, 2010, notice of the preliminary hearing was mailed to each person who requested a hearing. The notice of hearing contained a statement of the time, place, and nature of the hearing; a statement of the legal authority and jurisdiction under which the hearing was to be held; a reference to the particular sections of the statutes and rules involved; and a short, plain statement of the matters asserted.

The ALJs find that notice of the Application, the opportunity for a hearing, and the hearing were provided as required by Water Code[13] §§ 11.128 and 11.132 and Government Code[14] §§ 2001.051 and 2001.052.

At the Preliminary Hearing, FBR objected to the Commission's jurisdiction, but the ALJs overruled that objection without prejudice to FBR's ability to raise the jurisdictional challenge at a later time. Neither FBR nor any other party subsequently raised a jurisdictional objection designated as such. However, FBR has raised arguments that suggest jurisdictional concerns, which are addressed below. The ALJs do not agree with FBR's objections that relate to jurisdiction. They find that the Commission has jurisdiction to consider and approve BRA's application it if it meets applicable standards.

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[11] ED Ex. C.

[12] *AN INTERIM ORDER concerning the application by the Brazos River Authority for Water Use Permit No. 5851, and related filings*; TCEQ Docket No. 2005-1490-WR (May 5, 2010)(Interim Order).

[13] TEX. WATER CODE ANN.

[14] TEX. GOV'T CODE ANN.

B. Settlements Do Not Require Amendments or Additional Notice

BRA has reached settlements with many of the parties in this case.[15] Some of the settlements included a specific agreement that BRA would file the settlement or the results of it with TCEQ as an amendment to the application. BRA did that, but it did not file application amendments for the remaining settlements.

FBR contends that BRA was required to file amendments to the current application for all the settlements. FBR also contends that providing public notice of the settlements is, or at least may be, required. BRA and the ED disagree with FBR's contention.

FBR does not flesh out its legal argument, so the ALJs are not sure that they completely understand the point that FBR is trying to make. As they understand it, however, the ALJs do not agree with FBR.

FBR cites Water Code §§ 11.122, 11.124, 11.125, and 11.129 to support its argument that amendments are required.[16] Water Code § 11.122(a) states, "All holders of permits, certified filings, and certificates of adjudication . . . shall obtain from the commission authority to change the place of use, purpose of use, point of diversion, rate of diversion, acreage to be irrigated, or otherwise alter a water right. . . ." Water Code § 11.124 sets out requirements for water permit applications. Water Code § 11.125 requires applications to be accompanied by a map or a plat that shows and contains various things. Water Code § 11.129 requires the Commission to determine whether the application, maps, and other materials comply with requirements of Chapter 11 of the Water Code and the Commission's rules, and it authorizes the Commission to require amendment of those items to achieve compliance.

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[15] FBR Ex. 3-H.

[16] FBR Reply Brief at 21.

This is not an enforcement case. It does appear, however, that BRA would be violating Water Code § 11.122, absent some unnoted legal exception, if it actually diverted water at a place other than one authorized in its water rights, or engauged in some other act concerning its water rights in a way not authorized by its permit, without first obtaining authorization from the Commission to make that change. Until it acts in that way, however, BRA would not be in violation of Section 11.122. The section does not mention intent, so the most reasonable way to interpret "change" is as prohibiting acting without authorization. Intending to act differently in the future would not fall within this interpretation of "change." BRA may be planning to act differently in the future in accordance with the Settlements, and it will need to obtain authorization before doing so, but nothing in Section 11.122 requires BRA to seek amendments now, much less as part of the current application.

Water Code §§ 11.124, 11.125, and 11.129 concern required application contents. Apparently, FBR cites these provisions because BRA did not file application amendments for all of the settlements that comply with those content requirements. FBR also discusses whether amendments in accordance with the settlements individually or collectively would be major amendments under the Commission's rules and what notice would be required for those amendments. Those arguments presuppose that application amendments are required due to the settlements, but because neither Water Code § 11.122 nor any other law cited by FBR requires BRA to file application amendments now, those FBR arguments are irrelevant.

The ALJs conclude that BRA is not required due to the settlements to file amendments to its current application at this time and as part of this case. The ALJs find that the Commission has jurisdiction to consider the current Application without amendments for the settlements and that notice was not required to address the settlements that are not part of the current application.

C. BRA May Seek a New Permit Instead Of Permit Amendments

Instead of the current application for a new water-right permit, FBR argues that BRA must file applications to amend its existing water-right permits and possibly other applications for new appropriations. It claims that the "normal permitting process" could have been used and each application would have had a clearer set of issues under Water Code § 11.134. FBR contends that BRA's new-permit approach sets a dangerous and expensive precedent.[17] Relatedly, FBR objects that the Proposed Permit would "trump" existing permit requirements. FBR proposes that no "trumping" language be included in any permit that might be issued.[18]

In particular, FBR objects that BRA is using its current application to amend its Allens Creek Permit without the provision of a specific public notice and opportunity for a hearing concerning that amendment. FBR argues that BRA must instead separately apply to amend its Allens Creek Permit. Additionally, FBR claims that BRA must file applications to amend its other permits to surrender existing diversion rights before it may obtain the authority that it seeks in this case to divert that same water at Glen Rose.[19]

The ED and BRA disagree with FBR's claim that BRA must seek permit amendments instead of a new permit. BRA argues that FBR's contention that separate amendments are required lacks any legal basis.[20]

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[17] FBR Initial Brief at 55-57. FBR's related objection to the Two-Step process proposed in BRA's application and FBR's claim that there is no need now for the appropriation that BRA seeks are considered in other portions of the PFD. The need argument is more closely related to and is discussed along with contentions that BRA has failed to show that the appropriation is intended for a beneficial use.

[18] FBR Initial Brief at 11-13, 18, 59, 74, and 76-78.

[19] FBR also makes related arguments that BRA is seeking double permitting of the same water under the Proposed Permit and its existing permits. These double-permitting arguments are considered elsewhere in the PFD.

[20] BRA Initial Brief at 46.

The ALJs do not agree with FBR that BRA was required to separately seek amendments of existing permits instead of filing the current application for a new permit. Nor do they agree that BRA's Allens Creek Permit is being amended in this case or that the notices that have been given are deficient due to the Allens Creek Permit.

To support its position, particularly as to the Allens Creek Permit, FBR again cites Water Code § 11.122(a). The title of that section is "AMENDMENTS TO WATER RIGHTS REQUIRED," which would be consistent with FBR's notion that one must seek an amendment to a particular permit if one wanted a water right to do something other than what is allowed by an existing permit. The text of section, however, does not support the notion that an amendment is required. Instead, it states:

> All holders of permits, certified filings, and certificates of adjudication . . . shall obtain from the commission **authority** to change the place of use, purpose of use, point of diversion, rate of diversion, acreage to be irrigated, or otherwise alter a water right. . . . (Emphasis added.)

By using the word "authority" rather than "amendment," Section 11.122(a) recognizes that legal vehicles other than permit amendments exist to seek authorization to make changes in water rights. The most obvious of those legal vehicles is the immediately preceding Water Code § 11.121, which is entitled "PERMIT REQUIRED" and states:

> Except as provided in Sections 11.142, 11.1421, and 11.1422 of this code, no person may appropriate any state water or begin construction of any work designed for the storage, taking, or diversion of water without first obtaining a permit from the commission to make the appropriation.[21]

In the application under consideration, BRA is seeking a new permit under Section 11.121, as well as bed-and-banks and interbasin-transfer authorizations under Water Code

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[21] The referenced exceptions in Water Code §§ 11.142, 11.1421, and 11.1422 allow certain diversions of water without a permit and are not relevant to the current analysis.

§§ 11.042 and 11.085.[22] The ALJs see no law prohibiting BRA from proceeding under those new-permit sections and requiring BRA to instead proceed under the permit-amendment provisions of Water Code § 11.122(a), as FBR claims. The ALJs find that BRA was not required to file applications to amend its existing permits, as FBR contends, to obtain the authorizations that BRA seeks from the Commission in this case.

A few more things are worth noting. First, the Commission has a long-standing practice of issuing both amendments to existing permits and additional new permits. For example, BRA has several permits and most of them have been repeatedly amended.[23] If FBR's amendments-are-required argument were correct and taken to an extreme, only a single permit should have been issued to each water-right holder and any further water right, including the authorization of new diversions at new locations, should have been made only as amendments to that single permit. Clearly, the Commission has not done that; thus, it has never interpreted the Water Code as requiring amendments instead of new permits, as FBR claims.

Second, as discussed above, notice of the Application and the right to request a hearing was mailed to all existing water right holders and navigation districts in the Brazos River Basin. That included all of those in the Allens Creek tributary, which is in the Brazos River Basin.[24] Additionally, notice of the preliminary hearing, which is when parties were admitted, was mailed to all hearing requesters and published in newspapers in every county in the Brazos River Basin. Thus, no person affected by any change that pertains to Allens Creek or the Allens Creek Permit was denied notice of the current application or the opportunity to participate in this case due to BRA's choosing to seek a new permit rather than an amendment of the Allens Creek Permit.

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[22] *See* BRA Exs. 7A at 1 (Application) & 8B at 1 (BRA's Proposed Permit).

[23] BRA's water rights on CD (officially noticed in Order No. 7).

[24] *See* BRA's water rights on CD (officially noticed in Order No. 7), Permit No. 2925 (as amended) (noting that Allens Creek is a tributary of the Brazos River in the Brazos River Basin).

Third, FBR objects that the instream-flow requirements proposed in the current application would only apply to BRA's proposed new appropriations, and not to BRA's existing water rights.[25] In BRA's view, this is what leads FBR to argue that BRA must amend its existing permits. As BRA correctly notes, an instream-flow requirement could not be applied to the amounts of water previously appropriated to BRA in a permit, even if BRA were seeking to amend that existing permit in this case. Water Code § 11.147(e-1) contains a "reopener" clause, which states:

> With respect to an amended water right, the [protection of instream flows or freshwater inflows] provision may not allow the commission to adjust a condition of the amendment other than a condition that applies only to the increase in the amount of water to be stored, taken, or diverted authorized by the amendment.[26]

The ALJs conclude that BRA's choice to proceed with a new-permit application rather than with permit-amendment applications did not conflict with the Commission's traditional interpretation of the laws it administers, deny any affected party a right to notice and hearing, or avoid the application of instream-flow standards to BRA's current water rights.

VII. OVERVIEW OF WATER-RIGHT PERMITTING LAW

Many laws are applicable to BRA's application and are discussed in this PFD. The principal one is Water Code § 11.134, which provides a template for the discussion that follows and is set out at length below:

> Sec. 11.134. ACTION ON APPLICATION. (a) After the hearing, the commission shall make a written decision granting or denying the application. The application may be granted or denied in whole or in part.
> (b) The commission shall grant the application only if:
> (1) the application conforms to the requirements prescribed by this chapter and is accompanied by the prescribed fee;

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[25] BRA Initial Brief at 34-35; *see also* FBR's counsel's comments at Tr. 1854-55 & FBR Ex. 3 at 32.

[26] *Accord* 30 TAC § 297.42(b).

(2) unappropriated water is available in the source of supply;
(3) the proposed appropriation:
(A) is intended for a beneficial use;
(B) does not impair existing water rights or vested riparian rights;
(C) is not detrimental to the public welfare;
(D) considers any applicable environmental flow standards established under Section 11.1471 and, if applicable, the assessments performed under Sections 11.147(d) and (e) and Sections 11.150, 11.151, and 11.152; and
(E) addresses a water supply need in a manner that is consistent with the state water plan and the relevant approved regional water plan for any area in which the proposed appropriation is located, unless the commission determines that conditions warrant waiver of this requirement; and
(4) the applicant has provided evidence that reasonable diligence will be used to avoid waste and achieve water conservation as defined by Section 11.002(8)(B).
(c) Beginning January 5, 2002, the commission may not issue a water right for municipal purposes in a region that does not have an approved regional water plan in accordance with Section 16.053(i) unless the commission determines that conditions warrant waiver of this requirement.

VIII. GENERAL REQUIREMENTS OF WATER CODE CHAPTER 11 AND RULES

Chapter 11 of the Water Code and the Commission's rules implementing it contain many requirements with which BRA's Application must comply. This portion of the PFD focuses on more general requirements, primarily concerning the required content of the Application. Other requirements are considered by major topic later in the PFD.

A. Completeness of Application

Several provisions in the Water Code and the TCEQ rules outline what information should be included in a water-right application, if applicable.[27] Additionally, Commission rules require certain things to be included in the water-right permit application.[28] BRA claims that it has complied with all of these requirements to the extent that they apply to its application.

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[27] *See* Water Code §§ 11.124, 11.125 & 11.128.

[28] 30 TAC §§ 295.3–295.9; 295.14, 295.15 & 295.121–295.123.

The Commission is required to review an application to determine whether it complies with the requirements of Chapter 11 of the Water Code and TCEQ rules.[29] The ED declared BRA's Application administratively complete on October 15, 2004.[30] Upon approval of the application, the Commission must issue a permit that includes the information described in Water Code § 11.135. The Proposed Permit contains the required provisions outlined in Water Code § 11.135, with the exception of the time within which to construct water works.

There is no dispute concerning BRA's compliance with many of the application completeness requirements. In accordance with Water Code § 11.124(a), the Application is in writing and sworn, contains the name and address of the applicant, and identifies the source of supply.[31] No one holds a lien on BRA's water rights.[32] BRA paid the fees required by Water Code § 11.128, and notice of the Application was provided as required by Water Code § 11.132, as already discussed.[33]

In addition, the ED agrees that BRA's application complies with all other requirements for completion. The Protestants disagree. Chiefly, they complain that BRA has not properly proposed diversion rates, diversion points, and new water facilities, and it has not provided information and maps concerning the location of new facilities. They contend that BRA is only proposing hypothetical diversion points at Glen Rose, Highbank, Richmond, and the Gulf and does not plan to actually divert water at those locations. They also object that BRA is asking for authorization to divert at a nearly infinite number of points anywhere in its system but has not provided the required information concerning the details of those proposed diversions.

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[29] Water Code § 11.129.

[30] ED Ex. RE-1 at 2.

[31] BRA Ex. 1 at 28-29 & Ex. 7.

[32] BRA Ex. 15 at 100

[33] BRA Ex. 7-A-1; ED Ex. RE-1 at 3.

B. The Application does not adequately identify a maximum rate of diversion as required by 30 TAC § 295.6.

Pursuant to Water Code § 11.134(b)(1), the BRA Application cannot be granted unless it "conforms to the requirements prescribed by this chapter." Exercising its general powers,[34] the TCEQ has adopted implementing rules which refine the application requirements prescribed by Water Code Chapter 11. Pursuant to one of those rules, 30 TEX. ADMIN. CODE (TAC) § 295.6, an application for a water right must identify "the maximum rate of diversion in gallons per minute or cubic feet per second." The BRA Application is silent as to rates of diversion. Moreover, BRA concedes that it is seeking a permit that would not specify any maximum diversion rate.[35] Indeed, the water availability modeling for the application included no assumptions about the diversion rate.[36] The draft permits proposed by BRA and the ED would both allow BRA to make diversions at "unspecified rates" at any location within the Brazos River below Possum Kingdom Lake and its tributaries.[37]

As is explained in more detail in the next section of this PFD, BRA is asking that its SysOp Permit be developed through a two-step process: (1) BRA is issued the SysOp Permit sought in the current contested case proceeding; and (2) BRA then develops and gets approval of a "Water Management Plan" (WMP) setting out many of the details of how the water right granted by the SysOp Permit may be diverted and used. BRA concedes that the draft SysOp Permit allows BRA to divert "at unspecified rates," but assures that this is acceptable because the diversion rates will be subsequently identified in the process of developing the WMP.[38] The Protestants disagree, noting the impacts of the proposed permit cannot be adequately determined

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[34] Water Code § 5.102(a).

[35] Tr. 37.

[36] Tr. 404.

[37] BRA Ex. 8B at 7-8; ED Ex. K2 at 11.

[38] ED Initial Brief at 11; BRA Initial Brief at 19.

now without knowing diversion rates.[39] The ALJs agree with Protestants. By failing to identify any maximum diversion rates in the application, BRA has failed to comply with the clear requirement of 30 TAC § 295.6. The ALJs simply cannot ignore Section 295.6. Moreover, as will be discussed further below, by leaving diversion rates unspecified, it is impossible, at this stage, to determine whether the SysOp Permit will adversely affect senior water rights.

Having concluded that the application cannot be granted without knowing the maximum rates of diversion, the ALJs believe there are two alternative actions that could be taken with respect to the application: (1) the Commission could deny the Application; or (2) the Commission could defer a final ruling on the Application by providing BRA with time to prepare its WMP and remanding the Application back to SOAH for further hearings on the WMP.

C. Because BRA opted to pursue a two-step process, the Application does not adequately identify points of diversion as required by 30 TAC § 295.7.

Another rule implementing Water Code Chapter 11 is 30 TAC § 295.7, which requires that an application for a water right must:

> [S]tate the location of point(s) of diversion . . . . These locations shall also be shown on the application maps with reference to a corner of an original land survey and/or other survey point of record, giving both course and distance. The distance and direction from the nearest county seat or town shall also be stated.

A "diversion point" signifies a specific location on a watercourse from which water will be diverted pursuant to a water right.[40]

In order to understand why BRA did not adequately specify diversion points in its application, it is necessary to discuss, in considerable detail, the two-step process which BRA chose to utilize in this permitting effort and the problems that are created by the two-step process. These problems do not relate solely to the requirement to specify diversion points.

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[39] FBR Initial Brief at 14-15, 18-20; OPIC Initial Brief at 9-10; NWF Initial Brief at 2.

[40] Tr. 46.

Instead, as explained in other portions of this PFD, the two-step process creates difficulties for a number of issues related to permit issuance.

The BRA Application is markedly different than a "run-of-the-mill" water right application. In a typical application, an applicant seeks authorization to divert a specific quantity of water, at a specific location, for a specific purpose. The statutorily required analyses of the impacts the proposed diversion may have on senior water rights and the environment can then be relatively easily modeled. If it is determined that the diversions will not negatively affect senior water rights and the environment, then the applicant is generally entitled to the permit.

In the BRA Application, by contrast, BRA is asking that the SysOp Permit be developed through a two-step process: (1) BRA is issued the SysOp Permit sought in the current contested case proceeding, giving BRA the very substantial water right it seeks with a 2004 priority date; and (2) BRA then develops and gets approval, through one or more subsequent contested case proceedings, of a WMP setting out many of the details of how the water right granted by the SysOp Permit may be exercised.

In the first step of the two-step process (*i.e.*, the current proceeding), BRA is not seeking to divert a fixed quantity of water from a fixed location. Rather, it is seeking authorization to divert the full "amount of water that can be made available by system operation," plus various other water supplies such as return flows. Because the impacts of the diversions will differ based upon where, when, and how the diversions take place, the Application acknowledges that the volume of water that can be diverted under the SysOp Permit will vary, based upon the location of the diversions. BRA acknowledges, "the amount of water that can be made available by system operation depends upon the location."[41] Thus, the Application identified hypothetical "control points" -- Glen Rose, Highbank, and the Gulf.[42] -- and then, for each control point, BRA

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[41] BRA Reply Brief at 3.

[42] When he conducted his water availability analysis, the ED added a fourth hypothetical control point at Richmond, Texas. ED Initial Brief at 11; ED Ex. KA-1 at 19.

identified the maximum quantity of water that it contends could be diverted at that point without negatively impacting senior water rights or the environment. The Application then asks for the right to appropriate those amounts. As envisioned by BRA, the SysOp Permit would give BRA a water right for more than one million new acre-feet if the water were withdrawn at the Gulf, with a priority date of 2004. The total diversion amount would decrease if withdrawals were made at a control point upstream from the Gulf; the farther upstream, the smaller the total diversion amount would be.

However, BRA has no intention of actually making diversions at the Gulf, or at any of the other control points. Rather, the control points were merely selected for hypothetical modeling purposes. Likewise, BRA does not claim to know exactly where or for what purpose the water will be diverted under the SysOp Permit. Instead, BRA asks that its Application be granted now, authorizing the maximum diversion amounts discussed above, and then it explains that the details and necessary protections for how the SysOp Permit will be effectively managed to protect senior water rights and the environment will come later, through the development of the WMP.

As envisioned, the WMP will address a vast array of topics that will greatly affect how diversions are made under the SysOp Permit, including:

- identifying additional diversion points;
- creating mechanisms to determine the amounts of firm and non-firm water available at specific locations;
- adding an accounting/delivery plan;
- making "alterations to the limitations" in the SysOp Permit;
- identifying "studies/information" to demonstrate compliance or the ability to comply with the special conditions of the permit;
- consideration of adding, deleting, or modifying the measurement points and flow levels described in the environmental flows special conditions of the permit;
- consideration of establishing diversion rate trigger levels for high flow pulse requirements;

- consideration of establishing maximum diversion rates for diversions authorized in the SysOp Permit;
- development of "operational and accounting criteria;"
- consideration of revised storage triggers for environmental flow requirements and the process for recalculating those triggers; and
- making possible revisions to water quality protection measures.[43]

BRA acknowledges that a "huge amount" of the operational decisions required to make diversions pursuant to the SysOp Permit are deferred to the WMP process.[44]

According to BRA, the WMP has not yet been created because it is "impossible" to create it until the SysOp Permit has been issued.[45] Brad Brunett, BRA's Water Services Manager, explained that, unlike a "typical water right permit application," BRA's application necessitated using a two-step approach because "until we know what this permit's going to authorize us to do, we can't develop a water management plan with certainty that's going to outline how we're going to operate."[46] BRA contends that, once the SysOp Permit is issued, additional water supply modeling can be performed to establish optimal procedures/protocols for operation of the system.[47] The ED agrees that, until the SysOp Permit is granted and the amount of water and the terms and conditions of its use are known, the WMP cannot be created.[48] The ED acknowledges that, because the actual locations of diversions under the SysOp Permit will not be determined until the WMP process, the impacts of those diversions will have to be considered in the WMP.[49] The parties agree that approval of the initial WMP would be subject to consideration in a contested case proceeding, and any subsequent major amendments to the

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[43] BRA Ex. 35 at 16-18.

[44] Tr. 2277 Brunett

[45] BRA Ex. 35 at 21.

[46] Tr. 896-99.

[47] BRA Ex. 35 at 22.

[48] Tr. 1947.

[49] Tr. 2130-31.

WMP would also be subject to contested case proceedings.[50] The WMP would have to be developed within three years after BRA's application is granted, and it would have to be revised a minimum of every ten years thereafter.[51]

Unfortunately for BRA, the two-step approach does not fit squarely within the structure of Texas' current water rights permitting system. BRA concludes that the two-step process is unavoidable in this matter because, "given the particular nature of this water right application, development of the initial WMP could not feasibly be completed any other way."[52] NWF counters that the unprecedented nature of the SysOp Permit Application in itself proves that it is outside of the scope of what is allowed by the Water Code:

> BRA basically argues that this new approach is needed because the permit BRA is seeking can't be accommodated within the strict structure of the existing permitting system. To the extent the requested permit doesn't fit within the statutory structure, that illustrates the shortcomings of the application, rather than stating a case for ignoring the clear sequence of steps set out in statute and TCEQ rules for obtaining a water rights permit.[53]

FBR agrees, arguing that if the application can only be processed in a two-step fashion, "that alone is a valid basis for TCEQ to have rejected the application."[54]

Most of the Protestants assert that the Application fails to identify specific diversion points as required by Section 295.7, quoted above.[55] Rather than diversion points, the Application identified four "control points" which "were chosen for their geographic distribution and period of historical flow records."[56] The draft SysOp Permits proposed by BRA and the ED

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[50] Tr. 1707-08.

[51] Tr. 314-15 Gooch.

[52] BRA Initial Brief at 25.

[53] NWF Reply Brief at 3 (citations omitted).

[54] FRB Reply Brief at 10.

[55] FBR Initial Brief at 14-15, 18-20; OPIC Initial Brief at 9-10; CCG Initial Brief at 24.

[56] BRA Ex. 7 at 13.

identify these control points as among the locations where BRA could divert water under the permit.[57] Using the TCEQ's Water Availability Model (WAM), BRA and the ED then conducted water availability analyses to identify the amounts of water available for the SysOp Permit if all SysOp diversions were made at each of these control points.[58]

In a more typical water rights application, the applicant seeks a defined amount of water at a defined location. The amount identified in the application can then be entered into the WAM to determine whether the proposed diversion amount will impact senior water rights or the environment. By contrast, in the BRA Application, rather than identifying a specific desired quantity of water and determining whether that quantity will have adverse impacts, BRA uses the WAM to predict the maximum amount of water that could be diverted at each control point without adversely impacting senior water rights or the environment. The Application then asks for the right to appropriate those amounts.

BRA readily concedes that the control points are merely theoretical,[59] were chosen solely for modeling purposes, are not realistic diversion points,[60] and are not meant to be used by BRA as *actual* diversion points.[61] No reservoirs or other infrastructure are proposed for diverting water at any of the control points, and BRA has no plans to build such reservoirs or other infrastructure at those locations.[62] Instead, actual diversions are planned to primarily occur at BRA's existing diversion locations along the river.[63] However, no modeling was done to analyze the potential impact on senior water rights of withdrawals under the SysOp Permit made

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[57] BRA Ex. 8B at 6; ED Ex. K2 at 6.

[58] BRA Ex. 15 at 28.

[59] Tr. 47, 264-65.

[60] Tr. 2546.

[61] Tr. 33, 47.

[62] Tr. 47-49.

[63] Tr. 408.

at BRA's existing diversion points or elsewhere.[64] BRA concedes that the actual diversion locations for the SysOp Permit "have yet to be identified," but acknowledges, "the amount of water made available by system operation depends significantly upon the location in the basin at which the water is diverted."[65] As explained by BRA witness, Thomas Gooch, BRA is asking for the right to appropriate the full amount of water that could be diverted if all diversions were made at the Richmond Gauge, "while acknowledging that if you make diversion elsewhere, there will be less appropriation available, and that will be handled in the water management plan."[66] BRA explained that it based its Application on the control points because actual diversion locations for BRA's customers will change over time, as new customers are added and existing customers change or add diversion points.[67]

Kathy Alexander, the Technical Specialist who served as the ED's "technical lead" on the BRA Application, expressed the opinion that it was sufficient for the BRA Application to identify Glen Rose, Highbank, Richmond, and the Gulf as control points, even though those locations would not be used by BRA as actual diversion points. Ms. Alexander conducted her water availability analyses using the TCEQ's WAM to determine the amounts of water that could be available for diversion at the control points. She explained that if, in the future, BRA wanted to utilize other diversion points, the impacts of diversions at those other points could be analyzed by the ED during the process of approving the WMP.[68] It is Ms. Alexander's understanding that, during the WMP process, BRA would be required to specify exactly what diversion points it would be using and in what amounts.[69] Ms. Alexander conceded that she currently has "no idea" how or where BRA will actually use the water authorized by the permit it

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[64] Tr. 547, 2139.

[65] BRA Initial Brief at 1.

[66] Tr. 265.

[67] BRA Ex. 15 at 28.

[68] Tr. 1929-30, 1942.

[69] Tr. 1942.

seeks.[70] She also conceded that BRA would probably not make any diversions from the control points identified in the application.[71]

Ms. Alexander argued that the BRA permit cannot, and should not, contain many of the specifics that one would normally see in a water right – such as specified diversion points – until BRA's WMP is approved, because those specifics cannot be developed until BRA knows the amount of water that it will be permitted to divert.[72] Ms. Alexander argued that the BRA Application complied with the Section 295.7 (requiring that diversion points be identified in a water rights application) because the control points identified in the Application are "actual physical locations on the stream" that can be modeled using the WAM.[73] BRA also contended that it is not necessary to specify actual diversion points in the BRA Application because it is common practice for the TCEQ to authorize diversions from a specified "reach" of a river with the specific diversion locations within the reach to be determined at a later time.[74]

Rather than identifying specific diversion locations, or even specific river reaches within which diversions could be made, the versions of the draft SysOp Permit proposed by BRA and the ED would allow BRA to make diversions at an essentially infinite array of diversion points along many hundreds of miles of the Brazos River and its tributaries. Specifically, the permit would authorize diversions at:

(1) all existing diversion points authorized by BRA's existing water rights;
(2) Glen Rose;
(3) Highbank;
(4) Richmond;

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[70] Tr. 2129.

[71] Tr. 2160-61.

[72] Tr. 2136-37.

[73] Tr. 2137-39.

[74] BRA Ex. 94; Tr. 2360.

(5) the Gulf;

(6) at any other location within "the Brazos River below Possum Kingdom Lake, its tributaries and [BRA's] authorized reservoirs;"

(7) any location that may be identified in BRA's subsequently-developed WMP; and

(8) any other location "as may be otherwise authorized in the future."[75]

Ron Ellis, the Water Rights Project Manager who prepared the ED's draft permit, conceded that the application seeks authorization for an unlimited number of potential diversion points.[76] He also acknowledged that, as to diversion points, the draft permit provides "massively expansive" authorization to BRA.[77] As far as water rights issued by the TCEQ (or its predecessor agencies), the array of diversion points sought by BRA is "unprecedented."[78] There is no limit on the number of diversion points that would be authorized by the SysOp Permit.[79]

The ALJs conclude that, as currently formatted, the BRA Application fails to comply with the requirement in Section 295.7 to identify the specific locations where water will be diverted pursuant to the SysOp Permit. Ironically, the Application either: (1) identifies *no* diversion points, or (2) identifies *infinite* diversion points. In either case, the Application does not meet the requirements of Section 295.7.

On the one hand, an argument can be made that the Application identifies no diversion points. The "control points" are purely hypothetical, and even BRA concedes that they will not be actual diversion points. Ms. Alexander's contention that the control points are sufficient proxies for diversion points because they are actual physical locations that can be modeled is unconvincing. Certainly, there is nothing in the text of Section 295.7 suggesting that an

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[75] BRA Ex. 8B at 6-7; ED Ex. K2 at 6, 11.

[76] Tr. 1677; ED Ex. RE-1 at 1-2.

[77] Tr. 1702.

[78] Tr. 1677.

[79] Tr. 37.

applicant need only identify fictional diversion points. Moreover, without knowing the actual diversion points, the impacts the SysOp Permit may have on senior water rights cannot be known. When conducting a water availability analysis during consideration of a water-right application, it is critically necessary to know the location of a diversion point in order to assess the impact that a proposed permit may have on senior water rights and instream uses.[80] BRA concedes this point: "the amount of water made available by system operation depends significantly upon the location in the basin at which the water is diverted."[81]

On the other hand, an argument can also be made that the Application identifies infinite diversion points. The draft SysOp Permit would allow BRA to make diversions from the control points, BRA's diversion points authorized in its existing permits, and *anywhere else along the Brazos River and its tributaries.*[82] Yet the water availability modeling for the application focused solely on the four control points, and there is no evidence in the record regarding the impacts upon water availability if other diversion locations are used. An application that seeks approval to divert water anywhere cannot reasonably be considered to be compliant with the requirements of Section 295.7.

By failing to identify real, specific diversion points in the application, BRA has failed to comply with the clear requirement of 30 TAC § 295.7. The ALJs simply cannot assume that Section 295.7 is a nullity, or that the requirements of that section are satisfied by the use of fictional or infinite diversion points.

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[80] Tr. 2559.

[81] BRA Initial Brief at 1.

[82] BRA contends that it is common practice for the TCEQ to authorize diversions from a specified reach of a river with the specific diversion locations to be determined at a later time, but BRA did not offer much in the way of evidence to support this assertion. Tr. 1700. Even if this claim is true, however, BRA's Application goes far beyond this practice. BRA is not seeking authorization to divert from a specific reach of a stream. It is seeking authorization to divert water anywhere along the hundreds of miles of streamfront on the Brazos River below Possum Kingdom Reservoir and its tributaries.

The ALJs believe there are three alternative actions that could be taken by the Commission to address the problem concerning diversion points: (1) the Commission could deny the Application; (2) the Commission could defer a final ruling on the Application by providing BRA with time to prepare its WMP and remanding the Application back to SOAH to for further hearings on the WMP; or (3) the Commission could grant the Application in part and only authorize diversions at Glen Rose, Highbank, Richmond, and the Gulf. Under the third scenario, if BRA wished to subsequently change the points of diversion, it could presumably seek approval to do so during the WMP phase.

D. New Water Facilities and Maps

BRA does not propose to construct any new water works to exercise the water right that it is seeking. Instead, it plans to rely on its existing facilities and improved operations of those facilities. Because BRA plans no new construction, it argues that there is no necessity to state the location, description, commencement and completion dates for the construction, and the time required for application of the water to the proposed uses, as normally required by Water Code § 11.124(a)(5)-(7).[83]

BRA also claims that the map requirement in Water Code § 11.125 is not applicable because no facilities are proposed to be constructed. Nevertheless, BRA provided maps that show its existing reservoirs and diversion points, stream reaches for the bed-and-banks authorization, and primary control points. BRA also provided electronic data identifying discharges for return flows. Based on the information provided by BRA and the nature of BRA's request, the TCEQ staff determined that BRA's application satisfied Water Code § 11.125.[84]

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[83] BRA Ex. 15 at 100.

[84] BRA Ex. 15 at 17; Tr. 1946.

The Protestants contend that BRA must, but has not and cannot, comply with the requirements of Water Code § 11.124(a)(5)-(7), concerning facilities, and Water Code § 11.125, concerning maps. They maintain that this gap is due BRA's proposed two-step process and use of hypothetical diversion points.

The ALJs find that BRA has complied with Water Code § 11.124(a)(5)-(7), concerning facilities, and Water Code § 11.125, concerning maps, to the extent they are applicable when no new facilities are proposed.

E. Other Compliance Issues

BRA's compliance with the other applicable requirements of Water Code Chapter 11 and the TCEQ's rules is considered in detail below, organized by major topic.

IX. CCG'S AND MR. WARE'S IMPAIRMENT CLAIMS

CCG and Mr. Ware argue that approval of BRA's Application would impair their existing senior water rights and vested riparian rights, in violation of Water Code § 11.134(b)(3)(B). BRA and the ED disagree. The ALJs disagree as well.

Mr. Ware owns property on a bend of the Lampasas River in Killeen, Texas.[85] He also once owned term permit No. 5594, for the diversion and use of 130 acre-feet of water per year (af/yr) from the Lampasas River to irrigate 100 acres of land in Bell County. That term permit was granted on November 7, 1997, with a priority date of July 1, 1997, for the permit and all extensions of it. The term permit specified that it would expire on November 7, 2007.[86]

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[85] BBW Ex. 1 at 2.

[86] BBW Ex. 1A at 1 & 2.

Mr. Ware applied to renew Permit No. 5594,[87] but after a contested case hearing the Commission denied his renewal application on April 20, 2010.[88] Mr. Ware has petitioned for judicial review of that denial.[89] His appeal remains pending.

Each member of CCG also has owned one or more term permits that authorized them to divert water for irrigation use from specified tributaries of the Brazos River as set out below:

PARTY	PERMIT NO.[90]	AUTHORIZED ANNUAL DIVERSION (AF/YR)	PRIORITY DATE	DATE LAST AMENDMENT GRANTED	DATE LAST AMENDMENT EXPIRED
George Bingham	COA 12-3580[91]	70	4/24/1972	9/12/2002	12/31/2009
George Bingham	4264[92]	40	6/18/1985	10/9/2002	12/31/2009
Robert Starks	COA 12-3561[93]	248	6/24/1974	5/12/1994	12/31/2000
Robert Starks	COA 12-3562[94]	56	4/24/1972	5/12/1994	12/31/2000
Robert Starks	COA 12-3563[95]	100	6/30/1975	5/12/1994	12/31/2000
Robert Starks	COA 12-3565[96]	150	1/28/1974	5/12/1994	12/31/2000

[87] BBW Ex. 1B.

[88] *An Order Concerning the Application of Bradley B. Ware to Amend Water Use Permit No. 5594*, TCEQ Docket No. 2008-0181-WR, SOAH Docket No. 582-08-1698 (Apr. 20, 2010). *See* BBW Ex. 1C.

[89] BBW Ex. 1D.

[90] To simplify the table and subsequent discussion, the ALJs refer to the permits only by their original numbers rather than the numbers reflecting subsequent amendments. For example, they only refer to Permit No. 5161, which was later twice amended and designated at 5161A & 5161B. Additionally, a certificate of adjudication is referred to as a "COA."

[91] CCG Ex. 1 at 2-10 & Ex. 1A.

[92] CCG Ex. 1 at 10-14 & Ex. 1D.

[93] CCG Ex. 6 at 2-5 & Ex. 6A.

[94] CCG Ex. 6 at 5-8 & Ex. 6B.

[95] CCG Ex. 6 at 8-11 & Ex. 6C.

[96] CCG Ex. 6 at 11-14 & Ex. 6D.

Frasier Clark	3808[97]	1,060	5/12/1981	9/11/2002	12/31/2009
William D. and Mary L. Carroll	5161[98]	54	11/13/1987	9/26/2002	12/31/2009

With two exceptions,[99] the members of CCG have filed applications to renew each of the above term permits[100] and those applications are still pending before the Commission. In response to several of the renewal applications, the Commission Staff sent letters informing the applicants as follows:

> This area is considered to have limited to no water available for appropriation for either a term or perpetual right. . . . TCEQ would probably be unable to recommend granting the application without an alternate source of water.[101]

During the hearing in this matter, CCG moved to abate the current case concerning BRA's application until the CCG renewal applications are referred to SOAH for hearing. BRA responded that consideration of its application should not be abated. The ALJs agreed with BRA and denied CCG's motion to abate.[102]

Additionally, the CCG members requested the Commission to directly refer their renewal applications to SOAH for hearing.[103] They apparently hoped that their applications would be

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[97] CCG Ex. 2 at 2-6 & & Ex. 2A.

[98] CCG Ex. 3 at 2-6 & Ex. 3A.

[99] Starks' COA Nos. 12-3562 & 12-3563. *See* CCG Ex. 6 at 8 & 11.

[100] CCG Ex. 1B (Bingham re: COA 12-3580); Ex. 1E (Bingham re: Permit No. 4264); Ex. 3B (Carroll re: Permit No. 5161); Ex. 2B (Clark re: Permit No. 3808); Ex. 6E (Starks re: COA 12-3561); & Ex. 6F (Starks re: COA No. 12-3565).

[101] CCG Ex. 1C (Bingham re: COA 12-3580); Ex. 1F (Bingham re: Permit No. 4264), Ex. 3C (Carrol re: Permit No. 5161), & Ex. 2C (Clark re: Permit No. 3808).

[102] Order No. 8.

[103] *George Bingham et al.*, Application Nos. 12-3580E, 4264C, 5161C & 3808C, *Request For Commission Action On Hearing Request*, (Jan. 7, 2011).

consolidated for hearing with BRA's. When that request was not granted, the CCG members sought relief in district court, which was denied.[104]

Many of the arguments that Mr. Ware and CCG offer in this case concern the merits of their applications to renew their term permits.[105] The merits of their applications are irrelevant in this case, which solely concerns the merits of BRA's application. Mr. Ware's renewal application was previously considered and denied by the Commission. The CCG renewal applications have not been referred to SOAH, much less consolidated for hearing with BRA's application. For these reasons, the ALJs struck some of the evidence that CCG members offered because it solely concerned the merits of their renewal applications.[106] For the same reason, this PFD does not address the merits of the CCG and Ware renewal applications.

Mr. Ware and CCG also raise arguments concerning issues that are within the scope of this case. Those include arguments concerning the sufficiency of BRA's application, the propriety of BRA's proposed two-step process, and whether BRA's proposed appropriation would impair riparian rights or be detrimental to the public welfare. Those are addressed elsewhere in this PFD, along with similar arguments by other parties. Here the ALJs address whether Mr. Ware or the CCG members have existing water rights and, to the extent that they do, whether approval of BRA's application would impair those rights.

CCG and Mr. Ware correctly note that Water Code §11.027 provides, "As between appropriators, the first in time is the first in right." They also note that Water Code §11.141 states, "When the commission issues a permit, the priority of the appropriation of water and the

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[104] *Bingham v. Texas Comm'n on Environmental Quality*, No. D-1-GN-11-001131 (261st Dist. Ct., Travis County, Tex. May 20, 2011) (granting pleas to the jurisdiction and dismissing several CCG parties' application for temporary injunction of these proceedings).

[105] CCG Initial Brief at 6-14 (concerning importance of family farming in Texas) & 29 (concerning fairness).

[106] Order No. 7. CCG and Mr. Ware allege that the ALJs also prejudicially and unlawfully refused to allow testimony regarding the existing water rights of the term permits of CCG. CCG Initial Brief at 30. They do not cite the transcript, a pleading, or an Order to support that allegation and the ALJs do not recall doing that.

claimant's right to use the water date from the date of filing of the application." Further, they argue that the Water Code does not state that applicants for perpetual water rights or return flows are entitled to full consideration of state water available for appropriation, while holders of term permit with earlier priority dates are not entitled to a full and equal consideration of water availability.

CCG repeatedly asserts that approval of BRA's application would impair the existing permit rights of its members, but it does not offer a detailed factual or legal analysis to show why that is so. Of course, they do not have the burden of proof. BRA does.

BRA claims that the applicable law and the record evidence both confirm that these term permit holders are not entitled to the unappropriated water or return flows being considered in this proceeding. BRA argues that CCG's and Mr. Ware's opposition to its application is grounded in a fundamentally legally incorrect interpretation of the nature of term permits vis-à-vis permanent water rights under Texas law. The ED offers essentially the same legal and factual argument concerning rights under term permits.

The ALJs generally agree with the ED and BRA. They conclude, based on the evidence and the law, that Mr. Ware and the CCG members have no existing rights that are entitled to protection under the impact analysis required by Water Code § 11.134(b)(3)(B). There is no evidence that Mr. Ware has a water right at this time that could even arguably be impaired by approval of BRA's application. His Permit No. 5594 specifically stated, "The authorization to divert and use 130 acre-feet of water per year shall expire and become null and void on November 7, 2007, unless prior to such date permittee applies for an extension hereof and such application is subsequently granted for an additional term or in perpetuity."[107] On November 15, 2005, before his permit expired, Mr. Ware filed an application to renew it,[108] but on April 20,

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[107] BBW Ex. 1A at 2.

[108] BBW Ex. 1B.

2010, the Commission denied his renewal application.[109] It is true that Mr. Ware has sought judicial review of that denial, but there is no legal basis for reconsidering the denial in this case.

As to the CCG term permits, it is important to note at the outset that they concern only a very small portion of the Brazos Rover Basin. The diversion locations authorized by the CCG permits are very far upstream on tributaries of Copperas (Rush) Creek, which feed into the Leon River, then the Little River, then the Brazos River. There is only one discharger upstream of them. The return flow from that discharger, Rising Star, is only 150 acre-feet per year.[110]

Mr. Starks has no existing water right that could be impaired by BRA's application. Mr. Starks testified that his water rights are "inactive."[111] As indicated above, his COA Nos. 12-3561, 12-3562, 12-3563, and 12-3565 expired by their terms on December 31, 2000. Each permit specifically stated, "the diversion authorized under this certificate shall expire and become null and void on December 31, 2000, without further Commission action, unless prior to such date owner applies for an extension hereof and such application is subsequently granted for an additional term."[112] On January 26, 2011, Mr. Starks filed applications to amend COA Nos. 12-3561 and 12-3565,[113] but that was more than a decade after his permits had expired and became null and void by their own terms.

The renewal applications of Mr. Bingham, Mr. Clark, and the Carrolls were filed before their December 31, 2009 deadline and are pending before the Commission.[114] Thus, their term

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[109] BBW Ex. 1C at second to last page, marked as 13.

[110] Tr. 1125.

[111] CCG Ex. 6 at 5, 8, 11 & 14.

[112] CCG Ex. 6A at second to last page, marked as 3; Ex. 6B at third to last page, marked as 2; Ex. 6C at third to last page, marked as 2; & Ex. 6D at third to last page, marked as 2.

[113] CCG Exs. 6E and 6F.

[114] CCG Ex. 1B (Bingham re: COA 12-3580); 1E (Bingham re: Permit No. 4264); Ex. 3B (Carroll re: Permit No. 5161); Ex. 2B (Clark re: Permit No. 3808).

permits have not expired by their own terms. Nevertheless, the ALJs conclude that they are irrelevant to the impact analysis that must be applied to BRA's application.

As several parties note, the Texas Supreme Court concluded in the *Stacy Dam* case that the same water could not be appropriated to more than one permittee.[115] The decision was primarily based on Water Code § 11.134(b), which provides in part:

> The commission shall grant the application only if:
> . . .
> (2) unappropriated water is available in the source of supply; and
> (3) the proposed appropriation:
> . . .
> (B) does not impair existing water rights or vested riparian rights; and
> (C) is not detrimental to the public welfare.

Additionally, as the ED notes, Water Code § 11.1381 governs the issuance of term permits. It provides in part:

> (a) Until a water right is perfected to the full extent provided by Section 11.026 of this code, the commission may issue permits for a term of years for use of state water to which a senior water right has not been perfected.
> . . .
> (d) A permit issued under this section is subordinate to any senior appropriative water rights.

Each of the Bingham, Clark, and Carroll permits states that it is a "term water right" located in the area above Proctor Lake and includes provisions to protect the conservation pool

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[115] *Lower Colorado River Authority v. Texas Department of Water Resources (Stacy Dam)*, 689 S.W.2d 873 (Tex. 1984).

of Proctor Lake.[116] BRA owns the water rights and has contracts with the United States Army Corps of Engineers for storage authorized by Certificate No. 12-5159 for Lake Proctor.[117]

The ED explains that term permits are not processed in "Run 3" of the TCEQ's WAM as requests for permanent water rights. Both BRA's Mr. Gooch and the ED's Ms. Alexander testified to their understanding that a term permit is not an appropriation of water.[118] For that reason, Ms. Alexander used Run 3 of the TCEQ WAM to model BRA's request for a new appropriation of water. Run 3 is used for new appropriations of water, and it assumes all water rights are being exercised at their fully authorized amounts, including the fully authorized storage.[119] Water availability for term permits, by contrast, is evaluated using "Run 8" for the WAM, which assumes all existing water rights are being exercised at their current actual usage levels and also includes return flows.[120]

Given the *Stacy Dam* case, Water Code §§ 11.134(b) and 11.1381(a) and (d), and the specific provisions of their permits, the ALJs conclude that the Bingham, Clark, and Carroll term permits are not appropriations of water. Rather they are grants for terms of years to use water that has previously been appropriated to others generally and BRA specifically.

Because BRA and others have already been given appropriative rights to water to which the CCG members have also been granted subordinate term permits, the CCG members have no right to that water superior to BRA's. Thus, BRA's current application could not impair a superior CCG right to that water.

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[116] CCG Ex. 1A at last and second to last page (Bingham re: COA 12-3580); 1D at second to last page (Bingham re: Permit No. 4264); Ex. 3A at last and second to last page (Carroll re: Permit No. 5161); Ex. 2A at last and second to last page (Clark re: Permit No. 3808).

[117] BRA 7-A-1. Additionally, Certificate No. 12-5159 and all of BRA's other water rights were officially noticed (Order No. 7) and are included on a CD in the evidentiary record.

[118] Tr. 543; ED Ex. KA-1 at 28-29.

[119] ED Ex. KA-1 at 14.

[120] Tr. 2181-2182 & 2350.

In this case, BRA is also seeking a new appropriation of return flows. Do the CCG members have an existing right to the return flows that BRA seeks? The ALJ concludes that they do not. It is true that return flows are considered in modeling to determining whether a term permit should be issued. The ED's Ms. Alexander testified that return flows are included in Run 8, also known as the Current Conditions Run, to process applications for term permits.[121] BRA's expert, Mr. Gooch, agreed and explained:

> In general, term permits are granted when there is not sufficient water available at a location to issue a permanent water right, but because all water rights are not fully utilized and because there are actually return flows in the river at the time under current conditions, the right would have sufficient water, and so the permit is issued for a time while those current conditions hold.[122]

Despite the fact that modeling to evaluate water availability for term permits includes return flows, the law contemplates a specific appropriation of return flows. Water Code § 11.046(c) provides in part:

> . . . Once water has been diverted under a permit, certified filing, or certificate of adjudication and then returned to a watercourse or stream, however, it is considered surplus water and therefore subject to reservation for instream uses or beneficial inflows or to appropriation by others unless expressly provided otherwise in the permit, certified filing, or certificate of adjudication.

Similarly Water Code § 11.042(b) requires a discharger of groundwater based return flows to obtain prior authorization from the Commission before subsequent diversion and reuse. Additionally with certain exceptions not applicable here, Water Code § 11.042(c) provides "a person who wishes to convey and subsequently divert water in a watercourse or stream must obtain the prior approval of the commission through a bed and banks authorization. . . ."

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[121] ED Ex. KA-1 at 30.

[122] Tr. 516-517.

Given these provisions, the ALJs conclude that the Commission must specifically grant a right to divert return flows for one to acquire a vested right to those flows. Nothing in their permits and no other evidence indicates that the Commission has specifically authorized Mr. Ware or any CCG members to divert return flows. Thus, the ALJs find that Mr. Ware and the CCG members have no vested right to divert return flows that would be impaired if the Commission granted BRA a specific right to divert return flows.

Even if CCG and Mr. Ware have no existing water rights that would be impaired by BRA's application, have they applied for rights before BRA did that might be impaired if both their and BRA's applications are granted in the future? As CCG notes, Water Code §11.141 states, "When the commission issues a permit, the priority of the appropriation of water and the claimant's right to use the water date from the date of filing of the application."

As indicated above, Mr. Ware applied for a water right but his application was denied. Also, several members of CCG have applied to renew and extend the terms of their existing term permits and those applications are being reviewed by the ED.[123] However, those were filed on December 22, 2008, April 30, 2009, and October 23, 2009,[124] after BRA filed its application on June 25, 2004.

Based on the above, the ALJs conclude the members of CCG and Mr. Ware have no existing water rights that could be impaired if BRA's application is granted.

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[123] CCG Ex. 1B (Bingham re: COA 12-3580); 1E (Bingham re: Permit No. 4264); Ex. 3B (Carroll re: Permit No. 5161); Ex. 2B (Clark re: Permit No. 3808); CCG Ex. 6E (Starks re: COA 12-3561); & CCG Ex. 6F (Starks re: COA No. 12-3565);

[124] CCG Ex. 1C at 1, Ex. 1F at 1, Ex. 3B at 1 & Ex. 2C at 1.

X. WATER AVAILABILITY AND IMPAIRMENT OF EXISTING RIGHTS

Contrary to Water Code § 11.134(b)(2) and (b)(3)(B), BRA has not proven that the full amount of water sought to be diverted under the SysOp Permit is available and that the diversion will not impair existing water-right holders. Mostly, that is due to BRA's requested Two-Step Process, under which BRA did not propose and offer evidence concerning specific points and rates of diversion but deferred those decisions until it files a WMP. There are other problems as well. Theses impairment issues are all considered in this portion of the PFD.

A. Overview

Pursuant to Water Code § 11.134(b)(2), an application for a water right cannot be granted unless the TCEQ first finds that "unappropriated water is available in the source of supply." Pursuant to Section 11.134(b)(3)(B), an application for a water right cannot be granted unless the TCEQ first finds that it will "not impair existing water rights or vested riparian rights." "Unappropriated water" has been defined to mean "the amount of water remaining after taking into account all existing uncancelled permits and filings valued at their recorded levels."[125] Thus, Sections 11.134(b)(2) and (b)(3)(B) address both sides of the same coin. For example, if an applicant proves that he can divert 100 acre-feet of water without adversely impacting senior water rights holders, then he has essentially proven both statutory requirements: (1) that there is 100 acre-feet of "unappropriated water" available to satisfy his application, and (2) that his diversion of 100 acre-feet will "not impair existing water rights or vested riparian rights."

The amount of unappropriated water available for appropriation is determined by using TCEQ's Brazos River Basin WAM, a "highly complex model incorporating over 1,200 water rights" in the Brazos River Basin and the San Jacinto-Brazos Coastal Basin.[126] The WAM is a dataset that includes geospatial, hydrology, and water rights information for the river basin. The

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[125] *Stacy Dam*, 689 S.W.2d at 874.

[126] BRA Ex. 15 at 23.

Water Rights Analysis Package (WRAP) is a suite of computer models that process the WAM information. The WRAP program processes the WAM datasets and generates output for both river flows and water rights. The specific WAM dataset that is relevant for determining water availability is known as the "Full Authorization" dataset or "Run 3." Run 3 assumes all existing basin water rights are being exercised at their fully authorized amounts, including the amount of reservoir storage that is authorized to these water rights, and does not include return flows.[127]

In order to determine whether there is water available for the permit that BRA seeks, the amount of water being requested by BRA was entered into the WAM at the four control points. After allowing full use by all existing permanent water rights and considering existing and new instream flow requirements, the amount of water available for the new appropriation was calculated.[128] The Brazos River Basin WAM was modified by BRA to include return flows of treated wastewater, to protect senior water rights in the basin from the changes introduced by the SysOp Permit, and to determine the amount of yield that could be made available from system operation. Return flows were added based upon BRA's conclusion that, once discharged into a watercourse, return flows are available for appropriation by others.[129] BRA and the ED argue that the analyses conducted by their experts show there is water available in the Brazos River Basin to appropriate.[130]

For the SysOp Permit, there are three sources of unappropriated water: unappropriated riverine flows; return flows of treated wastewater; and water available for appropriation from BRA's existing reservoirs, especially Possum Kingdom Lake.[131] The Brazos River has a large uncontrolled drainage area downstream from BRA's reservoirs. The flows in this uncontrolled drainage area vary greatly, and during times of high flows there is water that cannot be used by

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[127] ED Ex. KA-1 at 13-14.

[128] ED Ex. KA-1 at 13-14, 20-21; BRA Ex. 15 at 21-22.

[129] BRA Ex. 15 at 24-30; ED-KA-1 at 14-15.

[130] BRA Ex. 15 at 27-28, 34-37, 50; BRA Ex. 23; ED Ex. KA-1 at 14-15, 24; ED-KA-3.

[131] BRA Ex. 15 at 34-35; BRA Ex. 21.

existing water rights. However, these flows are not reliable because at times of low flow, all the water in the stream is needed for existing water rights and for the environment.[132] Because BRA has a great deal of storage throughout the basin, BRA can convert this unappropriated water into a reliable supply by using stream flows not being used by senior water rights when that water is available, and providing water from storage when there are little or no stream flows available for use.[133]

Based on its modeling, BRA contends that there is a total of 337,519 acre-feet per year of additional firm water supply available at the Richmond gauge for the SysOp Permit. Of that total, about 52 percent of the water is from unappropriated stream flows, 24 percent is from available return flows, and 24 percent is from appropriation of unpermitted yield from BRA reservoirs.[134] The total amount of firm water available for appropriation under the SysOp Permit varies throughout the basin because of the locations of storage, and the total contributing drainage area.[135] For these reasons, the available reliable supply is greatest at the Richmond gauge and further downstream. It is less at the upstream control point locations.[136] As diversions of SysOp Permit water are made at various locations, the Proposed Permit contemplates that the amount of available supply will be modified accordingly, and reflected in the WMP.[137]

Many of the Protestants assert that BRA failed to prove that there is sufficient unappropriated water to support the Application. Protestants raise several complaints about how the water availability modeling was done by BRA and the ED which, according to Protestants, resulted in overstatements of the amount of water available for the SysOp Permit.

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[132] BRA Ex. 15 at 36-37; ED Ex. KA-1 at 29; ED Ex. KA-3.

[133] BRA Ex. 15 at 34; ED Ex. KA-1 at 29.

[134] BRA Ex. 15 at 35-36; BRA Ex. 21.

[135] Tr. 264-266, 1928-1929.

[136] BRA Ex. 8B; ED Ex. K2.

[137] BRA Ex. 8B, at ¶¶ 2, 5.D.2; ED Ex. K2 at ¶¶ 2, 6.D.2.

B. The two-step process makes it impossible to fully analyze water availability at this time.

The Protestants' foremost concern is that, due to the two-step process, it is impossible to fully analyze how much unappropriated water will be available for the SysOp Permit at this time. The ALJs agree. BRA concedes that the diversion locations for the SysOp Permit have yet to be identified, and acknowledges that the amount of water made available by system operation depends significantly upon the location in the basin at which the water is diverted.[138] Significantly, BRA's Planning and Development Manager, Jim Forte, acknowledged that the details of how diversions under the SysOp Permit are made so as to avoid impacts to senior water rights holders would have to be worked out in the WMP process.[139] During the hearing, the following exchange took place with Mr. Forte:

> Q: So it's basically your understanding that the issues that would normally be addressed in a hearing like this will also have to be addressed under the water management plan?
>
> A: That is my understanding of that process; yes, sir.
>
> Q: So a lot of that – details of how it's going to work are not known at this point?
>
> A: Correct.[140]

BRA witness James Forte, acknowledged that the issue of whether BRA's proposed permit would impair existing water rights (*i.e.*, an issue that would typically be addressed in a hearing on a water right application) would have to be addressed in the subsequent development

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[138] BRA Initial Brief at 1.

[139] Tr. 38-39.

[140] Tr. 39.

of the WMP.[141] He also conceded that many of the details concerning how the BRA permit would actually be operated are unknown at this time.[142] BRA witness Brad Brunett also conceded that many uncertainties exist about the potential impacts of the SysOp Permit because the WMP has not been developed and cannot be analyzed.[143]

A number of Protestants argue that the two-step process envisioned in the application makes it impossible to conduct the impact analyses required by Section 11.134.[144] Dubbing the two-step process the "BRA Two-Step," NWF argues that it is simply an approach for "dancing around the regulatory prerequisites for permit issuance."[145] According to NWF:

> Basically, BRA has proposed that critical determinations that are required to be made before a permit is issued will, instead, be deferred to a subsequent proceeding to consider adoption of a [WMP]. However, at that juncture, BRA will already have its permit. The water that belongs to the people of Texas will have been set aside for use by BRA. Any person who wants the right to use some of that water will have to deal with BRA.[146]

Dow calls it the "Hop-Step Process" because BRA is seeking to "ignore Texas law and avoid or 'hop' over evidentiary requirements, crucial issues, and critical evaluations that a water rights application must undergo before it is granted by TCEQ."[147]

Joe Trungale is a civil engineer who specializes in water resource planning and environmental flows studies. He testified on behalf of FBR. According to Mr. Trungale, BRA has not supplied in the Application the kinds of specific information necessary to conduct a

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[141] Tr. 38-39.

[142] Tr. 39.

[143] Tr. 897-99.

[144] FBR Initial Brief at 9.

[145] NWF Reply Brief at 3.

[146] NWF Initial Brief at 2.

[147] Dow Reply Brief at 13.

Section 11.134 analysis.[148] "[M]any of the evaluations needed for the [Section 11.134] determinations will be done in a second step, after a new system operation permit is issued based on this proceeding. . . . If that second step provided adequate information, I or a person with expertise like mine, could then determine what, if any, impacts there might be from BRA's . . . activities authorized under this permit."[149] In Mr. Trungale's opinion, because the Application does not identify actual, as opposed to only theoretical, information on issues such as diversion points, amounts of water to be diverted, places of use, and so on, the amount of unappropriated water available for the SysOp Permit cannot be accurately determined.[150]

Dr. Robert Brandes is a civil engineer and hydrologist who testified on behalf of Dow. He described the water availability analyses used by BRA and the ED -- whereby all of BRA's water diversions are assumed to take place at a single diversion point -- as "absurd" because BRA has and will continue to have long-term water supply customers located throughout the basin; thus, actual BRA diversions will in no way resemble what was modeled.[151] As a result, according to Dr. Brandes, the proposed SysOp Permit greatly overstates the water available for appropriation. Dr. Brandes has never encountered a permit application similar to the SysOp Permit, where all existing demands are modeled to be moved downstream to a single diversion point.[152]

BRA's response to these criticisms is that the uncertainties surrounding the SysOp Permit can be cleared up in the WMP phase. For example, in response to Mr. Trungale's testimony that the Application lacks the information necessary to conduct the required Section 11.134 impact analyses, the following exchange took place between BRA's legal counsel and Mr. Trungale:

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[148] FBR Ex. 3 at 8.

[149] FBR Ex. 3 at 20.

[150] FBR Ex. 3 at 22.

[151] Ex. Dow 19 at 12.

[152] Tr. 1563.

> Q: Now, with regard to the second of your four opinions regarding the ability to conduct a Section 11.134 analysis, I'm interpreting that really as a criticism of the two-step process that's involved in this application and ultimately putting the water to use. Do you agree with that?
>
> A: . . . I suppose, yes, it is a criticism of the two-step process, but more fundamentally, it's simply I understand that these things are to be done for a permit, and I don't see that to be able to make those evaluations.
>
> Q: Okay. You can't make those evaluations with regard to the, as yet, unidentified diversion points?
>
> A: I cannot make evaluations to impacts to stream flows when I don't know what the diversion points are; yes, that is correct.
>
> . . .
>
> Q: Okay. To the extent that we are talking about specific information about proposed diversions that is necessary to conduct the 11.134 evaluation, would you agree that when -- in the water management plan approval process, to the extent we're identifying the new proposed diversion points, that we will be able to address these issues?
>
> A: We will be able to address what the proposed diversion points are and have some prediction of what the flows resulting from those diversions are. That is accurate.[153]

BRA's primary expert on water availability issues, Mr. Gooch, explained that the accounting plan (which is a required component of the WMP) would help to ensure that senior water rights are not impacted by the BRA permit.[154] Mr. Gooch conceded that the amount of water that BRA will be entitled to divert after the WMP is developed would be substantially less than what is currently sought in the BRA application. For example, at the Richmond gauge, Mr. Gooch estimated that, after adoption of the WMP, BRA might be able to divert 50,000 to 100,000 acre-feet less than will be authorized in the SysOp Permit.[155]

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[153] Tr. 1233-35.

[154] Tr. 419-21.

[155] Tr. 471-72.

Evidence provided by Dow appears to corroborate Mr. Gooch's testimony on this point. On behalf of Dow, Dr. Brandes revised the WAM so that the water availability modeling would assume that the diversion locations under the SysOp Permit would be roughly consistent with the locations actually used by BRA in its existing water supply contracts and its anticipated contractual demands throughout the basin. The results of this modeling effort, which more accurately reflects the reality of how the SysOp Permit would be used by BRA, indicated that the firm yield of the SysOp Permit at Richmond would be reduced by approximately 55,600 acre-feet.[156]

In response to discussion of the "Glen Rose Scenario" (discussed in more detail in below), Mr. Gooch testified that the reason for including diversion amounts for Glen Rose and Highbank in the SysOp Permit was not to show compliance with Section 11.134, but to "illustrate the need for a water management plan to consider the location and diversion and the reliable supply available. You could take [Glen Rose and Highbank] out of the application. . . . [T]hose issues would still need to be dealt with in a water management plan."[157] In other words, Mr. Gooch effectively minimized the overall significance of the hypothetical diversion points and amounts included in the draft SysOp Permit, highlighting the fact that the real evaluations can only be done as part of a future WMP process.

The inescapable fact is that, assuming BRA's application was granted in this matter, it would be impossible to know whether senior water rights would be impacted by the permit until the WMP is approved. In essence, BRA and the ED argue that the exercise of the SysOp Permit will not negatively impact senior water rights because the WMP will ensure that such negative impacts to do not occur. In the absence of the WMP, BRA and the ED would simply have the Commission take them at their word. The Water Code does not afford BRA and the ED this luxury. The ALJs cannot now recommend granting the SysOp Permit unless BRA has proved,

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[156] Ex. Dow 19 at 17; Tr. 1561-62.

[157] Tr. 2359.

pursuant to Section 11.134, that there is unappropriated water available and the permit will not impair existing water rights or vested riparian rights. Unless the ALJs can evaluate the WMP, the impairment analysis cannot be made.

The ALJs believe there are three alternative actions that could be taken by the Commission to address this water availability issue: (1) the Commission could deny the Application; (2) the Commission could defer a final ruling on the Application by providing BRA with time to prepare its WMP and remanding the Application back to SOAH for further hearings on the WMP; or (3) the Commission could grant the Application in part and only authorize diversions at Glen Rose, or at Highbank, or at Richmond, or at the Gulf and solely for the quantities identified in the application for those locations.[158] Under the third scenario, if BRA wished to change the appropriation amounts or locations, it could presumably seek approval to do so during the WMP phase.

C. In three specific respects, the Section 11.134 analysis of the SysOp Permit shows that it *will* negatively impact senior water rights.

1. As a result of the two-step process, the SysOp Permit overstates the amount of water available coming from the Possum Kingdom Reservoir and the other reservoirs.

Dow, NWF, and FBR contend that the water availability analyses conducted by BRA and the ED overstate that amount of water that is available for appropriation by BRA because it was wrongly based, in part, upon the *permitted* storage capacity in the BRA reservoirs underlying the Application rather than the *actual* storage capacity of the lakes.[159] The ALJs agree. Although this concern applies to all BRA reservoirs, the discussion of this issue focused on the Possum Kingdom Reservoir (PKR). The permitted capacity for PKR is 724,739 acre-feet.[160] In the

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[158] If the third option were chosen, the withdrawal amounts identified in the Application for the four control points would have to be reduced to account for the specific errors identified later in this PFD.

[159] Dow Initial Brief at 9-12; FRB Initial Brief at 2; NWF Initial Brief at 18.

[160] Tr. 266.

many decades since the permit for PKR was issued, however, sedimentation has filled in a substantial portion of the lake's capacity. As of January 2005, actual capacity at PKR had been reduced to 540,340 acre-feet.[161] In other words, 184,399 acre-feet (roughly 25 percent of the original permitted storage capacity) has been lost to sedimentation. As time goes on, the storage capacity of the lake will continue to decline. Thus, it can safely be assumed that current storage capacity at PKR is something less than 540,340 acre-feet, and it will continue to decrease as sedimentation continues.[162] BRA has no plans to increase the storage capacity at PKR by removing sedimentation.[163]

In their water availability modeling for the SysOp Permit, both BRA and the ED used the permitted storage capacity for PKR, rather than the actual capacity.[164] They explained that they did so because: (1) TCEQ's practice, in water rights analyses, is to continue using a reservoir's permitted capacity when considering an application for a new appropriation from the same reservoir; and (2) BRA could return PKR to its permitted storage in the future by, for example, removing sediment.[165] The rationale behind this practice is that the holder of a reservoir permit is entitled to the full permitted amount of the reservoir and is free to restore the reservoir to its fully permitted capacity by removing sedimentation. According to BRA and the ED, if modeling were done based upon actual capacity rather than permitted capacity, then there is a risk that water to which the holder of the reservoir rights is entitled might be given to other appropriators.[166]

Dow concedes it was appropriate to use PKR's permitted capacity in the WAM when modeling BRA's existing water rights, but argues that when the model was run to simulate the

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[161] Ex. Dow 27.

[162] Tr. 321-322, 668.

[163] Tr. 270.

[164] Tr. 266.

[165] Tr. 267, 270, 375, 1945-46.

[166] Tr. 1945-46.

new SysOp Permit the model should have used the actual capacity for the lake. Dow contends: "BRA's use of permitted storage instead of actual storage of its reservoirs in the model makes it look like there is more water available for the requested appropriation than what is actually available."[167] Dow's expert witness, Dr. Brandes, estimated that modeling of actual storage at PKR would reduce the SysOp Permit's yield by roughly 14,600 acre-feet at Richmond.[168] Stated differently, Dow argues that if BRA were entitled to fully divert under the SysOp Permit as it is currently calculated, then roughly 14,600 acre-feet would be made unavailable to senior water rights holders.[169] Similarly, Dr. Brandes estimated that modeling of actual storage (rather than permitted storage) at *all* of the reservoirs involved in the SysOp Permit would reduce the SysOp Permit yield by roughly 33,000 acre-feet at Richmond.[170] NWF contends that it would be too speculative to issue the SysOp Permit based upon the permitted capacity of the reservoirs in reliance upon the mere assumption that BRA might in the future restore the lakes to their permitted capacities, especially because BRA has no such plans.[171]

Although they may quibble as to the amount, both the ED and BRA concede Dow's primary point -- that the use of the permitted capacity of PKR and the other reservoirs instead of actual capacity results in an overstatement of the amount of water available for appropriation in the SysOp Permit, and that could negatively impact senior water rights.[172] BRA argues, however, that the difference between permitted storage and actual storage does not present a meaningful issue in this permitting proceeding because it will be addressed in the process of developing the WMP prior to any BRA diversion or use of SysOp Permit water. According to BRA, when the WMP is developed, the determination of actual yield for the SysOp Permit will be based on current conditions of return flows, locations of diversions, and sedimentation

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[167] Dow Initial Brief at 10; *see also* Ex. Dow 19 at 22.

[168] Ex. Dow 19 at 22-23.

[169] Dow Initial Brief at 12.

[170] Tr. 1585-86.

[171] NWF Initial Brief at 18.

[172] Tr. 670-72.

issues.[173] On this topic, Mr. Gooch testified that, before using any water under the SysOp Permit, the WMP "will show exactly how much water is available given actual discharges of return flow, given actual conditions of sedimentation, given actual locations of diversions to make sure that BRA keeps its sales of water within the limits of what's actually available for supply."[174] Mr. Gooch conceded that the WMP ultimately developed would likely limit BRA's new appropriation based upon actual storage at PKR, rather than permitted storage.[175] According to Mr. Gooch, before water is diverted under the SysOp Permit, the WMP will "look at actual amounts of storage currently available . . . and other factors to determine what [BRA] can supply on a reliable basis."[176]

In other words, BRA acknowledges that, as currently drafted, the SysOp Permit overstates the amount of water available for the SysOp Permit, but assures that the problem will be fixed in the WMP process. Again, the Water Code does not afford BRA this luxury. The ALJs cannot now recommend granting the SysOp Permit knowing that it does not comply with Section 11.134 based upon the promise that this non-compliance will be subsequently corrected via a WMP that has not yet been written.

As stated above, the ALJs believe the Commission could: (1) deny the Application; (2) defer a final ruling on the Application and remand to SOAH for consideration of the WMP; or (3) grant the Application in amended form, allowing diversions only at Glen Rose, Highbank, Richmond, or the Gulf.[177] If the Commissioners choose the third scenario, then the ALJs recommend that the amount of water as shown in the SysOp Permit to be available at Richmond should be reduced by 33,000 acre-feet (the amount identified by Dr. Brandes as the reduction

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[173] BRA Initial Brief at 39.

[174] Tr. 272-73.

[175] Tr. 375-76, 470-71.

[176] Tr. 283.

[177] If the third option were chosen, the withdrawal amounts identified in the Application for the four control points would have to be reduced to account for the specific errors identified in this PFD.

needed if water availability modeling for the SysOp Permit were based upon actual reservoir storages rather than permitted storages). There is no evidence in the record upon which the ALJs could determine the amount by which diversions at the three other control points should be likewise reduced. Thus, the Commissioners would need to remand this matter back to SOAH for determination of those amounts.

2. Prior to construction of the Allens Creek Reservoir, the SysOp Permit overstates the amount of water available.

The Allens Creek Reservoir (ACR) is a proposed reservoir that would be built on Allens Creek in southeast Texas, near the Gulf. It is intended to serve as an "off channel" reservoir to impound not only water flowing in Allens Creek, but also to impound Brazos River water that will be diverted from the Brazos River channel into the reservoir. BRA is the co-owner, along with the City of Houston and the Texas Water Development Board, of a water right issued for the construction and use of the reservoir.[178] The water right for the reservoir allows 202,000 acre-feet per year to be diverted from the Brazos River and impounded in the reservoir, and allows 99,650 acre-feet per year to be diverted from the reservoir, with a 2002 priority date.[179] Of that 99,650 acre-feet, BRA owns 30 percent (or 29,825 acre-feet), and the City of Houston owns the remaining 70 percent.[180] ACR has not yet been constructed, might not be constructed anytime soon, and might never be constructed.[181] Indeed, with the recent passage of SB 1132, the deadline for the initiation of construction of ACR has been extended from 2018 to 2025.[182] Therefore, the BRA Application seeks a permit that addresses two alternative scenarios:

(1) Until ACR is constructed, the Application seeks to appropriate up to 1,204,099 acre-feet at the Gulf, without the inclusion of the reservoir; and

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[178] BRA Ex. 1 at 20; BRA Ex. 15 at 43; FBR Ex. 3-F, Item 14.

[179] BRA Ex. 15 at 43; FBR Ex. 3-F, Item 14.

[180] FBR Ex. 3 at 34; Tr. 412.

[181] BRA Ex. 1 at 20.

[182] BRA Reply Brief at 16 n. 13.

(2) After ACR is constructed, the Application seeks to appropriate up to 1,001,449 acre-feet at the Gulf, with the inclusion of the reservoir.[183]

For the period until the ACR is constructed, the BRA Application seeks the right to appropriate, pursuant to the SysOp Permit, water that could have been appropriated by BRA pursuant to its Allens Creek Permit.[184] Specifically, the "USE" provision of the proposed SysOp Permit, Section 1.A(2), identifies new appropriation amounts without ACR.[185] It is necessary to understand how ACR was handled in the analyses of the availability of unappropriated water for the SysOp Permit. Because the reservoir is not yet constructed, it was handled in two ways, which resulted in different determinations of water availability. For the period prior to construction of ACR, BRA and the ED agreed that "the [Allens Creek] water right should be simply removed from the WAM as an existing senior right, effectively making this water available for appropriation."[186] As explained by the ED, "[b]ecause BRA was already authorized [via its Allens Creek permit] to use this water, it would be appropriate to include [the Allens Creek] authorization in the systems operation before the Allen's Creek permit is actually used."[187]

The ED's chief water availability modeler, Kathy Alexander, explained the SysOp Permit's treatment of the Allens Creek water prior to construction of the reservoir as follows:

> I conducted an analysis of the request for firm water for two scenarios, one in which the authorization for Allens Creek Reservoir is included in the model and one in which it is not. For the scenario where Allens Creek is not included, any water authorized to Allens Creek could first be used by permanent water rights with priority dates between 1999, the date of the Allens Creek Authorization, and 2004, the date of this request. . . . BRA could use their appropriated Allens Creek

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[183] FBR Ex. 5; BRA Ex. 8; BRA Ex. 8B, Section 1.A(1), (2).

[184] Tr. 938-39.

[185] BRA Ex. 8B at 6; ED Ex. K2 at 6.

[186] BRA Reply Brief at 15; *see also* ED Initial Brief at 12.

[187] ED Initial Brief at 12.

water, which is not being currently impounded or used, as part of the system operation until such time as Allens Creek Reservoir is constructed.[188]

Protestants allege that this pre-construction treatment of ACR constitutes prohibited "double-permitting" or "stacking" of water rights. The ALJs agree. FBR and NWF contend that, until ACR is constructed, the SysOp Permit would impermissibly result in the water allocated to that reservoir being double-appropriated by BRA – once via the Allens Creek Permit, and again via the SysOp Permit.[189] As a consequence, the amount of water available for appropriation in the SysOp Permit is overstated because it was based upon analysis that assumed the Allens Creek Permit did not exist. According to FBR, BRA "is seeking to include 202,000 acre/feet of water already appropriated under [the Allens Creek Permit] in its current application for the SysOp. The use of this water in the proposed permit is not allowed because the water is already appropriated."[190]

It is well established in Texas that if a permit has already been issued for the use of water, then that same water cannot be made subject to a new appropriation[191] until the permit has been cancelled. Pursuant to Texas Water Code Section 11.146(e), "[e]xcept as provided by Section 11.1381 of this code, if a permit has been issued for the use of water, the water is not subject to a new appropriation until the permit has been cancelled in whole or part as provided by this section."[192] Section 11.1381 is the provision that authorizes the issuance of term permits. Thus,

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[188] ED Ex. KA-1 at 21-22.

[189] FBR Initial Brief at 7-9; NWF Initial Brief at 16-17; FBR Ex. 3 at 35-37.

[190] FBR Initial Brief at 21. In a related argument, FBR points out that the water that is currently not being used under BRA's Allens Creek Permit is available for use under term permits. FBR contends that, by allowing BRA to access that water through its SysOp Permit, the ED is improperly cutting potential term permit applicants off from access to that water. BRA Initial Brief at 8. This argument lacks merit. As BRA correctly points out, water availability for term permits is based upon existing use, not permitted use. BRA Reply Brief at 16; Tr. 516, 2162-63. Thus, even if the SysOp Permit were granted, Allens Creek water would still be accessible by term permit applicants until it is fully utilized under the Allens Creek Permit or the SysOp Permit.

[191] In this context, when referring to "appropriations" or "permits" or "water rights," the ALJs are intending to exclude term permits.

[192] *See also Stacy Dam.*

NWF asserts that, if BRA wishes to use water that is already spoken for under the Allens Creek permit, then it may only do so through a term permit.[193]

BRA provides a two-pronged response to this argument. First, it contends that Section 11.146(e), the provision prohibiting the double-appropriation of water, is not applicable to ACR. BRA explains:

> Texas Water Code § 11.146 addresses cancellation of permits for failure to construct or initiate construction as required by § 11.145 (within two years, unless extended by Commission action). Section 11.146(e), . . . states that except as authorized by § 11.1381 (term permits), water appropriated by a reservoir permit is not subject to a new appropriation until the water right is cancelled. FBR and NWF argue that this means that Allens Creek water may not be appropriated for BRA's System Operation unless or until the Allens Creek Permit is cancelled. . . . [I]t is apparent that FBR and NWF have not read (or would prefer not to read) the entire statute; § 11.146 does not apply to the Allens Creek Permit. Section 11.146(g) explicitly states that the section does not apply to permits for construction of reservoirs with storage capacity in excess of 50,000 acre-feet. The Allens Creek Reservoir has an authorized storage capacity of over 145,000 acre-feet.[194]

As its title -- "Forfeitures and Cancellation of Permit for Inaction" -- implies, Section 11.146 generally sets forth the circumstances under which a water right may be cancelled. Subsections (a) and (b) provide that if a permit holder fails to commence construction of diversion works within the deadline set forth in a water right or fails to "diligently and continuously" complete the construction work, then the right can be forfeited. Subsections (c) and (d) set out the notice and hearing requirements applicable to a forfeiture proceeding. Subsection (e) clarifies that, if a permit has been issued for the use of water, other than through a term permit, then that water cannot be appropriated to another until the right has been cancelled. Subsection (g) explains that Section 11.146 does not apply to permits for the construction of any reservoir capable of storing more than 50,000 acre-feet of water. When read in context, it seems clear that, by including Subsection (g), the Legislature understood that the construction of large

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[193] NWF Initial Brief at 17.

[194] BRA Reply Brief at 15-16.

reservoirs could often be delayed by many years due to factors beyond the control of the water right holder, such as political infighting and litigation. Thus, the legislature clearly intended that a holder of a permit for the construction of a large reservoir should not face cancellation of that right merely because the construction of the reservoir is not timely commenced.

Even if BRA were correct that Water Code § 11.146 is not applicable to a reservoir as large as ACR, that would not mean that double-permitting is permissible. As with any water rights application, the SysOp Permit may be granted only if the TCEQ concludes that there is unappropriated water available for the permit.[195] "Unappropriated water" has been defined to mean "the amount of water remaining after taking into account all existing uncancelled permits and filings valued at their recorded levels."[196] Thus, in *Stacy Dam*, the Texas Supreme Court relied on Water Code § 11.134(b)(2) and (3) to conclude that, because any other result would throw water rights into a "state of chaos," a second grant for an appropriation of water cannot be based on a determination that a portion of a prior water right is not being used.[197] In conformity with the holding in *Stacy Dam*, TCEQ staff determines the availability of unappropriated water through use of WAM Run 3, which assumes that all existing recorded water rights in the basin are being fully exercised.[198] In other words, unless the Allen Creek Permit is cancelled, when evaluating the availability of water for the SysOp Permit, BRA and the ED should have assumed that the Allens Creek Permit was being fully utilized. Instead, they improperly assumed that the Allens Creek Permit did not exist.

In the second prong of its argument, BRA contends that the SysOp Permit's treatment of the Allens Creek Permit ought to be acceptable because it is similar to the Water Code's treatment of term permits.

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[195] Water Code § 11.134(b)(2).

[196] *Stacy Dam*, 689 S.W.2d at 874.

[197] *Stacy Dam*, 689 S.W.2d at 876, 882.

[198] ED Ex. KA-2 at 14-15.

> The treatment of the Allens Creek appropriation in this Application is completely consistent with the purposes of § 11.146. The purpose of § 11.1381, the specified exception to § 11.146(e), is to allow the use of water appropriated for unconstructed reservoirs on a term basis. Under TCEQ's term permit analysis, WAM Run 8, Allens Creek water *is available* for use at this time on a term basis because the Run 8 analysis considers existing uses, and none of the Allens Creek water is being used prior to construction. . . . The System Operation Permit's pre-Allens Creek analysis accomplishes exactly the same thing by removing the Allens Creek Permit from WAM Run 3. The only difference is that instead of a term for a specified number of years, the System Operation Permit pre-Allens Creek authorization is for a term of years that is defined by closure of ports on the dam for the Allens Creek Reservoir.[199]

In other words, BRA contends that the SysOp Permit should be acceptable because it grants something *like* a term permit for the period prior to construction of ACR.

This argument also lacks merits. In the SysOp Permit, BRA has not applied for a term permit with respect to the currently un-utilized Allens Creek Permit water,[200] nor does the Proposed Permit purport to be a term permit for such water. A term permit can be issued for "*a term of years* for the use of state water to which a senior water right has not been perfected."[201] In this case, the SysOp Permit does not grant authorization for a term of years. Instead, it would allow BRA to use un-utilized Allens Creek Permit water "until such time as the ports are closed on the dam impounding" ACR.[202] The evidence demonstrates that the ports might not close on the reservoir until 2025, or they might *never* close because ACR might never be constructed. In other words, in violation of the prohibition against double-permitting, the SysOp Permit grants a

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[199] BRA Reply Brief at 16 (emphasis in original).

[200] In its Initial Brief, BRA specifically states that it "is seeking a permanent water right, not a term permit." BRA Initial Brief at 18-19.

[201] Water Code § 11.1381(a)(emphasis added).

[202] BRA Ex. 8B at 6; ED Ex. K2 at 6.

potentially perpetual water right with respect to water that is already spoken for in BRA's Allens Creek Permit.[203]

In their water availability modeling, both BRA and the ED treated the Allens Creek Permit differently than BRA's other reservoirs; all of BRA's other reservoir rights were assumed to be fully utilized, whereas the Allens Creek Permit was treated as if it never existed.[204] Neither the ED nor BRA has provided a cogent explanation to justify this disparate treatment. As a consequence, the amount of water deemed to be unappropriated water and, therefore, available for appropriation in the SysOp Permit prior to construction of ACR, was overstated because it is based upon the assumption that the Allens Creek Permit does not exist.

The Allens Creek Permit authorizes diversion of 202,000 acre-feet from the Brazos River Basin. Until the Allens Creek Permit is cancelled, when evaluating the availability of water for the SysOp Permit, the ED should have assumed that the Allens Creek Permit was being fully utilized. Accordingly, the ALJs conclude that, for the period prior to construction of ACR, the amount of water available for appropriation in the SysOp Permit is overstated by 202,000 acre-feet at Richmond.

As stated above, the ALJs believe the Commission could: (1) deny the Application; (2) defer a final ruling on the Application and remand to SOAH for consideration of the WMP; or (3) grant the Application in amended form, allowing diversions only at Glen Rose, Highbank, Richmond, or the Gulf.[205] If the Commissioners choose the third scenario, then the ALJs recommend that the amount of water as shown in the SysOp Permit to be available at Richmond should be reduced by 202,000 acre-feet (the amount of BRA's Allens Creek Permit). There is no

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[203] The ED rationalized his treatment of the Allens Creek Permit by stating: "The water that is not being used by BRA [in the Allens Creek Permit] could have been available to anyone who asked for it." ED Reply Brief at 8. Yet, indisputably, that water is available only to those asking for a *term* permit.

[204] BRA Ex. 15 at 29-30; Tr. 263.

[205] If the third option were chosen, the withdrawal amounts identified in the Application for the four control points would have to be reduced to account for the specific errors identified in this PFD.

evidence in the record upon which the ALJs could determine the amount by which diversions at the three other control points should be reduced. Thus, the Commissioners would need to remand this matter back to SOAH for determination of those amounts. Alternatively, despite BRA's statement that it is not seeking a term permit, the Commission could consider whether to grant BRA a term permit for the 202,000 acre-feet of Allens Creek Permit water for a specific term of years. This might be appropriate if the Commission chose to view the granting of such a term permit as a partial grant of what BRA applied for.

3. As a result of the two-step process, the SysOp Permit overstates the amount of water available in the "Glen Rose Scenario."

As explained above, the Application identifies four hypothetical control points -- Glen Rose, Highbank, Richmond, and the Gulf -- and then, for each control point, BRA identifies the maximum quantity of water that could purportedly be diverted at that point without negatively impacting senior water rights or the environment. The Application then asks for the right to appropriate those amounts. FBR contends that the way in which modeling was done for the "Glen Rose Scenario" (*i.e.*, the scenario in which all SysOp Permit diversions take place at Glen Rose) resulted in inappropriate "double-permitting" or "stacking" of water rights. As a consequence, the amount of water available for appropriation in the SysOp Permit is overstated because it was based upon analysis that assumed some portion of BRA's existing water rights was not fully utilized. The ALJs agree with FBR's argument.

In the Glen Rose Scenario, the ED's Proposed Permit identifies the amount of water available for appropriation at Glen Rose as 131,363 acre-feet of firm water.[206] BRA has a total of 295,462 in existing water rights above Glen Rose. Thus, under the Glen Rose Scenario, a total of 426,825 acre-feet would be diverted by BRA at Glen Rose (131,363 + 295,462).[207] Further, under the Glen Rose scenario, the WAM indicates that an additional 360,050 acre-feet

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[206] ED Ex. K2 at 6.

[207] Tr. 355-57;

would be diverted at Richmond to satisfy BRA's existing water rights below Glen Rose.[208] The problem is that existing BRA water rights downstream of Glen Rose total 466,089 acre-feet.[209] Thus, while BRA's existing water rights below Glen Rose total 466,089, the WAM shows that, in the Glen Rose scenario, only 360,050 acre-feet would be available below Glen Rose to satisfy those existing rights.[210] In other words, about 106,039 of the 131,363 acre-feet proposed to be diverted at Glen Rose is water needed to meet existing water rights demands downstream of Glen Rose.[211]

As explained by Mr. Gooch, when doing the modeling to determine the amount of water available for the SysOp Permit at Glen Rose, BRA and the ED assumed that roughly 106,000 acre-feet of existing BRA rights would not be fully exercised and that water would instead be used to meet the instream flow requirements of the SysOp Permit at Richmond.[212] According to Mr. Gooch: "[I]f BRA makes the maximum diversions it can possibly make at the Glen Rose gauge, there will not be always a reliable supply equal to the total of BRA senior water rights downstream from Glen Rose that will be available in some years but not in other years."[213] Another of BRA's experts, Dr. Wurbs, agreed that in order to meet certain instream flows requirements in the SysOp Permit and achieve the desired firm yield at Glen Rose, BRA would need to "sacrifice" some of its existing permitted water.[214]

The ED and BRA concede that the amount of unappropriated water available under the Glen Rose Scenario is overstated because it is based in part upon the assumption that BRA's existing water rights will not be fully exercised. However, they contend that this presents no problem because it merely "illustrates the need for a [WMP] to consider the location and

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[208] FBR Ex. 3 at 17.

[209] FBR Ex. 3 at 18.

[210] Tr. 1192-97.

[211] FBR Ex. 3 at 18.

[212] Tr. 360-61, 381-82; *see also* Tr. 1424-26 (BRA expert Dunn confirms same conclusion).

[213] Tr. 329.

[214] Tr. 615-16.

diversion and the reliable supply available."[215] BRA will, in the WMP, "detail exactly" how downstream diversions will be reduced to account for the discrepancy in the Glen Rose Scenario.[216] This argument is unconvincing. In the modeling used to determine the amount of unappropriated water available for the SysOp Permit, BRA and the ED should have, consistent with *Stacy Dam*, assumed that all existing water rights (including BRA's water rights) were being fully exercised. Instead, they assumed that 106,039 acre-feet of BRA's existing water rights would not be exercised in the Glen Rose Scenario. As such, the Proposed Permit overstates the amount of unappropriated water available in the Glen Rose Scenario by 106,039 acre-feet.

As with the reservoir storage issue, BRA acknowledges that, as currently drafted, the SysOp Permit overstates the amount of water available at Glen Rose for the SysOp Permit, but BRA assures that the problem will be fixed in the WMP process. The ALJs cannot now recommend granting the SysOp Permit knowing that it does not comply with Section 11.134 based upon the promise that this non-compliance will be subsequently corrected in a WMP that has not yet been written.

As stated above, the ALJs believe the Commission could: (1) deny the Application; (2) defer a final ruling on the Application and remand to SOAH for consideration of the WMP; or (3) grant the Application in amended form, allowing diversions only at Glen Rose, Highbank, Richmond, or the Gulf.[217] If the Commissioners choose the third scenario, then the ALJs recommend that the amount of water as shown in the SysOp Permit to be available at Glen Rose should be reduced by 106,039 acre-feet.

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[215] BRA Initial Brief at 37, *quoting* Gooch Tr. 2359.

[216] ED Reply Brief at 6-7; Tr. 1929

[217] If the third option were chosen, the withdrawal amounts identified in the Application for the four control points would have to be reduced to account for the specific errors identified in this PFD.

XI. BENEFICIAL USE

BRA met its burden to prove that the SysOp Permit appropriations are intended for beneficial use. Pursuant to Water Code § 11.134(b)(3)(A), an application for a water right cannot be granted unless the TCEQ first finds that the appropriation contemplated in the application "is intended for a beneficial use." The requirement for showing beneficial use follows from the concept that the state holds the water of the state in trust for the benefit of the people of the state. It is in the state's interest, therefore, to make sure that a person seeking an appropriation of water will beneficially use it, because appropriating water to an applicant reduces the amount of water the state will have to appropriate to others.

BRA presented a substantial amount of evidence to prove that water appropriated under the SysOp Permit would be put to beneficial use. The Water Code describes municipal uses, agricultural and industrial uses, mining, hydroelectric power, navigation, recreation and pleasure as among the types of beneficial uses for which state water may be appropriated.[218] BRA is asking that its appropriations pursuant to the SysOp Permit be authorized for all of these recognized beneficial uses.[219] BRA currently has virtually no uncommitted water left available to meet future additional water supply demands.[220] BRA holds 705,000 acre-feet of existing water rights. Ninety-nine percent of those 705,000 acre-feet (702,500) are already committed under BRA contracts to be used by BRA customers. The remaining 2,500 acre-feet is being held by BRA as a discretionary reserve to address unforeseen circumstances that might require water.[221] Projected water demand in the basin through 2060 exceeds BRA's existing water rights. Many of BRA's existing customers need additional water to meet their future needs, and other entities that are not currently BRA customers have future needs that could be met by BRA

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[218] Water Code § 11.023.

[219] BRA Exs. 7 at 6 & 15 at 86.

[220] BRA Ex. 1 at 17; Tr. 98.

[221] BRA Ex. 1 at 16; BRA Ex. 35 at 12.

if it had additional water rights.[222] BRA also has pending requests for water from approximately twenty different entities that would contract, collectively, for over 150,000 acre-feet of water per year.[223] Moreover, as discussed elsewhere in this PFD concerning consistency with the State Water Plan, the recently approved 2011 Regional Water Plans for Regions G and H forecast that substantial additional water supplies will be needed in the basin between now and 2060.[224] The increase in demand for water in both regions is primarily due to population growth and its resulting effect on the need for increased municipal water supply and electricity generation. However, there are also projected shortages for irrigation and manufacturing uses.[225] To exacerbate matters for Region H, water users in Fort Bend County must convert a large portion of their current water use from groundwater to surface water.[226] The reduced availability of groundwater in Region H will create additional demand for surface water sources in that area, and BRA anticipates the SysOp Permit providing a badly needed surface water supply to help meet those demands.[227]

BRA argues that the evidence shows there is an immediate need for additional water supplies in a large portion of the Brazos River Basin, and BRA intends to beneficially use the newly appropriated water by contracting with its existing and future customers who have a need for these additional supplies. BRA contends it is likely that SysOp Permit water could be placed under contract within five to ten years after the water supply becomes available. BRA argues that this is a reasonable time frame, given that full use of major new water supplies can often take several decades.[228] Having this water available is beneficial, even if it is not immediately fully utilized, because it allows the customers to plan and rely on having the supply in the

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[222] BRA Ex. 35 at 12.

[223] BRA Ex. 1 at 18; BRA Ex. 10 at 21.

[224] Exs. BRA 12, 13, and 14.

[225] BRA Ex. 10 at 10 & 13-15 & Exs. 12 & 13.

[226] BRA Ex. 10 at 14.

[227] BRA Ex. 10 at 15.

[228] BRA Ex. 15 at 86-87.

future.[229] BRA and the ED argue that this evidence proves that water from the SysOp Permit is intended to be used for beneficial purposes.[230]

The Protestants make essentially two arguments regarding beneficial use.[231] The first category of arguments largely consists of objections to the two-step process. For example, Dow argues that, because the exact amount of water that may be used pursuant to the SysOp Permit will not by known until after completion of the WMP, it is impossible to now know how much of the water will be beneficially used.[232] Likewise, Dow points out that it will be impossible for BRA to make all diversions at Richmond, as was assumed in the application. Thus, argues Dow, "the amount of water that can actually be beneficially used will be much less than the amount BRA has requested in the Application."[233] As noted above, the ALJs have concluded that the two-step process makes compliance with the requirements of Chapter 11 impossible at this stage, and recommend denial of the application, or a remand for consideration of BRA's WMP. If, however, the Commission rejects those recommendations and concludes that the two-step process is acceptable, then Protestants' arguments regarding the two-step process' impact on proving beneficial use can be disregarded. If BRA can proceed with the two-step process, then the details of the quantity of water ultimately beneficially used under the SysOp Permit can be cleared up during the WMP step.

The Protestants' second argument is essentially that BRA cannot obtain the SysOp Permit based upon "speculation" that it will be able to sell its water rights to others. The Water Code defines "beneficial use" as "use of the amount of water which is economically necessary for a purpose authorized by this chapter, when reasonable intelligence and reasonable diligence are

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[229] BRA Ex. 15 at 86-87; Tr. 97.

[230] ED Reply Brief at 6; BRA Initial Brief at 5-7.

[231] *See* Dow Initial Brief at 15-18; NWF Initial Brief at 5-7; FBR Initial Brief at 28-34.

[232] Dow Initial Brief at 15-17.

[233] Dow Reply Brief at 4; *see also* NWF Initial Brief at 7; FBR Initial Brief at 31-34.

used in applying the water to that purpose and shall include conserved water."[234] In reliance upon that definition, NWF asserts that BRA must identify specific unmet demands that will be met by the SysOp Permit. NWF asserts that BRA has failed to do so because, for example, the amount of total demands for SysOp Permit water projected in the approved plans for Regions G and H is only about 112,000 acre-feet, whereas BRA is requesting much more than that.[235] Similarly, NWF notes that, while roughly 700,000 of BRA's existing water rights are already committed to be used by BRA customers, the highest ever annual use under those contracts was only 303,301 acre-feet.[236]

Similarly, FBR contends that BRA bears the burden to prove that the requested amount of water is necessary and reasonable for the authorized purposes, but it concedes there is not much Texas case law on beneficial use to support this contention.[237] Instead, FBR relies upon a substantial body of case law from western states to contend that water rights in Texas should not be issued "based upon the speculative sale or transfer of . . . appropriative rights."[238] That is, FBR contends that, in order to show beneficial use, BRA must prove an actual, current need for the water, such as by showing that it currently has in hand executed contracts to sell all the water to be appropriated under the SysOp Permit.[239] In reliance upon out-of-state case law, Dow argues that BRA is attempting to achieve a monopoly in the Brazos River Basin, and that this, somehow, runs contrary to BRA's obligation to prove its intention to beneficially use the SysOp Permit water.[240]

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[234] WATER CODE § 11.002(4).

[235] NWF Initial Brief at 6.

[236] NWF Initial Brief at 6; BRA Ex. 35 at 10.

[237] FBR Initial Brief at 29 (emphasis in original).

[238] FBR Initial Brief at 29 (*quoting, Upper Yampa Water Conservancy Dist. V. Dequine Family* L.L.C., 249 P.3d 794, 798 (Colo. 2011)).

[239] FBR Initial Brief at 28-31.

[240] Dow Initial Brief at 18.

The Protestants' anti-speculation arguments lack merit. The question posed by Water Code § 11.134(b)(3)(A), is whether the appropriation contemplated in the application "is intended for a beneficial use." This is a low threshold to overcome. None of the Protestants alleges, for example, that BRA is intending to *waste* the water allocated in the SysOp Permit. Conversely, there is ample evidence in the record that the water is intended to be used beneficially. Contrary to Protestants' suggestions, there are no requirements that BRA must specifically identify each diversion and the amount needed at each diversion to demonstrate the proposed appropriation is intended for beneficial use.

BRA points out, convincingly, that there are a number of statutory provisions in the Water Code which support a flexible construction of "intended for beneficial use."[241] For example, the TCEQ may initiate cancellation proceedings if a water right is not put to beneficial use in whole or in part for a period of ten years.[242] However, water rights are exempt from cancellation "if a significant portion of the water authorized . . . has been used in accordance with a specific recommendation for meeting a water need included in the regional water plan," or was obtained to meet demonstrated long-term public water supply needs and is consistent with projections of future water needs contained in the state water plan.[243]

Similarly, BRA has identified Texas case law which supports the notion that BRA need not have actual water use contracts in hand in order to prove beneficial use.[244] For example, in *City of San Antonio v. Texas Water Comm'n*,[245] while conceding that there were no contracts between the water right applicant and any municipality for use of the water under the permit, the court noted, approvingly, that the applicant's evidence included: testimony that many uses would

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[241] BRA Reply Brief at 21-22.

[242] Water Code § 11.175(a).

[243] Water Code § 11.175(b).

[244] BRA Reply Brief at 22-24 (*citing, Texas River Protection Assoc. v. TNRCC*, 910 S.W.2d 147 (Tex. App. – Austin 1995, writ denied)).

[245] 407 S.W.2d 752 (Tex. 1966).

be made of the water by various cities, towns, and industrial groups and testimony as to the municipal need within the applicant's boundaries and "prospective urban needs which to some extent support the premise that the Guadalupe River Basin is a developing and growing industrial area and that urban communities within the basin are increasing in size."[246]

The ALJs also note that the permit (now held by BRA) for the construction of Allens Creek Reservoir was first issued in 1973,[247] yet the reservoir is still unconstructed and need not be constructed before 2025. This certainly suggests that an applicant need not have water contracts in place and imminent water needs before a water right may be issued.

BRA argues as follows:

> The statutory requirements and the case law regarding beneficial use, particularly when viewed in light of the Texas Constitution's policy statement "to encourage the optimum development" of the limited feasible sites for dams and reservoirs, and coupled with Texas' state and regional water planning requirements that evaluate and manage the state's water needs and supply strategies, make it clear that full development of the state's water resources is paramount. Tex. Const. art. III, § 49-d(a); TEX. WATER CODE §§ 16.051, 16.052. BRA's [SysOp Permit] will further the state's optimal development policy and will do so, as BRA demonstrates, by making a substantial amount of water available to meet the long-term water needs in Regions G and H. BRA has carried its burden to demonstrate that the water is intended for beneficial use.[248]

The ALJs agree and find that BRA met its burden to prove that the SysOp Permit appropriations are intended for beneficial use.

In its post-hearing briefing, FBR provided its own draft proposed permit. Among other things, FBR proposed that the total authorization in the permit be limited to roughly 132,000

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[246] 407 S.W.2d at 759-63.

[247] FBR Ex. 3-F, Item 14.

[248] BRA Reply Brief at 27.

acre-feet, which consists of: (1) the total amount projected to be needed from the SysOp Permit in Regions G and H; plus (2) the 20,000 acre-feet per year that BRA has committed to sell to the City of Abilene. In support of this permit amendment, FBR argues that BRA should be limited to 132,000 acre-feet because BRA has only proven beneficial use of that amount.[249] Having concluded that FBR is misconstruing BRA's burden with respect to proving beneficial use, the ALJs also conclude that FBR's proposed permit revision is not warranted.

XII. ENVIRONMENTAL FLOWS

BRA contends that it has proposed interim special conditions to ensure that its exercise of the water rights it seeks will not negatively impact the environment. It also claims that the Proposed Permit builds in flexibility to address necessary changes that will be identified in future studies and as better science is developed. BRA contends that the proposed interim flows will protect all of the environmental resources that the Commission is required to consider under the Water Code. In fact, BRA argues that its proposal goes well beyond those requirements, uses the latest scientific information, and incorporates adaptive management to ensure that environmental resources in the Brazos River Basin will be protected.

TPWD agrees with BRA. Cindy Loeffler is the Chief of TPWD's Water Resources Branch. She testified that a permit requiring the interim flow and WMP provisions proposed by BRA[250] will be protective of fish, wildlife, and other instream uses, and TPWD supports granting the application in that form.[251]

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[249] BRA Initial Brief at 59-61.

[250] *See* BRA Exs. 8A & 8B; ED Ex. K2.

[251] BRA Ex. 33 at 20.

The ED contends that his staff performed all of the reviews required by the Water Code concerning environmental flows. He believes that the special conditions he and BRA recommend will ensure that all applicable statutory requirements are met.

OPIC, FBR, and NWF take the position that BRA has not shown that the Proposed Permit would be sufficiently protective of instream uses. They emphasize different points, which are discussed below.

The ALJs conclude that BRA's and the ED's environmental flow review was sufficiently complete. They also find that the Proposed Permit contains reasonable conditions necessary to protect existing instream uses, water quality, fish and wildlife habitat, bays, estuaries, groundwater, and groundwater recharge, and to maintain the biological soundness of the state's rivers, lakes, bays, and estuaries.

A. Overview of Environmental Flow Law

The applicable laws concerning environmental flows and instream uses extensively cross-reference and overlap one another. This means that there is no perfect place to begin an analysis and no perfect path to take from any chosen starting point. The ALJs will begin with Water Code § 11.134(b)(3)(D), which provides:

> The commission shall grant the [water-right] application only if . . . the proposed appropriation . . . considers any applicable environmental flow standards established under Section 11.1471 and, if applicable, the assessments performed under Sections 11.147(d) and (e) and Sections 11.150, 11.151, and 11.152 . . ..

The provisions referenced in Section 11.134(b)(3)(D) concern:

- environmental flow standards which the Commission is required to adopt (Water Code § 11.1471);
- maintenance of existing instream uses (Water Code § 11.147(d));

- effects on and maintenance of water quality (Water Code §§ 11.147(d) and 11.150);
- effects on and maintenance of fish and wildlife habitats (Water Code §§ 11.147 (e) and 11.152); and
- effects on groundwater and groundwater recharge (Water Code 11.151).

Water Code § 11.1471 was enacted in 2007[252] as part of what is commonly referred to as Senate Bill 3, or simply SB3.[253] It requires the Commission to adopt environmental flow standards and set aside sufficient water to satisfy them. The Commission has not yet adopted these standards.

Another statute, Water Code § 11.147(d), provides:

> In its consideration of an application to store, take, or divert water, the commission shall include in the permit, to the extent practicable when considering all public interests, those conditions considered by the commission necessary to maintain existing instream uses and water quality of the stream or river to which the application applies. In determining what conditions to include in the permit under this subsection, the commission shall consider among other factors:
>
> (1) the studies mandated by Section 16.059; and
>
> (2) any water quality assessment performed under Section 11.150.

Water Code § 11.147(d) uses the phrase "instream uses," which is not defined in chapter 11 of the Water Code. However, 30 TAC § 297.1(25) defines "Instream use" as:

> The beneficial use of instream flows for such purposes including, but not limited to, navigation, recreation, hydropower, fisheries, game preserves, stock raising, park purposes, aesthetics, water quality protection, aquatic and riparian wildlife habitat, freshwater inflows for bays and estuaries, and any other instream use

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[252] Added by Acts 2007, 80th Leg., R.S., Ch. 1351, Sec. 1.14, eff. September 1, 2007 (House Bill No. 3) & Acts 2007, 80th Leg., R.S., Ch. 1430, Sec. 1.14, eff. September 1, 2007 (Senate Bill No. 3.)

[253] Actually there were two bills that passed, one originated in the House and one in the Senate.

> recognized by law. An instream use is a beneficial use of water. Water necessary to protect instream uses for water quality, aquatic and riparian wildlife habitat, recreation, navigation, bays and estuaries, and other public purposes may be reserved from appropriation by the commission.

Water Code § 11.147(d) also requires consideration of studies mandated under Water Code § 16.059 and water quality assessments performed under Water Code § 11.150. The Section 16.059 studies concern a determination of appropriate methodologies for determining flow conditions in the state's rivers and streams necessary to support a sound ecological environment. Those studies are also required under SB3. The studies are not due for completion until December 31, 2016. There is no evidence that studies have been completed for the Brazos River Basin.

Water Code § 11.150 requires the Commission to make an application-specific water quality assessment. It states, "In consideration of an application for a permit under this subchapter, the commission shall assess the effects, if any, of the issuance of the permit on water quality in this state." Commission rule 30 TAC § 297.54(a) fleshes out what that means. The rule states:

> In its consideration of an application for a new or amended water right to store, take or divert water, the commission shall assess the effects, if any, of the granting of the application on water quality of the stream or river to which the application applies, as well as associated bays and estuaries. Assessment of water quality impacts shall consider the maintenance of State of Texas Surface Water Quality Standards provided by Chapter 307 of this title (relating to Texas Surface Water Quality Standards) and the need for all existing instream flows to be passed up to that amount necessary to maintain the water quality standards for the affected stream. Such flows may also be used to protect uses of existing, downstream water rights by providing water of a usable quality and to provide, in part, for the protection of vested riparian water rights and domestic and livestock uses.

Shifting from water quality maintenance to a different topic, Water Code § 11.147(e) focuses on maintenance of fish and wildlife habitats. It provides:

> The commission shall include in the permit, to the extent practicable when considering all public interests, those conditions considered by the commission necessary to maintain fish and wildlife habitats. In determining what conditions to include in the permit under this subsection, the commission shall consider any assessment performed under Section 11.152.

The referenced statute, Water Code § 11.152, allows the Commission to require the water-right permit applicant to mitigate impacts on fish and wildlife habitats. It reads:

> In its consideration of an application for a permit to store, take, or divert water in excess of 5,000 acre feet per year, the commission shall assess the effects, if any, o[f] the issuance of the permit on fish and wildlife habitats and may require the applicant to take reasonable actions to mitigate adverse impacts on such habitat. In determining whether to require an applicant to mitigate adverse impacts on a habitat, the commission may consider any net benefit to the habitat produced by the project. The commission shall offset against any mitigation required by the U.S. Fish and Wildlife Service pursuant to 33 C.F.R. Parts 320-330 any mitigation authorized by this section.

Water Code § 11.151 requires the Commission to assess the water-right permit's impact on groundwater and recharge. It provides "In considering an application for a permit to store, take, or divert surface water, the commission shall consider the effects, if any, on groundwater or groundwater recharge." The effects on Bays and estuaries must also be considered. Water Code 11.147(b) states:

> In its consideration of an application for a permit to store, take, or divert water, the commission shall assess the effects, if any, of the issuance of the permit on the bays and estuaries of Texas. For permits issued within an area that is 200 river miles of the coast, to commence from the mouth of the river thence inland, the commission shall include in the permit any conditions considered necessary to maintain beneficial inflows to any affected bay and estuary system, to the extent practicable when considering all public interests and the studies mandated by Section 16.058 as evaluated under Section 11.1491.

More generally, the state has a policy of maintaining the biological soundness of the state's rivers, lakes, bays, and estuaries, because they are of great importance to the public's

economic health and general well-being. Additionally, the state's policy when granting permits is to provide for the freshwater inflows and instream flows "necessary" to maintain the viability of the state's streams, rivers, and bay and estuary systems "to the extent practicable while balancing all other public interests."[254]

B. Environmental-Flow and Instream-Use Requirements Are Not Onerous

The ALJs note that the above laws do not impose rigid standards or heavy burdens of proof on water-right permit applicants concerning protection of the environment or instream uses. Instead, they require the Commission to "assess" and "consider" certain effects, studies, standards, and assessments concerning water quality, groundwater, groundwater recharge, bays, estuaries, and fish and wildlife habitat. After these assessments and reviews, the Commission is required to include permit conditions to protect the environment, but only to the extent the Commission considers such protections "necessary" and "practicable," "when considering all public interests." Further emphasizing the Commission's discretion, several laws provide the Commission "may" take actions to protect environmental and other interests, but they do not require it to take those actions.

Given the many qualifiers, the ALJs read these laws as requiring the Commission to look at a broad range of factors and giving the Commission broad discretion, consistent with what the Commission finds to be in the public interest, to determine what restrictions should be included in BRA's permit to protect environmental flows and instream uses.

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[254] Water Code § 11.0235(b) and (c).

C. Environmental Flow Standards Have Not Been Adopted

Environmental flow standards have not yet been established by the Commission under Water Code § 11.1471 for the Brazos River Basin.[255] However, every version of the permit proposed by the parties contains the following language, which the ALJs also recommend be included in any permit issued:

> These special conditions are subject to adjustment by the Commission if the Commission determines, through an expedited public review process, that such adjustment is appropriate to achieve compliance with applicable environmental flow standards adopted pursuant to Texas Water Code § 11.1471. Any adjustment shall be made in accordance with the provisions of Texas Water Code § 11.147(e-1).[256]

D. Expert Witnesses on Environmental Issues

The Executive Director's expert witness on environmental flows was Dakus Geeslin. He holds bachelor and master degrees in environmental science and is an aquatic scientist on the Commission's water quality standards team. He has worked for the Commission since 2007 and previously worked as an environmental consultant. Mr. Geeslin has performed approximately ten environmental reviews for the TCEQ and has also evaluated the impacts of wastewater discharges on receiving water bodies. He is also the Commission's representative to the Texas Instream Flow Program, mandated by Senate Bill No. 2 of 2001. In that program, representatives of the TCEQ, TPWD, and TWDB, in cooperation with other agencies, maintain an instream flow data collection and evaluation program and conduct studies to determine flow conditions necessary to maintain a sound ecological environment in the state's rivers and streams.[257]

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[255] BRA Ex. 29 at 22.

[256] *E.g.*, BRA Ex. 8B at 23, ED Ex. K2 at 28; FBR Initial Brief, Apx. A at 27.

[257] ED Ex. DG-1 at 1-4

BRA's application was initially reviewed by Dr. Wendy Gordon, a TCEQ aquatic scientist who has left the Commission's employment.[258] After she left, Mr. Geeslin reviewed Dr. Gordon's memo and other material to reach his own conclusions concerning the water quality impact of BRA's proposal.[259]

In addition to the Commission staff, TPWD Staff reviewed the Application and TPWD supports granting the application as proposed by BRA. Cindy Loeffler is the Chief of TPWD's Water Resources Branch, and she manages a team of scientists and engineers and works with other TPWD staff on various water matters. Ms. Loeffler oversaw TPWD's review of BRA's application.[260] BRA called Ms. Loeffler as a witness, and she testified on behalf of both BRA and TPWD.[261]

Ms. Loeffler has served in her current and related positions at TPWD since 1987. She has personally reviewed over 200 water-right applications between 1987 and 1997, and since 1997, she has directed her branch's review of more than 200 additional applications. She has a Bachelor of Science degree in Engineering Science with an Environmental Engineering emphasis from Colorado State University. Her team formulated TPWD's water permitting and planning recommendations to minimize or avoid impacts to fish and wildlife resources from water development projects. Mr. Loeffler oversees TPWD's participation in the SB3 environmental flows planning process.[262]

BRA also called David K. Harkins, Ph.D., P.E., as a witness. He holds a Bachelor of Science degree in Petroleum Engineering and a Master of Science degree and a Ph.D. in Civil Engineering from Texas Tech. He has worked for Espey Consultants since 1998 and has been a

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[258] ED Ex. DG-1 at 4 and BRA Ex. 31.

[259] ED Ex. DG-3A and DG-3B.

[260] BRA Ex. 33 at 2-3 & 6-8

[261] BRA Ex. 33 at 2.

[262] BRA Ex. 33 at 1-4 & Ex. 34.

Vice President for eight years, heading Espey's Environmental and Water Resources group. The primary focus of his work has been in the water resources discipline.[263]

While Dr. Harkins' master and doctorate degrees are in civil engineering rather than a pertinent biological science, his experience includes significant involvement in instream flow and closely related studies. He oversaw his firm's participation in an instream flow study of the Colorado Basin, managed a Matagorda Bay Health study, was responsible for a previous instream flow restriction in the Trinity River Basin, and was the manager for a project to identify and catalogue completed studies and reports relative to the State's SB 2 study efforts.[264]

Dow's expert was David Dunn, P.E. He holds bachelor and master degrees in Civil Engineering from Texas A&M University. He is a Vice President and Senior Project Manager for HDR Engineering, Inc. He participated in the development and refinement of earlier water availability models used by the Commission. Mr. Dunn has also been involved in the evaluation of chloride controls for the main stem of the Brazos River by the Region G Water Planning Group and has also worked on the evaluation of water quality and specifically total dissolved solids (TDS) for a proposed reservoir project for the City of Lubbock.[265]

Joe Trungale testified for FBR as an expert on environmental flow issues. Mr. Trungale is a licensed professional engineer with special training in hydrology and hydraulic modeling. He received a Master of Science degree in Civil Engineering from the University of Washington in 1996 and is currently pursuing a Ph.D. in Aquatic Biology at Texas State University. His specialty area is hydrology, and particularly the science of in-stream flows. He has 15 years of experience in water resources planning and environmental flow studies with various entities. That includes serving as a surface water hydrologist for TPWD from 1999-2004 and acting as an

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[263] BRA Ex. 29 at 1-3 & Ex. 30.

[264] BRA Ex. 29 at 2 & 8-9.

[265] Dow Ex. 15A at 1-3.

independent consultant since 2004. His recent work concerns flows, flow patterns, aquatic habitat, and other conditions in Texas rivers. He is a member of the SB3 Bays and Estuaries expert science team.[266]

E. Interim Environmental Flows Proposed For This Permit

Even though the Commission has not yet adopted environmental flow standards for the Brazos River Basin, BRA proposes that the SysOp Permit include interim special conditions for environmental flows.[267] With a few minor differences, the ED's Recommended Permit includes identical interim environmental flow conditions.[268]

The ALJs conclude that the evidence shows that the proposed interim environmental flow standards were developed after BRA, the Commission Staff, and TPWD assessed the effects, if any, of the issuance of the permit on water quality, fish and wildlife habitat, bays, estuaries, groundwater, and groundwater recharge. They also find that the proposed standards are reasonable and necessary to the extent practicable when considering all public interests.

The interim standards in the Proposed Permit would require BRA to let pass at six designated United States Geological Survey (USGS) gauging stations: (1) instream flows that vary with the hydrologic condition and the season, and (2) high flow pulses, which are short duration, high magnitude, in-channel flow events that maintain physical habitat and features, and connectivity along a stream channel.[269] At eight other USGS gauging stations, referred to as "water quality control points," the Proposed Permit requires the passing of a minimum flow that is based on the 7Q2 or "Subsistence" flow for the location. The 7Q2 flow is the minimum

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[266] FBR Ex. 3 at 2-4.

[267] *See* BRA Ex. 8B at 15-23.

[268] ED Ex. K2 at 19-28.

[269] BRA Ex. 29 at 26 & Ex. 33 at 15-16; ED Ex. DG-1 at 7; ED Ex. DG-3 at 9-11; Tr. 1864-1865.

seven-day flow that occurs on the average once every two years. It is often used as a value for low-flow conditions in a stream.[270]

For instream flows at the six designated USGS stations, the Proposed Permit would also require BRA to determine the hydrologic condition based on the total amount of water stored in BRA reservoirs as described in the permit. These hydrologic conditions are "subsistence," "dry," "average," and "wet." If the reservoir storage is nearly full, the "wet" hydrologic condition applies. When the total content of the reservoirs is lower, other conditions apply. The combination of the hydrologic condition and the season determines the applicable instream flow requirements and, in turn, whether water may be stored, diverted, and used under the current hydrologic conditions.[271]

For high flow pulses at these six control points, BRA will similarly determine what high flow pulse conditions apply based on the hydrologic condition and season. Water cannot be diverted or impounded under the Proposed Permit if doing so would prevent a required high flow pulse from occurring or would significantly impact the high flow pulse. The details of operation to assure that high flow pulses are passed will be developed in the WMP, which must be approved by TCEQ and subjected to the contested case process before BRA may divert water under the Proposed Permit.[272]

For instream flows at the eight water quality control points, water can be diverted or impounded under the Proposed Permit only when flows at the downstream gauge exceed the 7Q2 flow. Actual operational criteria will be developed in the WMP process and further studies will

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[270] BRA Ex. 15 at 92-93; Ex. 29 at 23-30 & Ex. 33 at 13-17.

[271] BRA Ex. 8 at ¶ 5; Ex. 15 at 92-93; Ex. 18 at ¶ 6; Ex. 29 at 23-30 & Ex. 33 at 13-17; ED Ex. DG-1 at 9 & Ex. DG-3 at 9-11, 13-21 & Addendum & ED Ex. K2 at ¶ 6.

[272] BRA 8 at ¶¶ 5.D & 5.E; Ex. 15 at 92-93; Ex. 18 at ¶ 6; Ex. 29 at 23-30; Ex. 32; Ex. 33 at 13-17 & ED Ex. DG-3 at 13-21 & Addendum & ED Ex. K2 at ¶¶ 6.D, 6.E.

be conducted to determine whether the entire suite of instream flow requirements should be developed for any or all of these points.[273]

In addition to these requirements, BRA is required under the Proposed Permit to conduct monitoring studies to establish baseline data related to the ecological health of the river, and it must complete a study of the Little River watershed prior to impoundment or diversion in the Little River watershed.[274] The draft permit also requires monitoring studies to assess instream flow and water quality protection at the eight water quality control points. These monitoring studies will collect baseline data on the biology, habitat, water quality, hydrology, ecosystem health, and other environmental factors for the stream segments of each of these eight water quality control points.[275] The Proposed Permit also incorporate adaptive management into its framework and allows changes to be made to the "interim" instream flow requirements as new science is developed.[276]

F. Fish and Wildlife Habitats and Water Quality

Ultimately, the ALJs conclude that the Commission's Texas Surface Water Quality Standards (WQS), including those for salinity, will be maintained if either BRA's or the ED's Proposed Permit is issued. This section of the PFD focuses on interrelated concerns regarding the maintenance of fish and wildlife habitats and water quality. Later in the PFD, the ALJs focus on salinity from water quality, senior water rights, and public welfare perspectives. This split of the issues is not perfect and results in some repetition concerning water quality, but the ALJs concluded that it would be less confusing to discuss salinity issues together elsewhere.

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[273] BRA Ex. 8 at ¶ 5, Ex. 15 at 92-93, Ex. 18 at ¶ 6, Ex. 29 at 23-30 & Ex. 33 at 13-17; ED Ex. DG-1 at 13 & Addendum & Ex. K2 at ¶¶ 6.D, 6.E.15.

[274] BRA Ex. 8 at ¶¶ 5.E.1, 5.E.16, Ex. 18 at ¶¶ 6.E.1, 5.E.17, Ex. 29 at 23-30 & 39, Ex. 33 at 13-17; ED Ex. K2 at ¶¶ 6.E.1, 6.E.16.

[275] BRA Ex. 8 at ¶ 5.E.16, Ex. 18 at ¶ 6.E.17, Ex. 29 at 39; Ex. 33 at 16; ED Ex. K2 at ¶ 6.E.16.

[276] BRA Ex. 8 at ¶¶ 5.E.1, 5.E.16, 5.E.19; Ex. 29 at 38-40, Ex. 33 at 14 & 17; ED Ex. K2 at ¶¶ 6.E.1, 6.E.16, 6.E.19.

To protect fish and wildlife habitat, the proposed interim flow requirements would mimic the natural variability in the hydrology of the Brazos River Basin. Dr. Harkins, Mr. Geeslin, and Ms. Loeffler stated that the instream flow recommendations for the BRA permit are designed to reflect natural hydrologic and climatic variability by specifying flows that would occur under subsistence, dry, average, and wet conditions.[277] As Mr. Geeslin and Dr. Gordon noted in memos, four flows are widely recognized as important to river ecosystems: subsistence flows, base flows, high pulse flows, and overbank flows. Environmental dynamism is central to sustaining and conserving native species diversity and ecological integrity. Species have evolved life history strategies compatible with the flow regime in which they live and reproduce.[278]

Dr Harkins similarly testified that species have adapted to seasonal and interannual variability in flow, and hydrologic pattern and variability are key determinants of aquatic community structure and stability.[279] Relatedly, Ms. Loeffler explained that in the past TPWD recommended only minimum flow restrictions, but the TPWD's position has evolved with the advancement of instream flow science. Today, according to Ms. Loeffler, a natural flow paradigm is considered to provide ecological benefits for native species and ecosystems.[280]

To mimic natural variability, the Hydrology-Based Environmental Flow Regime (HEFR) software provides a relatively flexible approach for developing a flow regime matrix that identifies multiple flow regime components and hydrologic conditions across different months, seasons, or years and attempts to mimic natural hydrology and protect a seasonal distribution of flows under dry, average, and wet conditions.[281] Using HEFR and the flow regime approach, the Proposed Permit requires the instream flows that were described above. Dr. Hawkins and

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[277] ED Ex. DG-3A at 9 & BRA Ex. 29 at 24 & 33 at 13.

[278] ED Ex. DG-3A at 8 & BRA Ex. 31 at 8.

[279] BRA Ex. 29 at 16-17.

[280] BRA Ex. 33 at 5.

[281] BRA 29 at 20-21& Ex. 33 at 12-13.

Ms. Loeffler testified that these criteria are intended to statistically mimic the historical hydrology in order to protect the base instream flows needed to support a sound ecological environment.[282] Additionally, Dr. Harkins explained that the 7Q2 subsistence flows represent the extreme non-typical conditions necessary to maintain populations during periods of extreme and prolonged drought. He anticipated no significant adverse impacts on fish and wildlife under the interim flow requirements of the Proposed Permit.[283]

To protect water quality, the ED's Staff used its standard practices and procedures under TCEQ's rules to analyze BRA's Application.[284] TCEQ primarily uses maintenance of 7Q2 flows to protect water quality. Mr. Geeslin noted that the Proposed Permit includes stream flow restrictions at eight gauges that are equal to the most recently calculated 7Q2 flows statistically derived from historical daily gauged flow data.[285]

Mr. Geeslin indicated that 7Q2 flow is often considered as the lowest allowable flow which provides adequate assimilation of pollutants and is the low flow value used in water quality modeling for TPDES permitting. In the absence of a specific WQS, Mr. Geeslin testified that the Commission Staff uses the 7Q2 default criteria as a streamflow restriction.[286] He also stated that none of the extant water quality problems in the Brazos River Basin should be exacerbated by the requested water right.[287] Ms. Loeffler and Dr. Harkins agreed that the 7Q2 restrictions would ensure that the water quality is maintained.[288]

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[282] BRA Ex. 29 at 24 & Ex. 33 at 15.

[283] BRA Ex. 29 at 25.

[284] ED Ex. DG-3A; Tr. 1939-1940 & 2189; Tr. 1876-1877.

[285] ED Ex. DG-3A at 12, as modified by Ex. DG-3B at 4, and Ex. K-2 at 27. See *also* BRA Ex. 8B at 22.

[286] ED Ex. DG-3a at 11–12; Tr. 1837, 1869-1871.

[287] ED Ex. DG- 3A at 12.

[288] BRA Ex. 29 at 41 & Ex. 33 at 18-19.

OPIC argues that the scientific community studying the Brazos River cannot reliably quantify the amount of flow necessary to protect the environment at this time. OPIC quotes Dr. Harkins, who stated:

> Presently, it is not clear that the best currently available science can provide a predictive response of the environment to flow as mandated, or that any given flow regime can be shown to support a sound ecological environment and maintain the productivity of key aquatic habitats of the basin and bay system.[289]

Given these limitations in understanding and predictive ability, OPIC does not find that the Proposed Permit is adequately protective. It cites the lack of assurance provided by the control points in the Proposed Permit and the inclusion of meager 7Q2 "subsistence" flows, which are known to be "stressful to aquatic life"[290] and not intended to "exist throughout a system for long periods of time."[291]

BRA disagrees with OPIC. It claims that OPIC is taking Dr. Harkins' testimony out of context and ignoring his other testimony. The ALJs disagree with OPIC as well. As already indicated, Dr. Harkins, Ms. Loeffler, and Mr. Geeslin concluded that the proposed flow regime would be protective of aquatic life. In effect, OPIC is arguing that the burden of proof for habitat protection is very high and then assigns zero evidentiary weight to the testimony of Dr. Harkins, Ms. Loeffler, and Mr. Geeslin that the proposed flow would be protective. Read in context, the testimony by Dr. Harkins that OPIC quotes merely indicates that environmental flow science is still developing and the ways in which fish and wildlife will respond to a given flow is not perfectly predictable. That was not a retraction of Dr. Harkins' other testimony or the same as saying that the proposed flow would be inadequately protective.

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[289] BRA Ex. 29 at 20.

[290] OPIC cites Tr. 212, but apparently meant Tr. 1838.

[291] *Id.*

FBR faults BRA and the ED for taking a hydrological approach to protection of water quality and fish and wildlife habitat. It complains that BRA and the Commission Staff only looked at water quality in a general way without conducting modeling or analyzing the quality of the water in each segment.

FBR argues that a rigorous scientific approach could have been used and notes that TCEQ uses models and other tools to analyze discharge of wastewater.[292] FBR's expert, Mr. Trungale, testified that an assessment of the effects of the issuance of the permit required information relating to the ecological health of the system. He claimed that he saw no evidence that ecological data or studies were considered in the development of BRA's and the ED's recommended environmental flows for the benefit of fish and wildlife habitat. Instead, BRA and TPWD focused on hydrology. He asserts that the SB3 process requires a more rigorous multi-disciplinary expert science team.[293]

Additionally, FBR claims that the evidence shows that there are already significant water quality issues in the Brazos River Basin.[294] It points to two of its exhibits to argue that water quality is already impaired. The first citation is to the testimony of FBR's lay witness Ed Lowe, who complains that fishing in the Brazos River has been poor when flow has been low, but he does not speak about water quality.[295] The other citation is to the testimony of another FBR lay witness, Lawrence A. Wilson.[296] He testified that he has observed low flows, reduced runs of sand bass and white bass, sloughing of river banks, fish kills, and golden algae. BRA responds that these criticisms by FBR are undeveloped, lack citation to relevant legal authority, and wholly unavailing.

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[292] FBR Initial Brief at 35-36.

[293] FBR Ex. 3 at 25-27. Mr. Trungale also makes procedural arguments that the application cannot be evaluated due to the two-step process, which are addressed elsewhere in the PFD.

[294] FBR Initial Brief at 35-36.

[295] FBR Ex. 1 at 7-10.

[296] FBR Ex. 2 at 5-7.

The ALJ are persuaded by Mr. Geeslin's conclusion, shared by Dr. Harkin and Ms. Loeffler, that water quality will not be impaired as long as flow remains above a 7Q2 rate. If waste discharge permits are issued only when modeling shows that no water quality problems will occur at 7Q2 flows, then it seems completely consistent and logical to the ALJs for the BRA, TCEQ, and TPWD experts to conclude that granting a permit to BRA that only allows diversion of water when flows equal or exceed 7Q2 will not impair water quality. BRA's water-right permit would not deprive the streams of the minimum amount of flow needed for water quality purposes.

The ALJs do not agree with FBR's suggestion that BRA or the ED was required to conduct some type of modeling for this water-diversion permit that would be similar to modeling used for wastewater-discharge permitting. First, BRA is not proposing to discharge wastes. Second, FBR cites no legal requirement for such modeling. Third, by requiring that BRA lets 7Q2 flows pass, the Commission will ensure that BRA does not interfere with the minimum flow assumption necessary for proper water quality modeling of discharges and assimilation of pollutants.

FBR's criticisms concerning the sufficiency of the hydrological assessment made by BRA, the ED, and TPWD are also unpersuasive. Mr. Trungale seemed to suggest that for this permit either BRA or the Commission was required to send researchers throughout the Brazos River Basin to look for or otherwise gather data concerning site-specific water quality and habitat problems and then use models to calculate flows that would remediate those problems. In short, FBR is claiming that either BRA or the Commission was required to assess the needs for environmental flow throughout the Brazos River Basin.

It is true that Water Code §§ 11.134(b)(3)(D) and 11.147(d) require the Commission to consider certain SB3 studies and environmental flow standards in water-right permitting cases. Those studies have not been completed, and flow standards have not been adopted for the Brazos

River Basin. FBR cites no law indicating that those studies are past due. The ALJs conclude that the Commission has no duty to consider studies and flow standards that do not exist yet.

Moreover, BRA is not seeking to evade the environmental flow standards that the Commission will adopt in the future. The Proposed Permit specifies that the interim flow conditions are subject to adjustment to comply with the environmental flow standards that the Commission eventually will adopt.[297] Additionally, Ms. Loeffler testified that TPWD and BRA worked cooperatively to jointly develop an approach to estimate "placeholder" values intended to match as closely as possible the framework of the environmental flow regimes that will eventually be established under SB3. That includes the development of BRA's proposed interim environmental flows by using the HEFR tool that is also being used in the environmental flow planning process.[298]

Until environmental flow standards are adopted, Water Code §§ 11.150 and 11.152 and 30 TAC § 297.54 require the Commission to assess the effect of the issuance of the permit on fish and wildlife habitat and water quality, including the maintenance of the Commission's surface water quality standards.[299] The ALJs conclude that BRA and the ED, with the involvement, assistance, and agreement of TPWD, assessed whether granting the permit would affect fish and wildlife habitat and water quality. They reasonably concluded that it would not because the Proposed Permit would require BRA to always let at least a 7Q2 flow pass and let higher seasonal flows pass based on hydrological conditions in order to mimic the historical flow pattern in the habitat to which the fish and wildlife have adapted.

The ALJs conclude that BRA and the ED sufficiently assessed the impact that approval of the Proposed Permit would have on water quality and fish and wildlife habitat. They also

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[297] BRA Ex. 8B at 23; ED Ex. K-2 at 28.

[298] BRA Ex. 33 at 12.

[299] Other laws require a similar assessments of the permit's effect on bays, estuaries, and groundwater, but no party disputes BRA's conclusion that those interests will not be affected by the issuance of the permit.

conclude that the conditions included in the Proposed Permit would mitigate adverse impacts on fish and wildlife habitats and maintain water quality to the extent that is practicable and consistent with the public interest.

G. Salinity

Both FBR and Dow argue that the ED and BRA failed to fully assess the impact that BRA's operation under the Proposed Permit would have on water quality in the Brazos River Basin because they failed to assess the impact on water salinity. Dow also argues that BRA has failed to show that the Proposed Permit would not be detrimental to the public welfare or impair Dow's senior water rights, because BRA failed to show that water salinity at Dow's diversion points would not rise to unusable levels. In fact, Dow contends that BRA's operation under the Proposed Permit may adversely impact salinity, and Dow asks for a stream flow restriction to mitigate that impact.

FBR mostly focuses on salinity in the upper Brazos River Basin (Upper Basin). It complains that there is no evidence at all concerning the impact on salinity there. Dow is mostly concerned about salinity in the lower Brazos River Basin (Lower Basin), where it holds water rights that are senior to BRA's.

BRA argues that the source of salinity in the Brazos River is naturally occurring, which its reservoir operations have not caused and cannot cure. It also claims that salinity is not a water-quality issue; hence, it had no obligation to address it. Additionally, according to BRA, Dow is legally incorrect in claiming that a water-right holder has a right to a certain quality of water, as opposed to quantity. Even if its positions on these legal points are incorrect, BRA argues that the evidence is sufficient to show that its operations under the Proposed Permit would not significantly increase salinity, if at all.

Because the legal arguments and the facts concerning salinity are intertwined, the ALJs consider all of them in this portion of the PFD. As previously discussed, the consideration of salinity issues will overlap with the previous portion of the PFD that generally concerns water quality.

The ALJs conclude that the law requires the Commission to consider whether BRA's proposed permit would adversely affect water quality and impair senior water rights by leading to an increase in salinity. However, the evidence shows that salinity levels, specifically for chlorides and Total Dissolved Solids (TDS), would not rise above the Commission's WQS due to BRA's operation under the Proposed Permit. The evidence and law do not show that Dow's senior water rights entitle it to water with a quality better than the WQS. Thus, the ALJs conclude that approval of the Proposed Permit would not alter salinity in the Brazos River Basin to an extent that impaired water quality, was detrimental to the public welfare, or impaired senior water rights, including Dow's.

Dow's witness, David Dunn, testified that TDS in natural water is comprised largely of salts, so the terms salinity and TDS are used interchangeably. Chloride refers to the chloride ion which combines with cations to form substances such as potassium chloride and sodium chloride, which are salts.[300] The parties and witnesses did not always make fine distinctions and frequently used the terms TDS, salts, chlorides, and salinity interchangeably. Similarly, the ALJs will use the terms salts and salinity generically to refer to chlorides and TDS levels except where greater specificity is required.

The priority dates for Dow's water rights are 1929, 1942, 1951, 1952, 1960, and 1976. Dow's 1929 water right is senior to all of BRA's water rights. Dow's 1942 and 1960 water rights are senior to all of BRA's water rights with the exception of Possum Kingdom Reservoir. The following table summarizes Dow's and BRA's water rights:

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[300] Dow Ex. 15A at 4.

BRA's AND DOW's WATER RIGHTS[301]			
Permit or COA No.	**Location**	**Diversion Amount (Acre/Feet)**	**Priority Date**
DOW 12-5328	Brazos River	20,000	2/28/1929
BRA 12-5155	Possum Kingdom Lake	230,750	4/6/1938
BRA 5730	Interbasin Transfer in Williamson County	25,000	3/7/1938
DOW 12-5328	Brazos River; Harris Reservoir	150,000	2/14/1942
BRA 12-2939	Leon River	38,800 (hydro)	2/7/1949
DOW 12-5328	Brazoria Reservoir		4/7/1952
DOW 12-5328/(BW A 12-5366)	Brazos River	65,000	4/4/1960
BRA 12-5159	Lake Proctor	19,658	12/16/1963
BRA 12-5160	Lake Belton	100,257	12/16/1963
BRA 12-5161	Lake Stillhouse Hollow	67,768	12/16/1963
BRA 12-5164	Lake Somerville	48,000	12/16/1963
BRA 12-5156	Lake Granbury	64,712	2/13/1964
BRA 12-5162	Lake Georgetown	12,610	2/12/1968
BRA 12-5163	Lake Granger	19,840	2/12/1968
BRA 12-5165	Lake Limestone	65,074	5/6/1974
DOW 12-5328	Brazos River	3,136	3/8/1976
BRA 12-5158	Lake Aquilla	13,896	10/25/1976
BRA 12-5159	Lake Whitney	18,336	8/30/1982
BRA 2925A	Allens Creek[302]	99,650	9/1/1999
BRA 12-5167/2661 (as amended)	Interbasin Transfer in Fort Bend County	170,000	None
BRA 12-5166/2947 (as amended)	Excess Flows	650,000	None

[301] Dow Ex. 3 & BRA's water rights on CD (officially noticed in Order No. 7). BRA also has a systems operations order, as amended, which covers Possum Kingdom, Granbury, Proctor, Belton, Stillhouse Hollow, Somerville, Georgetown, Granger, Limestone, Aquilla, & Whitney.

[302] The City of Houston and TWDB co-own the water right in Allens Creek.

Dow is primarily concerned with the effect of BRA's proposed application on chloride and TDS levels in the Brazos River in the vicinity of Dow's diversion points.[303] Dow's main diversion points are the Harris Reservoir, the Brazoria Reservoir, and their diversion works.[304] All of BRA's reservoirs are upstream of the diversion points for Dow's water rights.[305]

High salinity in water can have drastic negative effects on the industrial and municipal uses of water in the Freeport area where Dow's facilities are located.[306] Chloride in particular can be very damaging to industrial equipment. Damage to that equipment from elevated chlorides can amount to millions of dollars.[307] Not treating for chloride when chloride concentrations in the river are high results in failing and corrosion of Dow's equipment.[308]

BRA does not dispute Dow's evidence regarding the effects on its industrial operations if its diversions have elevated levels of TDS and chlorides. However, it claims that the only material evidence regarding Lower Basin salinity is whether those occasional elevated levels are caused by BRA's current and future operations under the requested permit. BRA claims that they are not. Dow contends otherwise.

BRA claims that Dow—and presumably FBR as well—is incorrectly conflating the concepts of "salinity" (TDS and chloride levels) and "water quality" in the water-right permitting context. The ALJs do not agree with BRA that salinity has nothing to do with water quality, whether in a water-right permitting case or elsewhere. As previously noted, the Commission has adopted 30 TAC § 297.54(a), which concerns assessment of the water quality impact of a proposed water right and provides in part:

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[303] Dow Ex. 1 at 16-18.

[304] Dow Ex. 1 at 4-6.

[305] BRA Ex. 20.

[306] Dow Ex. 1 at 17-18.

[307] Dow Ex. 1 at 18.

[308] Dow Ex. 1 at 17-18.

> . . . Assessment of water quality impacts shall consider the maintenance of State of Texas Surface Water Quality Standards provided by Chapter 307 of this title (relating to Texas Surface Water Quality Standards) and the need for all existing instream flows to be passed up to that amount necessary to maintain the water quality standards for the affected stream. . . .

As FBR correctly notes, the Commission's WQS state, "Concentrations and the relative ratios of dissolved minerals such as chlorides, sulfates, and total dissolved solids must be maintained such that existing, designated, presumed, and attainable uses are not impaired."[309] Those WQS include maximum levels for chlorides and TDS for classified segments, including the following Brazos River Basin segments:[310]

Segment No.	Segment Name	Chlorides (mg/l)	TDS (mg/l)
1202	Brazos River Below Navasota River	300	750
1203	Whitney Lake	670	1,500
1204	Brazos River Below Lake Granbury	750	1,600
1205	Lake Granbury	1,000	2,500
1206	Brazos River Below Possum Kingdom Lake	1,036	2,325

Segment 1202 includes the Richmond gauge and Dow's Harris diversion point. Dow's Brazoria diversion point is just south of the line separating Segment 1201 from 1202.[311] The Commission has not set specific criteria for chlorides and TDS in Segment 1201; however, the typical TDS in tidal segments, like Segment 1201, is 2,000 mg/L or greater.[312] Given the above, the ALJs conclude that the Commission has determined, through the adoption of its rules, that in a water-right permitting case it will consider the amount of instream flows necessary to maintain the WQS for TDS and chlorides in the affected stream.

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[309] 30 TAC § 307.4(g)(1).

[310] 30 TAC §§ 307.4(g)(2) & 304.10(1), Appendix A. *See* Dow Ex. 30.

[311] Tr. 1500 & 1876. *See also,* 30 TAC § 307.10 (3), Appendix C - Segment descriptions. Segment 1201 Brazos River Tidal runs from the confluence with the Gulf in Brazoria County to a point 100 meters (110 yards) upstream of SH 332 in Brazoria County.

[312] 30 TAC § 307.3(a)(50) (defining "Saltwater") and 30 TAC § 307.3(a)(69) (defining "Tidal" and indicating tidal waters are considered to be saltwater).

While conceding that BRA did some work on salinity in the Lower Basin, FBR claims that BRA did no modeling or other work concerning salinity in the Upper Basin.[313] FBR argues that there is nothing in BRA's application regarding the impact of its proposed appropriation on water salinity in the Upper Basin. The TCEQ Staff did not require such an analysis from BRA, and BRA apparently did not even consider the salinity issue as to the Upper Basin. Dow makes similar arguments.

BRA responds that the evidence shows that its proposed diversions will not adversely impact salinity. The ED agrees with BRA, as do the ALJs.

The salinity in the Brazos River is naturally occurring, from outcrops of salt in the upper portions of the Brazos watershed (above Possum Kingdom Lake).[314] The natural salt load in the river is a function of rainfall and water movement down the river at various locations; BRA does nothing to increase that natural salt load.[315] FBR and Dow do not dispute those points. Instead, they contend that BRA's withdrawal of water will, or at least may, increase the concentration of salts in the remaining water in the Brazos River Basin.

BRA quite reasonably contends that the proportion of the Brazos River Basin's drainage area above Lake Whitney and the significant uncontrolled drainage area downstream of all BRA reservoirs, substantially limit BRA's degree of control over salinity conditions.[316] Additionally, hydroelectric and flood flow releases, which BRA does not control, play a major role in salinity conditions on the Brazos River.[317] These large "hydro" releases from Lake Whitney have a demonstrated correlation with the chloride levels at Dow's Harris diversion point. Conversely,

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[313] Tr. 87.

[314] Tr. 2243-2244; ED Ex. DG-1 at 5.

[315] Tr. 2244.

[316] Tr. 2246-2248; BRA Ex. 81; Tr. 2380.

[317] Tr. 2248, 2254-2257; BRA Ex. 82; Tr. 1905.

BRA's data on water supply releases (from tributary reservoirs versus the higher salinity Lake Whitney) do not show a correlation with the downstream salinity levels.[318]

According to BRA, the bottom line is that salinity levels in the Brazos River Basin are not caused by and cannot be cured by BRA's reservoir operations. BRA contends that its takes salinity implications into consideration when reasonably feasible, for example when making releases for downstream customers.[319] However, as BRA's expert, Dr. Wurbs, testified:

> My conclusion is basically that the system operation permit will have very little impact on salinity in the Lower Brazos, and it may actually help. . . . There's multiple factors. . . . Some of them make the salinity go a little bit up, some a little bit down, but the little increments are so small that it sort of gets lost that there's not much change. If you sort of run the model and look at it, there's really not much change due to these operating scenarios.[320]

Mr. Geeslin also specifically explained that the flow restrictions in the proposed permit would be protective of the WQS for Segment 1202, where Dow diverts. He explained that the restrictions are based on the historical hydrology under which there have been no impairments of chloride standards in Segment 1202.[321] While not specifically referring to the WQS, as Mr. Geeslin did, Dr. Harkins agreed that the 7Q2 restrictions would ensure that the water quality is maintained.[322]

FBR argues that Mr. Geeslin and the other witnesses performed no analysis and had no basis for their opinions concerning salinity. According to FBR, those opinions are not sufficient to support findings of fact. It argues that Mr. Geeslin provided nothing specific about impacts on

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[318] Tr. 2260-2262; BRA Ex. 83.

[319] Tr. 2245, 2263-2265; BRA Ex. 84.

[320] Tr. 675 & 685-687.

[321] Tr. 1879-1880; ED Ex. DG-3A at 11-12.

[322] BRA Ex. 29 at 41.

salinity levels in the Upper Basin.[323] BRA responds that FBR's challenge to the reliability of Mr. Geeslin's testimony is grounded in FBR's misplaced interpretation of the required water quality analysis for water-right permitting and BRA's burden of proof.[324]

The ALJs disagree with FBR. They assign full weight to the opinion testimony of Mr. Geeslin that BRA's operation under the proposed permit will not impact water quality, including salinity. Mr. Geeslin specifically indicated the basis for his opinion: the flow restrictions are based on the pattern of the historical hydrology, which has been sufficient to maintain the WQS, including those for TDS and chlorides.[325] While Mr. Geeslin was more specific about the Lower Basin when Dow pressed him during cross-examination, it is clear from the context that Mr. Geeslin was explaining that the proposed flow regime for BRA's permit would maintain the WQS throughout the Brazos River Basin, because it mimics the historical hydrology.

During cross-examination, Dow asked Mr. Geeslin about a hypothetical sequence of events and acts by BRA under the operational flexibility provision of the requested permit.[326] Dow's questions suggested that BRA could use operational flexibility to operate its reservoirs so that water primarily from Lake Whitney and Possum Kingdom would flow downstream to Dow. Mr. Geeslin agreed that the sequence had the potential to leave Dow with more saline water to divert in the Lower Basin. He also agreed that he had not studied the possibility of that hypothetical sequence of events actually occurring.[327]

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[323] FBR Initial Brief at 37.

[324] BRA Reply Brief at 52-53.

[325] Tr. 1876-77 & 1879-1880.

[326] ED Ex. K2 at 16, Special Condition 6.C.7.

[327] Tr. 1880-1884.

In context, Ms. Geeslin seemed to be agreeing to nothing more than many sequences of events are possible. There is nothing to indicate that he was agreeing that Dow's hypothetical scenario was a likely or even a reasonable possibility.

Dow's expert, Mr. Dunn, studied an operational-flexibility hypothetical much like the one about which Dow questioned Mr. Geeslin.[328] Mr. Dunn compared scenarios that he referred to as "With and Without Systems Operations Permit," or "With SysOps" and "Without SysOps." From that study, Mr. Dunn concluded that BRA's operation under the requested permit would increase:

- the average percentage of flow at the Richmond gauge that originates from Lake Whitney;
- the average TDS and chloride concentrations at Richmond;
- the average TDS and chloride concentrations to a more severe degree during drought periods;
- the percent of time that TDS and chloride concentrations would exceed 625 mg/L and 200 mg/L, respectively; and
- the number of consecutive monthly periods in which the TDS and chloride concentrations would exceed 625 mg/L and 200 mg/L, respectively.[329]

Much of Mr. Dunn's study is based on facts that are undisputed. Salinity is a naturally occurring condition in the upper reaches of the main stem of the Brazos River. That leads to high concentrations of salts in the Possum Kingdom, Granbury, and Whitney reservoirs. Because Whitney is downstream of those other two reservoirs and water in it is so saline, releases from it account for a very high percentage of the total TDS and chloride downstream at

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[328] Dow Ex. 18A.

[329] Dow Ex. 18A at 7.

the Richmond gauge, near where Dow diverts.[330] A 2009 report by BRA's expert, Dr. Wurbs, notes those and related facts and conclusions.[331] .

For both his With and Without SysOps modelings, Mr. Dunn assumed that all reservoirs are full, water is diverted at the fully authorized amounts, and there are no return flows. For his Without SysOps modeling, Mr. Dunn assumed all authorized diversions are diverted lakeside at their respective reservoir locations. For the With SysOps modeling, however, he assumed that all of those currently authorized diversion plus the additional diversions for which BRA seeks authorization in the proposed permit would occur at Richmond.[332] That last assumption is vigorously disputed by BRA.

BRA's expert, Mr. Gooch, responded that there was a flaw inherent in Mr. Dunn's With and Without SysOps analysis that led to an over-prediction of TDS and chloride concentrations at Richmond.[333] For the Without SysOps modeling, Mr. Dunn assumed that all upstream water diversions would occur as they currently do. That means that he assumed that the 7.6 million tons of chlorides and 21.7 million tons of TDS, which naturally occur in that diverted water in the Upper Basin, would continue to be removed from Possum Kingdom, Granbury, and Whitney, combined.

Yet for his With SysOps modeling, Mr. Dunn assumed that all of the current diversions from those upstream lakes would cease. That means that those additional millions of tons of chlorides and TDS were modeled as if they would flow to the lower Brazos. Mr. Gooch testified that, if the Proposed Permit is issued, the current upstream diversions will not cease and nothing in BRA's application would change those diversions.[334] Moreover, Dr. Wurbs testified that

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[330] Dow Ex. 18A at 1-5.

[331] Dow Ex. 34.

[332] Dow Ex. 18A at 6.

[333] Tr. 2371-2373, & 2667-2668; BRA Ex. 97.

[334] *Id.*

those upstream diversions are to municipalities who use the water then put it back into the Brazos River as "return flow [which] goes down the river, and it is good quality that's helping during the low flow — it's helping lower concentrations during the low-flow period."[335]

The ALJs assign little evidentiary weight to Mr. Dunn's With SysOps modeling because it makes unrealistic assumptions. It is true that the operational flexibility provision in the proposed permit would give BRA the right to use any source of water available to it to satisfy the diversion requirements of senior water rights, like Dow's, to the same extent that those rights would have been satisfied by passing inflows on a priority basis through BRA's reservoirs.[336] That would allow BRA to treat water as a fungible commodity and use any of its stored supplies to ensure that senior water rights are satisfied. But no evidence indicating that BRA would cease diverting water from Possum Kingdom, Granbury, and Whitney for its upstream customers and thereby dramatically increase the salinity of the water flowing downstream to Dow.

Even if Mr. Dunn's With SysOps modeling were based on reasonable assumptions, it does not indicate that the WQS for chlorides would be violated at Richmond in Segment 1202. As a reminder, the WQS for Segment 1202 are 300 mg/L for chlorides and 750 mg/L for TDS.[337] Mr. Dunn's With SysOps study predicted that chlorides would never rise above the 300 mg/l standard.[338] Mr. Gooch sponsored an exhibit comparing the WQS for chlorides to the concentrations at the Richmond gauge that Mr. Dunn's study predicted With and Without SysOps.[339] Based on historical flow data, Mr. Dunn's modeling indicates that chloride concentrations would be significantly *lower* with SysOps than without. In the 17 years with the worst historical water quality, the concentrations would be better.

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[335] Tr. 686.

[336] ED Ex. K2 at 16-17; BRA Ex. 8B at 11.

[337] 30 TAC §§ 307.4(g)(2) & 304.10(1), Appendix A. *See,* Dow Ex. 30.

[338] Dow Ex. 18A at 12-13.

[339] BRA Ex. 98; Tr. 2374-75.

On the other hand, Mr. Dunn's study predicted that TDS concentrations would rise above the 750 mg/l WQS at Richmond 5 percent of the time. Additionally, in the 10 percent of simulation periods with the lowest naturalized flows, Mr. Dunn's study predicted that TDS concentrations would rise above 750 mg/l nearly 20 percent of the time. Without approval of SysOps, he predicted that TDS would never rise above 750 mg/l.[340] Dow attaches high importance to the possibility of even a short-term rise in TDS, which could have a detrimental effect on its equipment, operations, and costs.[341] However, as indicated above, these predictions are based on the unrealistic assumption that upstream diversions would cease, leaving more TDS to float downstream toward Dow. That assumption is not reasonable.

The ALJs find that the evidence discussed above is sufficient to assess the impact of BRA's requested permit on salinity in the Brazos River Basin, and it shows that the Commission's WQS for salinity, including TDS and chlorides, will not be violated due to BRA's operation under either Proposed Permit.

Even if the WQS for TDS and chlorides would not be violated, Dow claims that it is entitled to even higher quality of water to avoid impairment of its senior water rights. Dow proposes that a new special condition be added to the Proposed Permit that would prohibit operations under it when chloride concentrations exceed 250 mg/L and TDS exceeds 500 mg/L at the Richmond gauge.[342] Those concentrations would be significantly lower than the 300 mg/L for chlorides and the 750 mg/L for TDS levels set out in the WQS. Moreover, in proposing a diversion restriction when TDS and chloride concentrations exceed those lower levels, Dow is effectively claiming that it is entitled to water of that quality or better 100% of the time, which would be far more consistently than the annual-average frequencies used in the WQS.

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[340] Dow Ex. 18A at 12-13.

[341] Dow Ex. 1 at 18.

[342] Dow Initial Brief at 48-49, 51.

Must flow restrictions be placed in BRA's proposed permit in order to ensure that Dow can divert water with TDS lower than the WQS? Dow argues that BRA has failed to show that its proposed appropriation would not impair existing water rights and harm the public welfare under Water Code § 11.134(b)(3)(B) and (C) due to increased salinity. Dow also claims that BRA has failed to show that granting the application would not violate 30 TAC § 297.45, the "No Injury" Rule, which states:

> (a) The granting of an application for a new water right or an amended water right shall not cause an adverse impact to an existing water right as provided by this section. . . . For the purposes of this section, **adverse impact to another appropriator includes: the possibility of depriving an appropriator of the equivalent** quantity or **quality of water that was available with the full, legal exercise of the existing water right before the change** . . . (Emphasis added.)
> . . .
> (d) The burden of proving that no adverse impact to other water right holders or the environment will result from the approval of the application is on the applicant.

In the adoption preamble, the Commission stated that it adopted the No Injury Rule "pursuant to Texas Water Code §11.134(b)(3)(B) providing that an application may not be approved if it would impair an existing water right or vested riparian right . . .. "[343] Yet Water Code § 11.134(b)(3)(B) does not specifically refer to the impairment of water *quality*. Instead, it says, "the commission shall grant the application only if . . . the proposed appropriation . . . does not impair existing water rights."

In their briefs, Dow and BRA discuss at length *Hale v. Colorado River Municipal Water District*[344] and other court cases from Texas[345] and other jurisdictions.[346] The parties argue over

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[343] 24 Tex. Reg. 1166 (1999).

[344] 818 S.W.2d 537 (Tex. App. – Austin 1991, no writ).

[345] *Biggs v. Lee*, 147 S.W. 709 (Tex. Civ. App.-El Paso 1912, writ dism'd w.o.j.); *Houston Transp. Co. v. San Jacinto Rice Co.*, 163 S.W. 1023 (Tex. Civ. App.-El Paso 1914, no writ); *Bigham Bros. v. Port Arthur Canal & Dock Co.*, 97 S.W. 686 (Tex. 1906).

whether the case law supports Dow's position that as a senior water-right holder it is entitled to a certain quality of water. In *Hale*, the Austin Court of Appeals denied a motion by a district for summary disposition of an unconstitutional taking claim alleging that the District had intentionally released highly saline water that damaged a downstream irrigator's crop. The court said, "Texas courts have consistently held that a landowner's riparian rights may involve not only the quantity of a stream flow, but also the quality."[347]

BRA claims that no Texas case law identified by Dow or found by BRA has resolved on point the right of a senior appropriator to divert water of a certain quality and thereby to hold another entity responsible to prevent a naturally occurring condition such as salinity from affecting that water quality.[348] It is true that *Hale* did not hold that. Moreover, BRA seems, at least in part, to be discounting *Hale* because it involved a riparian water-right holder. However, the court in *Hale* noted that the plaintiff also held a permit from the Texas Water Commission.[349] In any event, neither *Hale* nor any of the cases that Dow cites held that a water-right holder has a right to a specific quality of water.

The ALJs see no need to further dissect *Hale* and related cases. That is because the Commission, in adopting the No Injury Rule, chose to protect the quality of water available to senior appropriators before a new request for appropriation. Thus, the Commission either recognized that a senior appropriator had a pre-existing legal right to quality water or it chose to extend such a right. To the ALJs, it seems that the better interpretation is that the Commission was recognizing that a senior appropriator has a right to some quality of water. That is consistent with the Commission's statement that it was adopting the No Injury Rule pursuant to Texas Water Code §11.134(b)(3)(B), which provides that an application may not be approved if it

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[346] *Wright v. Best*, 19 Cal.2d 368, 378, 121 P.2d 702, 709 (1942); *United States v. Gila Valley Irrigation Dist.*, 920 F. Supp. 1444, 1448 (D. Ariz. 1996).

[347] 818 S.W.2d 537, 541.

[348] BRA Reply Brief at 31.

[349] 818 S.W.2d 537, 540.

would impair an existing water right. But even if that is incorrect, the Commission chose through the No Injury Rule to protect a certain quality for senior appropriators.

What quality of unimpaired water is Dow entitled to as a senior appropriator? In its General Policy Statement explaining the purpose of its WQS rules,[350] the Commission stated:

> It is the policy of this state and the purpose of this chapter to maintain the quality of water in the state consistent with public health and enjoyment, propagation and protection of terrestrial and aquatic life, operation of existing industries, and taking into consideration economic development of the state; to encourage and promote development and use of regional and area-wide wastewater collection, treatment, and disposal systems to serve the wastewater disposal needs of the citizens of the state; and to require the use of all reasonable methods to implement this policy.[351]

Given that extremely broad statement, the Commission clearly concluded that the WQS were protective of a wide range of uses, interests, rights, concerns, and the public welfare. Based on that, the ALJs conclude that the WQS are protective of water rights. Accordingly, the ALJs conclude that a new water right that would not result in water falling below the Commission's WQS would not impair a senior water right unless the senior water right specifically included a right to divert water of a higher quality than the WQS.

Dow's Certificate of Adjudication No. 12-5328[352] provides no support for Dow's claim that it has a right to 250 mg/L-chloride and 500 mg/L-TDS water 100% of the time. Salinity, TDS, and chlorides are not mentioned in the certificate, nor does it specifically mention any other water quality criteria or contain other quality related provisions.

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[350] 30 TAC Chapter 307.

[351] 30 TAC § 307.1.

[352] Dow Ex. 3.

Based on the above, the ALJs conclude as to salinity that BRA's operation under the Proposed Permit would not impair existing or vested riparian water rights and would not be detrimental to the public welfare, and the Proposed Permit includes environmental flow standards and other conditions necessary to maintain existing instream uses and water quality in accordance with Water Code §§ 11.134(b)(3)(B), (C) and (D); 11.147(d); and 11.150 and 30 TAC §§ 297.1(25), 297.45 and 297.54(a).

H. Golden Algae

FBR is concerned about golden algae blooms in the Brazos River Basin, which have been noted in some lakes and produce toxins that have the potential to affect aquatic species and cause massive fish kills.[353] It correctly notes that the WQS state, "Vegetative and physical components of the aquatic environment must be maintained or mitigated to protect aquatic life uses."[354]

BRA's witness and TPWD's Chief of Water Resources, Ms. Loeffler, testified that the effect of the proposed permit on golden algae was considered and that she was satisfied that the Permit would not worsen golden algae blooms.[355] FBR points to other testimony by her when she was cross-examined, and based on it, FBR argues that BRA was obliged to offer evidence concerning Golden Algae studies in the Brazos River Basin.

Ms. Loeffler testified that toxic algae blooms occur when salinities in the water body are higher, which typically happens during the winter, drought periods, and low rainfall periods.[356] She also agreed that it was possible that BRA's operation of Possum Kingdom Reservoir "could affect the salinity levels in Possum Kingdom" and that it was possible that "reservoir operation

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[353] FBR Ex. 2 at 6-7 & Ex. 9 at 3 & BRA Ex. 9 at 15.

[354] 30 TAC § 307.4(i).

[355] Tr. 779-80.

[356] Tr. 778-79.

guidelines that could help prevent [golden algae] blooms." But she notes that it "could be either way" depending on "somebody doing an evaluation and determining what the impacts are."[357]

These statements by Ms. Loeffler do not indicate that the Commission's WQS concerning vegetative components of the aquatic environment would be violated if the permit were issued or that further assessment of the effects that the Proposed Permit would have on golden algae is necessary. Ms. Loeffler did not recant her prior testimony that BRA's operating under the Proposed Permit would not worsen golden algae blooms. Moreover, BRA has no legal obligation to propose in this case a plan to reduce algae blooms. FBR presented no expert testimony to contradict Ms. Loeffler regarding golden algae.

Beyond golden algae, there is no dispute concerning vegetation related to the proposed permit. The ALJs conclude that the record contains sufficient evidence to allow the Commission to assess the effect on vegetation, including golden algae, in the Brazos River Basin due to the Proposed Permit and that the evidence shows that BRA's operation under the Permit would not lead to a vegetation problem.

I. No dispute Concerning Bays and Estuaries

BRA and the ED contend that approval of BRA's proposal would not lead to an adverse effect on the bays and estuaries of the state. No party disagrees.

Mr. Geeslin explained how the ED conducted all applicable reviews concerning the permit's potential effects on the bays and estuaries and its consistency with the Coastal Management Program (CMP).[358] In contrast to other Texas estuaries, the estuary for the Brazos River is small and river-dominated, as it does not include an embayment enclosed by a barrier

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[357] Tr. 797-98.

[358] ED Ex. DG-3a at 12-13.

island.[359] The mouth of the Brazos River discharges directly into the Gulf, it is not the natural mouth of the river, and there is limited commercial fishing in the area. The original mouth of the Brazos River now serves as the harbor of Freeport.[360]

Both BRA's and the ED's experts on the topic agreed that because the Brazos River lacks a bay and its estuary is river-dominated, it is not necessary to include specific special conditions for the bay and estuary system as the instream flow requirements sufficiently protect the limited system.[361] The effects on bays and estuaries are addressed by the permit's special condition that extends environmental flow requirements below the Richmond gauge prior to any diversions below the Richmond gauge.[362]

The ALJs conclude that the Proposed Permit includes all conditions necessary to maintain beneficial inflows to the Brazos River's bay and estuary system.

J. No Dispute Concerning Groundwater

The proposed appropriation is not expected to have a significant negative impact on groundwater resources in the Brazos River Basin. No party disputes that.

BRA's expert Mr. Gooch testified that the Proposed Permit would not significantly impair existing uses of groundwater, groundwater quality, or spring flow.[363] He noted the water that BRA seeks to appropriate might serve as a substitute for further development of

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[359] BRA Ex. 29 at 13; BRA Ex. 33 at 9.

[360] BRA Ex. 15 at 92, Ex. 92 at 2-10; Ex. 29 at 13 & Ex. 31 at 11; ED Ex. DG-1 at 12 & Ex. DG-3 at 12.

[361] BRA Ex. 29 at 13 & Ex. 33 at 9; ED Ex. DG-1 at 12.

[362] BRA Ex. 8B at ¶ 5.C.9, Ex. 18 at ¶ 5.C.12, Ex. 29 at 40 & Ex. 33 at 9; ED Ex. K2 at ¶ 6.C.12.

[363] BRA Ex. 15 at 94.

groundwater in some parts of the Brazos River Basin, potentially reducing aquifer declines and subsidence. The water may also be used conjunctively with groundwater resources.[364]

The ALJs conclude that BRA's operation under either Proposed Permit would have no adverse effect on groundwater or groundwater recharge.

XIII. PUBLIC WELFARE, PUBLIC INTEREST, AND INSTREAM USES

Water Code § 11.134(b)(3)(C) provides "The commission shall grant the application only if: . . . the proposed appropriation . . . is not detrimental to the public welfare." Additionally, Water Code § 11.147(d) requires the Commission to include in the permit, to the extent practicable when considering all public interests, those conditions considered by the Commission necessary to maintain other existing instream uses. Based on the Commission's definition of "instream use" in 30 TAC § 297.1(25), these include: navigation, recreation, hydropower, game preserves, stock raising, park purposes, aesthetics, and any other instream use recognized by law.

A. Public Interest and Welfare Concerns Already Addressed

Because these public interest, public welfare, and instream use considerations are closely related and overlap, the ALJs consider them together in this portion of the PFD. To a very large extent, these factors have already been considered. As discussed above, BRA's operation under either proposed permit would not adversely affect senior water rights, water quality generally, water salinity, fish and wildlife habitat, groundwater, groundwater recharge, bays, or estuaries. Thus, as to those concerns, BRA's operation under the Proposed Permit would not be detrimental to the public welfare or interest and would be subject to conditions adequate to protect instream uses.

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[364] BRA Ex. 10 at 15 & Ex. 15 at 93-94.

Other public welfare and interest and instream uses concerns have not been previously addressed. Those are considered in this portion of the PFD.

B. Overview of Parties' Concerns

The parties clearly have different perspectives and values. This leads them to view the public welfare and interest very differently and to put more emphasis on certain instream uses.

FBR claims to be amazed that BRA never even mentions as part of the public welfare test recreational uses, tourism, or the cultural, aesthetic, or economic values that instream flow and water in lakes provide to local communities and adjacent property owners.[365] Dow equates the public welfare with keeping salinity low in the Brazos.[366] NWF attaches special importance to instream flows and conservation. NWF also argues that BRA's proposed use of a two-step process and a WMP is not in the public interest because it will make it more difficult and expensive for parties to participate in multiple proceedings.[367]

CCG argues that the public interest and welfare should be centered on family farmers and their need for water to maintain their farms. Based on that, it asks the Commission to change the way it issues term permits and models water availability, recognize the importance of water use by traditional family farmers, address the public interest associated with those farmers' loss of their livelihoods, require mediation to avoid applicants reaching agreements with only some stakeholders, and satisfy the public interest by reserving some amount of water for pending applications by farmers.[368]

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[365] FBR Reply Brief at 20-21.

[366] In arguing that BRA has not shown that all of the water it seeks is intended for a beneficial use, Dow equates that requirement with the public welfare. Dow Initial Brief at 41-42. The ALJs consider those Dow arguments as beneficial use arguments elsewhere in the PFD.

[367] NWF Initial Brief at 21 & Reply Brief at 2 & 4.

[368] CCG Reply Brief at 13-15 & 22-25.

BRA contends that approval of its application is strongly in the public interest and will support the public welfare. It focuses on the adequacy, reliability, and cost of the water supply. It claims that the System Operation Permit is the least expensive and most readily available new source of water to meet demands in the Brazos River Basin with the least environmental impact. BRA claims that instream flow restrictions beyond those it has proposed are not warranted, but it agrees to additional restrictions to support wildlife, recreation, and aesthetic values.

The ED takes the position that approval of the application is not contrary to the public welfare and interest. He believes that no further instream flow provisions are required beyond those already discussed.

C. Scope of the Public Interest and Welfare Inquiry

Citing what he refers to as the *Popp Case*,[369] the ED claims that the Commission should only consider those factors relating to "public welfare" and "public interest" that it has the authority to regulate. In that oil and gas waste case, the Texas Railroad Commission was required to find that the use or installation of a proposed injection well was in the public interest. The Texas Supreme Court noted that the crux of the dispute was whether the term "public interest," was a broad, open-ended term, encompassing any conceivable subject potentially affecting the public, or a more narrow term that did not include a subsidiary issue like traffic safety but was limited to matters related to oil and gas production. The Court found that that there was no statutory directive for the Commission to consider matters related to traffic safety or to any other specific factor in its public interest evaluation. It found that the Commission's determination that "public interest" did not include traffic-safety matters was reasonable given the Commission's unique competence as the state's agency overseeing oil and gas production and

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[369] *Railroad Comm'n of Tex. v. Texas Citizens for a Safe Future & Clean Water*, 336 S.W.3d 619 (Tex. 2011).

that the Commission had declined to consider public-safety interest in its public interest analysis for almost fifty years.

NWF responds that water-right permitting is different from injection well cases because it raises many unique issues, the Commission has specific public trust responsibilities in the management of water, and the rights granted are perpetual. Additionally, NWF claims that the Commission does not have a long-standing interpretation, as the Railroad Commission did in *Popp*, which supports the ED's interpretation.

The ALJs agree that *Popp* provides considerable guidance in determining what is within the scope of the public welfare and interest inquiry in this case. The Supreme Court notes that it generally avoids construing individual provisions of a statute in isolation from the statute as a whole.[370] Read within the context of the Water Code and 30 TAC § 297.1(25), which defines "instream use" for purposes of its water-right rules, many of the things about which the parties are concerned are matters over which the Commission has some jurisdiction and competence. The ALJs find that those are within the scope of the public interest and welfare inquiry in accordance with the guidance from the *Popp* case. Those would include:

- the maintenance of instream recreational uses of water;[371]
- agricultural use of water;[372]
- water supplies that are adequate and reliable at a just and reasonable cost;[373] and
- the avoidance of adverse environmental impacts caused by reservoir construction.[374]

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[370] *Citing, City of San Antonio v. City of Boerne*, 111 S.W.3d 22, 25 (Tex. 2003).

[371] Water Code §§ 11.023(6), 11.024(6) & 30 TAC § 297.1(25).

[372] Water Code §§ 11.023(2), 11.02362(f)(2)(A)(i) & 11.024(2).

[373] Water Code §§ 11.036, 11.041(a), and 12.013, 13.001(c), 13.043(j), 13.182(a), and 13.183(c) & (e) & 13.241(b)(2).

[374] Water Code §§ 11.0235(b) and (c); 11.134(b)(3)(D); 11.147(b), (d) and (e); 11.1471; 11.150; 11.151 & 11.152.

Salinity's impact on water quality and water rights impairment[375] and water conservation[376] are also public interest and welfare concerns relevant to the Commission. However, those issues have been thoroughly considered elsewhere in the PFD. There is no need to reconsider them under a public welfare and interest heading because it would be redundant and there would be nothing new to add.

Other factors that some parties contend are appropriate public interest or welfare considerations in this case are not referred to in either the Water Code or the Commission's rules, as far as the ALJs can tell. As such, the Legislature has not directed the Commission to consider them, they are outside the Commission's jurisdiction and field of competence, and there is no evidence that the Commission has ever considered them in a water-right permitting case. The ALJs finds that these are not within the scope of this case. That includes:

- FBR's interest in tourism, culture, and the economic value to the local community and land owners of flowing water and water in place in lakes; and
- CCG's interest in various measures aimed at the preservation of family farms.

Additionally, CCG seeks a variety of changes in Commission policies concerning mediation among parties, modeling, term permitting, and reservation of water for pending applications. To the extent that those are re-urged arguments as to the merits of CCG's and Mr. Ware's claims that they have senior water rights that would be impaired, the ALJs consider those arguments elsewhere in the PFD and find that they will not be impaired. There is no need to reconsider those same arguments under a public interest and welfare heading. To the extent that CCG and Mr. Ware are seeking changes in Commission policies that would go beyond the merits of BRA's application, there is no legal basis for injecting the merits of those policy proposals into a particular contested case.

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[375] *See* above discussion of salinity for citations.

[376] Water Code § 11.1271.

Furthermore, NWF's interest in a water-right permitting process that is simpler and less expensive for similar groups is mostly tied to the two-step permitting process discussed elsewhere in the PFD. To the extent that the Commission determines that a two-step process is legally allowable and reasonable given the unique circumstances and complexities posed by BRA's application, that would equate to a determination that the two-step process is not contrary to the public interest or welfare.

The ALJs agree with BRA that the public has an extremely strong interest in an adequate and reliable water supply that can be provided at just and reasonable rates. As indicated above, the Water Code is replete with references to those considerations in its laws governing the provision of wholesale and retail water-utility service, and it gives the Commission broad jurisdiction and responsibility to ensure that those public interests are protected.

D. Adequate and Lower Cost Water Supplies

BRA contends that the proposed System Operation Permit is the least expensive and most readily available new source of water to meet demands in the Brazos River Basin with the least environmental impact.[377] BRA contracts with wholesale water customers throughout the basin to allow them to divert water made available through BRA's water rights. BRA's rates for that wholesale water service are calculated to recover its net revenue requirement and its income from those sales is dedicated to covering BRA's operation and maintenance expenses and as a pledge against debt service for the bonds BRA issues.[378]

BRA currently has virtually no uncommitted water left available to meet future additional water supply demands.[379] Of the 705,000 acre-feet of water rights owned by BRA, 99% of this

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[377] BRA Ex. 1 at 35-37 & Ex. 10 at 21-22.

[378] BRA Ex. 1 at 11-14.

[379] BRA Ex. 1 at 1; Tr. 98 (Forté).

available water is under contract already.[380] To the extent any of BRA's customers have over-contracted for water and have subsequently returned the water to BRA, the returned water has been immediately resold.[381] BRA also has pending requests for water from approximately twenty different entities that would contract, collectively, for over 150,000 af/yr of water.[382]

The recently approved 2011 Regional Water Plans for Region G and Region H forecast that substantial additional water supplies will be needed between now and 2060.[383] The increase in demand for water in both regions is primarily due to population growth and its resulting effect on the need for increased municipal water supply and electricity generation. However, there are also projected shortages for irrigation and manufacturing uses.[384] To exacerbate matters for Region H, water users in Fort Bend County must convert a large portion of their current water use from groundwater to surface water.[385] The reduced availability of groundwater in Region H will create additional demand for surface water sources in that area, and BRA anticipates the Proposed Permit providing a badly needed surface water supply to help meet those demands.[386]

Quantifying the demand, Region G anticipates needing approximately 100,000 acre-feet of additional annual supplies by 2060.[387] Some of the shortages anticipated in Region G are in municipal supplies and are expected to develop starting as early as 2010.[388] The 2011 Region G Plan anticipates that the Proposed Permit will supply 86,429 af/yr of water by 2060 to meet

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[380] BRA Ex. 1 at 16, Ex. 35 at 12.

[381] BRA Ex. 1 at 17.

[382] BRA Ex. 1 at 18 & Ex. 10 at 21.

[383] BRA Exs. 12-14.

[384] BRA Ex. 10 at 10 & 13-15 & Exs. 12 & 13.

[385] BRA Ex. 10 at 14.

[386] BRA Ex. 10 at 15.

[387] BRA Ex. 10 at 9 & Ex. 12 at ES-12; Tr. 163-164.

[388] BRA Ex. 10 at 9 & Exs. 12-14.

municipal and steam-electric power generation demands.[389] Region H projects that between 2010 and 2060 the water supply needs region-wide will grow from 2,376,414 af/yr to 3,524,666 af/yr.[390] The 2011 Region H Plan anticipates that the System Operation Permit will supply a total of 25,347 acre-feet of water to meet municipal, manufacturing, mining, and other demands in the region between 2010 and 2060.[391]

The evidence shows there is an immediate need for additional water supplies in a large portion of the Brazos River Basin, and BRA intends to beneficially use the newly appropriated water by contracting with its existing and future customers who have a need for these additional supplies. Water supplies and contracts need to be in place prior to actual water shortages materializing.[392] Based on the demand projections in the 2011 Region G and Region H water plans, it is likely that System Operation Permit water could be placed under contract within five to ten years after the water supply becomes available.[393] Having this water available, even if it is not immediately fully utilized, is beneficial because it allows the customers to plan and rely on having the supply in the future.[394]

There is virtually no contrary evidence offered by the other parties to refute BRA's evidence showing that there is a need for additional water supplies in the Brazos River Basin. Water retailers and others are looking to BRA to provide wholesale water to them, and the proposed permit would allow BRA to supply that demand at a very low cost. The ALJs find that approval of BRA's application would serve the public interest and support the public welfare by making additional reliable water available to the public and reducing pressure on BRA to increase its rates.

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[389] BRA Ex. 10 at 12 & Ex. 12.

[390] BRA Ex. 10 at 8 & Ex. 13.

[391] BRA Ex. 10 at 16 & Ex. 13.

[392] BRA Ex. 4, Ex. 5 at ¶ 4; Exs. 13 & 14 & Ex. 15 at 86-87.

[393] BRA Ex. 15 at 86.

[394] BRA Ex. 15 at 86-87; Tr. 97.

The Proposed Permit does not require the construction of a new reservoir or extensive groundwater development, both of which would be substantially more expensive than the cost to obtain the water under the Proposed Permit.[395] As compared to other alternative water supply strategies identified in the 2011 Region G and H water plans, the unit cost of the Proposed Permit water is about $10 per acre-foot of diverted water from the river, as opposed to $182 per acre-foot of water for the Allens Creek Reservoir, $424 per acre-foot for the proposed, but abandoned, Millican Reservoir, and $1,325 per acre-foot for the Carrizo-Wilcox aquifer water supply for Williamson County.[396] BRA argues that by simply looking at the entire expense of the project and dividing the cost by the annual water supply, it is evident that the Proposed Permit water is substantially less expensive than the cost of water from a reservoir, such as Allens Creek.[397]

After the WMP process, the water would be readily available under the Proposed Permit and would not require significant land acquisitions, permitting, and construction.[398] The low cost of the water coupled with its availability in the near-term means that BRA's water rates would be stable and would allow BRA to keep its rates lower than they would be if other sources of supply had to be developed.[399] Moreover, BRA will be able to leverage the income from the sale of water from the Proposed Permit to create more sources of water to sustain BRA's ability to meet future needs and demands.[400]

E. Avoidance of Environmental Impacts

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[395] BRA Ex. 1 at 39-40 & Ex. 15 at 88.

[396] BRA Ex. 15 at 89-91, Ex. 25 & Ex. 26.

[397] BRA Ex. 1 at 23.

[398] BRA Ex. 10 at 18.

[399] BRA Ex.. 1 at 36-37, Ex. 10 at 18 & 21 & Ex. 15 at 91.

[400] BRA Ex. 1 at 36 & Ex. 39.

Additionally, several BRA expert witnesses testified that the Proposed Permit would have a smaller environmental impact than construction of a new reservoir to meet that growing need for water.[401] BRA contends that if its application were approved, future permittees in the Brazos River Basin would be required to honor the environmental flow provisions that BRA proposes because those provisions would be part of a more senior water right.[402] BRA has also committed to providing water out of the amount it seeks in this permit to the Texas Water Trust, which is administered by the Water Development Board in consultation with TPWD under Water Code § 15.7031, for environmental needs including instream flows.[403]

No party offered evidence to contradict BRA's evidence on these points. The ALJs conclude that approval of the proposed permit would be in the public interest because it would avoid the environmental impact of the construction of additional reservoirs to provide the same amount of water, and it would protect environmental flows from future appropriations through the environmental flow restrictions included in the permit and the dedication of additional water to the Texas Water Trust for environmental needs including instream flows.

F. Burden of Proof Concerning Public Welfare, Public Interest, and Instream Uses

If the Application meets the requirements of the other statutes and rules, the ED takes the position that it should not be considered to be detrimental to the public welfare absent facts indicating that it would be detrimental. NWF objects to this suggestion by the ED. It claims that the requirement to consider the public welfare is not just a redundant way of referring to the factors that other laws require to be considered. It also argues that the ED is, in effect, suggesting shifting the burden of proof away from BRA, to whom 30 TAC § 80.17(a) assigns the

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[401] BRA Ex. 1 at 39, Ex. 39 at 21-22, Ex. 15 at 89 & Ex. 29 at 42.

[402] BRA Ex. 29 at 42, Ex. 33 at 19-20.

[403] BRA Ex. 1 at 38-39 & Ex. 39 at ¶ 1.

burden, to the other parties. Citing Water Code § 5.103(c) and *City of Waco,*[404] NWF argues, and FBR and CCG concur, that each provision of a statute must be given substantive effect, including the public welfare provisions.[405]

The ALJs agree with NWF that BRA has the burden of proof. In accordance with Water Code § 11.134(b)(3)(C), BRA's principal burden is to show that its proposed appropriation is not detrimental to the public welfare. The ALJs also agree with NWF that BRA's application cannot simply be deemed non-detrimental to the public welfare if it complies with other applicable requirements. Largely because they attach more value to some concerns than BRA does, NWF, FBR, Dow, and CCG argue that BRA has ignored the public welfare and not carried its burden of proof. With that the ALJs do not agree.

BRA has offered undisputed, persuasive evidence that its application is in the public interest and not detrimental to it because the Proposed Permit is the least expensive and most readily available new source of water to meet demands in the Brazos River Basin with the least environmental impact. In the absence of persuasive evidence to the contrary, the ALJs would find that BRA's evidence is sufficient to carry BRA's burden of proof under Water Code § 11.134(b)(3)(C), Thus, the burden of persuasion shifts to the parties who argue that BRA's application is detrimental to the public interest.

Additionally, under Water Code § 11.147(d) the Commission's obligation to include conditions in BRA's permit to maintain instream uses and water quality is limited "to the extent practicable when considering all public interests." Thus, a public interest balancing test is required. It may be, for example, that some specific public interest would be harmed by a lack of instream flows, but that is acceptable if the Commission determines that the broader universe of public interests are advanced and not harmed, in accordance with Water Code § 11.134(b)(3)(C).

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[404] *City of Waco v. Texas Natural Res. Conservation Comm'n,* 83 S.W.3d 169, 179 (Tex. App.—Austin 2002, pet. denied).

[405] *City of Marshall v. City of Uncertain,* 206 S.W.3d 97, 105 (Tex. 2006).

G. Instream Recreational Use of Water

FBR claims that BRA has completely ignored the public's interest in recreation. In fact, BRA has not ignored the public's interest in water-oriented recreation. BRA is actually asking that water be appropriated to it for recreational beneficial use.[406] Additionally, Ms. Loeffler testified that recreation and aesthetics were among the considerations, though not the primary ones, considered in developing BRA's proposed environmental flow regime.[407] The ED's Mr. Geeslin testified that different types of recreation can occur in a river and the flow that is optimal for one type, for example canoeing, might not be optimal for another, for example waterfowl hunting. He analyzed whether the proposed permit would adversely affect recreation generally and concluded that, even at low flows, recreational opportunities could still exist.[408]

Citing Mr. Geeslin, OPIC argues that negative implications for recreational uses in the segments of the river protected by the measuring points were not clearly refuted by BRA, and recreation may potentially suffer even greater harm.[409] The ALJs do not agree with OPIC because it is ignoring the public interest balancing test built into Water Code § 11.147(d). In effect OPIC is arguing that the only public interest is recreation tied to instream flows. It is also apparently focusing on only certain types of recreation, ignoring Mr. Geeslin's testimony that instream flow dependent recreation overall would not be harmed.

The ALJs do agree with FBR that the public has a unique interest in recreation in a particular portion of the Brazos River Basin, which merits special consideration. FBR is particularly concerned about the potential for adverse impact to certain types of recreational

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[406] BRA Ex. 15 at 86.

[407] Tr. 835-36.

[408] Tr. 1818, 1855 & 1898-99.

[409] OPIC Initial Brief at 9. OPIC cites to Mr. Geeslin's testimony on the date that he testified, May 19, 2011, but cites to a page of the transcript, 213, from another date when Mr. Geeslin did not testify.

activities in the John Graves Scenic Riverway (JGSR) and Lake Granbury. The JGSR is that portion of the Brazos River Basin, and its contributing watershed, located downstream of the Morris Shepard Dam on the Possum Kingdom Reservoir in Palo Pinto County, Texas, and extending to the county line between Parker and Hood Counties, Texas.[410] That would include the portion of the Brazos River from the dam at Possum Kingdom to the upper reaches of Lake Granbury.[411] JGSR is the only "water quality protection area" designated by the Water Code. The Water Code includes provisions for additional regulation of quarrying, wastewater discharges, and other measures to protect water quality in the JGSR.[412] Ms. Loeffler testified that to her knowledge the JGSR is the only scenic riverway in Texas.[413]

The JGSR also appears to be an important resource for instream recreation that is tied to flows from Possum Kingdom. TCEQ's expert Mr. Geeslin wrote:

> There are plenty of gravel bars and islands for stopping and camping in the upper portions of the river below Possum Kingdom Dam . . . The suitability of this section of the Brazos for recreational use depends upon water being generated from Possum Kingdom Dam. The water coming from the dam is cold and clear. A common occurrence for the river is the rising of 2 or 3 feet in a matter of minutes when the dam is generating [power]. If the dam is not generating, the river is relatively shallow which results in the river being difficult to float.[414]

FBR objects that BRA has not studied and offered evidence concerning the JGSR and recreation as it claims that BRA was required to do. In the absence of a specific legal requirement to address recreational use of instream flows in the JGSR, the ALJs do not agree that BRA's case is deficient. However, they do agree that FBR has offered sufficient evidence of

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[410] Water Code § 26.551(2).

[411] BRA Ex. 3 & 14.

[412] Subchapter M of Chapter 26 of the Water Code.

[413] Tr. 799-803. Ms. Loeffler noted that a portion of the Rio Grande has a *federal* wild and scenic designation.

[414] ED Ex. DG-3 at 115.

the public's interest in instream flows for recreation in the JGSR to show that this should be an important consideration in determining what instream flows should be required in BRA's permit and whether the overall public welfare would be harmed by a lack of flows there.

FBR objects that either Proposed Permit would allow BRA to capture water that has been released in the past from Possum Kingdom Dam to generate hydroelectric power. That is the flow which Mr. Geeslin described as being particularly important to recreation below the dam in the JGSR. FBR objects that the only guaranteed flow would be the 32 cfs, Subsistence, 7Q2 flow, which FBR argues is inadequate to ensure reasonable protection of the values of the JGSR, the recreational uses of the riverway and Lake Granbury, and the maintenance of environmental flow regimes below Lake Granbury.

But BRA's witness, Brad Brunett, testified that as part of its recent Federal Energy Regulatory Commission (FERC) application to decommission hydroelectric facilities at Possum Kingdom, BRA had agreed to maintain environmental flows required by its current FERC license.[415] Further, in response to questioning by FBR's counsel, Mr. Brunett stated that it would not be a problem to add such flow requirements to this permit.[416] Consistent with Mr. Brunett's testimony, BRA proposes the following additional interim special condition to protect recreation in the JGSR below Possum Kingdom Dam:[417]

> Permittee shall maintain, at a minimum, the following continuous release schedule from Possum Kingdom Reservoir:

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[415] Tr. 2242-43.

[416] Tr. 2292-93.

[417] BRA suggests adding this as Section 5.E.16 in BRA's Proposed Permit or 6.E.16 in the ED's Proposed Permit, with the remaining special conditions in that section renumbered to reflect this addition.

Reservoir Elevation	March – June	July - September	October - February
Above 994.5 msl	100 cfs	75 cfs	50 cfs
990 msl – 994.5 msl	50 cfs	37.5 cfs	25 cfs
Below 990 msl	Leakage (20 cfs)	Leakage (20 cfs)	Leakage (20 cfs)

The ALJs recommend that the Commission include this BRA proposed special condition in any permit that is issued in this case. With that addition, the ALJs conclude that the permit would not have an adverse effect on instream recreation in the JGSR or a significant adverse effect on the public's interest in instream recreation in the Brazos River Basin. Adequate flow will be maintained for a wide variety of recreational uses.

H. Agricultural Use of Water

The ALJs see no evidentiary basis for finding that the proposed permit will adversely affect the public's interest in agricultural use of water, as CCG and Mr. Ware suggest. BRA is specifically seeking the appropriation of water for agricultural use.[418] To the extent that additional water will be needed in the future for agriculture, BRA would be in a position to make that water available. Also, as explained elsewhere in the PFD, BRA would be able through system operation to make more water available for all uses than would be available without systems operation, which would include agricultural use. Further, the Regional Water Plans for both Regions H and G project essentially flat demand for agricultural water between now and 2060.[419]

I. BRA's Application Is Not Detrimental to the Public Welfare

Based on the above, the ALJs conclude, in accordance with Water Code § 11.134(b)(3)(C), that the proposed appropriation to BRA is not detrimental to the public

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[418] BRA Ex. 8B at 1 & Ex. 15 at 86.

[419] BRA Ex. 12 at ES-7 & Ex. 13 at 2-16.

welfare. To the contrary, the ALJs find that BRA has shown that approval of its application, with some modifications, is strongly in the interest of the public and will not harm the public welfare.

The ALJs also conclude, in accordance with Water Code § 11.147(d), that the Proposed Permit includes, to the extent practicable when considering all public interests, those conditions necessary to maintain existing instream uses and water quality of the streams and rivers in the Brazos River Basin.

XIV. CONSISTENCY WITH WATER PLANS

A. Water Code § 11.134(c) is not an impediment to permit issuance in this case.

Pursuant to Water Code § 11.134(c), the TCEQ generally cannot issue a water right for municipal purposes in a region that does not have an approved regional water plan. The great majority of the Brazos River Basin and BRA's service area are encompassed within three regional water planning areas–Regions G, H, and O.[420] On BRA's motion, the ALJs took official notice the 2007 State Water Plan and the 2011 Regional Water Plans of Regions G, H, and O, as approved by the Texas Water Development Board.[421] Region O overlies the extreme northwest portion of the Brazos River Basin, upstream of all of BRA's existing water supplies and water rights and, therefore, upstream of the area involved in the BRA Application.[422] Regions G and H adopted their most current respective 2011 Regional Water Plans in late 2010. Each of those plans was adopted by the TWDB on November 18, 2010.[423] Accordingly, Water Code § 11.134(c) does not prohibit the Commission's issuance of a water right to BRA for municipal purposes.

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[420] Small portions of the basin lie within Regions B, C, K, and F. BRA Ex. 10 at 5.

[421] Order No. 7.

[422] BRA Ex. 10 at 5, 17.

[423] BRA Ex. 10 at 7.

B. As required by Water Code Section 11.134(b)(3)(E), the BRA Application and the proposed SysOp Permit are consistent with the adopted State and Regional Water Plans.

Pursuant to Water Code § 11.1501, when considering an application for a water right, the TCEQ "shall consider the state water plan and any approved regional water plan for the area or areas in which the water is proposed to be stored, diverted, or used." Pursuant to Water Code § 11.134(b)(3)(E), an application for a water right generally cannot be granted unless it "addresses a water supply need in a manner that is consistent with" the state water plan and the approved regional water plans for the area.

John Hofmann, BRA's Lower and Central Basin Regional Manager, provided testimony on the question of whether the Application is consistent with the plans. He testified that, by the year 2060, a total of 399,185 acre-feet of additional water supply will be needed in Region G based on demand projections from the 2011 Region G Water Plan.[424] The evidence demonstrates, however, that Mr. Hofmann's testimony on this point is incorrect. The most recent plan for Region G concluded that there would be *no* water shortage before roughly the year 2045, and that, by 2060, there will be a shortage in the region of roughly only 100,000 acre-feet.[425] The plan then identifies a number of "recommended water supply strategies," including the SysOp Permit which, in total, could provide an additional 399,185 acre-feet of "new supplies of water" by 2060.[426] Because it recommends water management strategies that would provide new supplies well in excess of projected demands, however, the Region G plan acknowledges that not all of the recommended water management strategies would be necessary in order to

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[424] BRA Ex. 10 at 10.

[425] BRA Ex. 12 at ES-12; Tr. 163-64.

[426] BRA Ex. 12 at ES-16-18. The plan erroneously states that "799,185" acre-feet in total new supplies would be created by the strategies. However, the parties agree that this was a typographical error in the plan, and that the correct total is 399,185 acre-feet. Tr. 173-74.

meet demand.[427] Of the 399,185 acre-feet in new supplies, the Region G plan estimates that the BRA SysOp Permit will provide 86,429 acre-feet.[428]

According to the most recent Regional Plan for Region H, an additional roughly 1.15 million acre-feet of water will be needed in that region by 2060.[429] The plan then identifies a number of potential "water supply strategies," including the SysOp Permit, which could provide additional new supplies in Region H by 2060.[430] Of the more than one million acre-feet in new supplies needed, however, the Region H plan estimates that the BRA SysOp Permit will provide only 25,350 acre-feet.[431]

Although both regional plans identify a number of specific water needs that could be met by the SysOp Permit, BRA acknowledged that when it allocates the water it seeks to appropriate through the SysOp Permit, it would not necessarily have to meet the specific unmet needs identified in the plans.[432]

As noted above, an application for a water right generally cannot be granted unless it "addresses a water supply need in a manner that is consistent with" the state water plan and any applicable approved regional water plan. In this context, "consistency" is undefined. BRA and the ED both argue for a fairly low threshold as to what constitutes consistency. They contend that, because the proposed SysOp Permit is included as a possible water management strategy in

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[427] BRA Ex. 12 at ES-16-18; Tr. 170-71.

[428] Exs. BRA 10 at 12; BRA Ex. 12 at ES-16-18; Tr. 162-63.

[429] BRA Ex. 13 at ES-6; BRA Ex. 10 at 13.

[430] BRA Ex. 13 at ES-6-10.

[431] Exs. BRA 10 at 16; BRA Ex. 13 at ES-9; Tr. 163, 187, 230-31.

[432] Tr. 232-34.

the plans for Regions G and H and in the State Water Plan,[433] the BRA Application is consistent with the plans.[434]

FBR argues for a more stringent standard as to what qualifies as "consistent with" the plans. FBR contends that the Application is not consistent, or is not fully consistent, with the plans because the details of the Application differ from the details within the plans.[435] For example, the plans envision that the SysOp Permit will supply only 111,779 acre-feet of water by 2060 (86,429 in Region G, and 25,350 in Region H), yet the BRA Application is seeking authority to appropriate more than one million acre-feet. FBR contends that, in order to be consistent with the plans, BRA's application should be granted to authorize diversions of no more than 111,779 acre-feet.[436]

The issue is whether the BRA Application "addresses a water supply need in a manner that is consistent with" the plans. Certainly, the plans identify various water supply needs, and identify the SysOp Permit as one of many possible solutions to meet those needs. On the other hand, the BRA Application seeks much more water than was envisioned in either of the plans. Likewise, it is troubling that, if the SysOp Permit were granted, BRA would not be required to actually meet the specific unmet needs identified in the plans. Equally troubling, if the SysOp Permit is granted it will reduce the viability of other water management strategies identified in the regional plans. For example, the Region G plan analyzes the impact of the SysOp Permit on the yields from nine reservoirs that were identified as other potential water management strategies. According to the plan, if the SysOp Permit is granted, the firm yields on all of those other projects will be substantially reduced, in some cases, by more than 80 percent.[437]

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[433] Exs. BRA 10 at 7, 15, 17; ED Ex. KW-1 at 7-11; ED Ex. KW-4; Tr. 156-57.

[434] BRA Initial Brief at 16; ED Initial Brief at 25-26.

[435] FBR Reply Brief at 16-17.

[436] FRB Reply Brief at 16.

[437] BRA Ex. 50 at 4B.4-18.

Nevertheless, it can fairly be stated that, if granted, the SysOp Permit would enable BRA to address water supply needs identified in the plans. In the absence of any legal guidance to the contrary, the ALJs believe it is appropriate to apply a low threshold as to what constitutes consistency. The statute does not require that the application *exclusively* address water supply needs identified in the plans. Thus, the ALJs conclude that the BRA Application addresses water supply needs in a manner that is consistent with the plans.

XV. CONSERVATION AND DROUGHT PLANNING

BRA contends that it has demonstrated that it will use reasonable diligence to avoid waste and achieve water conservation through its water conservation plans, its water supply contracts, and operation under the Proposed Permit. It also argues that it has complied with the other applicable conservation and waste avoidance requirements. Additionally, BRA claims that it has adopted and requires compliance with its water conservation plan and its drought contingency plan.[438]

The ED agrees with BRA. No party disputes that BRA has complied with the drought contingency requirements of chapter 288 of the Commission's rules, but NWF and FBR argue that BRA has failed to show that its application complies with water conservation requirements.

The ALJs conclude that BRA's application complies with all applicable drought and water conservation planning legal requirements

A. Applicable Law

Water Code Section 11.134(b)(4) provides: "The commission shall grant the application only if . . . the applicant has provided evidence that reasonable diligence will be used to avoid

[438] BRA Ex. 5; Ex. 35 at 36-40; Ex. 37 & Ex. 38.

waste and achieve water conservation as defined by Section 11.002(8)(B)." This requirement is reiterated in 30 TAC § 297.41(a)(4). Water Code § 11.002(8) defines "Conservation" as:

> (A) the development of water resources; and
> (B) those practices, techniques, and technologies that will reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.

In 30 TAC § 297.1(13), "Conservation" is defined the same as in Water Code § 11.002(8)(B).

Additionally, Water Code § 11.1271 provides:

> (a) The commission shall require from an applicant for a new or amended water right the formulation and submission of a water conservation plan and the adoption of reasonable water conservation measures, as defined by Subdivision (8)(B), Section 11.002, of this code.
> . . .
> (c) Beginning May 1, 2005, all water conservation plans required under this section must include specific, quantified 5-year and 10-year targets for water savings. The entity preparing the plan shall establish the targets. Targets must include goals for water loss programs and goals for municipal use in gallons per capita per day.
> . . .
> (f) The commission shall adopt rules establishing criteria and deadlines for submission of water conservation plans, including any required amendments, and for submission of implementation reports.

30 TAC § 288.30(8) states: "A water conservation plan or drought contingency plan required to be submitted with an application in accordance with §295.9 of this title must also be subject to review and approval by the commission." Section 295.9(2) requires the submission of plans meeting Chapter 288 guidelines for wholesale water suppliers. Section 295.9(1) requires the submission of plans meeting Chapter 288 guidelines for other uses such as industrial or

mining use or agricultural use. Those plans must be reviewed and approved by the Commission.[439]

Finally, 30 TAC § 297.50(b) states:

> A water conservation plan submitted with an application requesting an appropriation for new or additional state water must include data and information which:
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> (1) supports the applicant's proposed use of water with consideration of the water conservation goals of the water conservation plan;
> (2) evaluates conservation as an alternative to the proposed appropriation; and
> (3) evaluates other feasible alternatives to new water development, including but not limited to, waste prevention, recycling and reuse, water transfer and marketing, reservoir system operations, and optimum water management practices and procedures. It shall be the burden of proof of the applicant to demonstrate that the requested amount of appropriation is necessary and reasonable for the proposed use.

B. BRA Evidence and Arguments

BRA included a water conservation plan, dated Feb. 17, 2005, with its application.[440] In 2009, BRA also submitted an updated water conservation plan covering water it provided as a wholesale water supplier[441] and a water conservation plan for irrigation use.[442]

BRA also offered evidence to show that it has adopted and requires its customers to comply with its water conservation plan and its drought contingency plan.[443] Its water conservation plan also requires monitoring and accounting of customers' water usage,

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[439] 30 TAC § 288.30(8).

[440] BRA Ex. 7E.

[441] BRA Ex. 37; Tr. 1772-73; ED Ex. KW-1 at 8.

[442] ED Ex. KW-1 at 8.

[443] BRA Ex. 5, Ex. 35 at 36-40, Ex. 37 & Ex. 38).

coordination with wholesale customers regarding conservation, and monitoring, inspection, and maintenance of BRA pipelines, pump stations, and water transmission facilities, among others.[444] BRA argues that it does and will continue to use various techniques to avoid waste and achieve water conservation, including monitoring and maintaining facilities, metering usage, and engaging in educational and public awareness activities. These water-conserving techniques are found in BRA's approved Water Conservation Plan and are implemented through BRA's water supply contracts and various BRA internal operating policies.[445]

Additionally, BRA argues that its water supply contracts implement its conservation goals and requirements by requiring customers to own, install, operate and maintain meters for accurate measuring of all water diverted by the customer.[446] The customers are also charged with maintaining and operating facilities in a manner that will prevent unnecessary waste of water.[447]

According to BRA, the Proposed Permit itself reduces the waste of water and improves the efficiency in water use by coordinating reservoir operations with unappropriated stream flows. The Proposed Permit increases the recycling and reuse of water by BRA for the benefit of its customers. The appropriation of the water authorized in the Proposed Permit makes water available for future or alternative uses by obtaining a greater water supply from the facilities that are already in place.[448] Additionally, the Proposed Permit includes water conservation provisions that require BRA to implement water conservation plans that will help reduce or maintain the consumption of water, prevent or reduce waste of water, maintain or improve the efficient use of water, and prevent the pollution of water.[449]

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[444] BRA Ex. 35 at 37-38.

[445] BRA Ex. 4, Ex. 5, Ex. 9, Ex. 35 at 10-11 & 37-38 & Ex. 37.

[446] BRA Ex. 5 at ¶¶ 13, 14, Ex. 35 at 10-11.

[447] BRA Ex. 5 at ¶ 16 & Ex. 35 at 11.

[448] BRA Ex. 15 at 96.

[449] BRA Ex. 8 at ¶ 4, Ex. 18 at ¶ 5; ED Ex. KW-1 at 7, Ex. KW-4 & Ex. K2 at ¶ 5)

Water conservation works well within the context of municipal retail systems, but BRA contends that it is difficult for a raw water wholesale provider, such as BRA, to implement conservation measures that save a significant amount of water.[450] Nevertheless, BRA has evaluated other feasible alternatives to new water development, including water conservation, desalination, and new reservoirs.[451] These alternatives either do not provide the same amount of water as the Proposed Permit, or require significant financial resources to develop.[452]

BRA maintains that is has carried its burden to demonstrate that it will use reasonable diligence to avoid waste and achieve water conservation, and that both its water conservation and drought contingency plans were adopted and are consistent with the requirements in 30 TAC Chapter 288.[453] It argues that there is no evidence to the contrary.

C. The ED's Review

The TCEQ Staff conducted a full technical review, as required by 30 TAC § 295.9, of BRA's 2005 Water Conservation and Drought Contingency Plans that were submitted with the BRA application.[454] Additionally, the ED's witness Kristin Wang reviewed BRA's later submitted 2009 update and determined that they contained all the requirements of 30 TAC Chapter 288. She did not perform a substantive review for each requirement because that is not required for a plan update, but she did find that the update contained quantified five- and ten-year targets and methods to implement them, as required by the Commission's rules.[455] Moreover, Ms. Wang testified that the five- and ten-year goals could run from 2005 and did not

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[450] BRA Ex. 1 at 22; Tr. 23-24 (Forte').

[451] BRA Ex. 1 at 22.

[452] BRA Ex. 1 at 22.

[453] BRA Ex. 35 at 36-40, Ex. 37 & Ex. 39; ED Ex. KW-1 at 6-9, Ex. KW-3 & Ex. KW-4.

[454] ED Ex. KW-1 at 5-9, KW-3 & KW-4; BRA Ex. 35 at 36.

[455] Tr. 1784-86.

have to run from 2009, the date of the plan, because the requirement began in 2005.[456] Ms. Wang concluded that BRA's water conservation plan met the requirements of Chapter 288 of the Commission's rules.[457]

D. FBR's Objections

FBR contends that BRA has not submitted a water conservation plan or even a plan to have a plan, but merely a promise to do something related to the requirements in the rules. FBR insists that more is required and complains that BRA has not addressed what are normal losses, when it will take action to stop leaks, how often inspections will occur for pipelines and pump stations, and how quickly repairs will occur. Citing 30 TAC § 288.5(1)(A) and (D), the *Martinez* case,[458] and regulatory guidance, FBR insists that more is required than BRA provided. FBR is incorrect.

First, FBR's largely relies on a 1995 TNRCC regulatory guidance document to support its conservation arguments.[459] As the ED notes, however, that document is 16 years old, it was prepared prior to extensive revisions to water-right laws, his Staff no longer uses that document, and it has not been published for years.[460] The ALJs attach no evidentiary weight to the obsolete TNRCC guidance document.

Second, FBR complains that BRA has failed to comply with the requirements of 30 TAC § 288.5(1)(A) and (D). On the point, FBR is wrong. Section 288.5(1)(A) and (D) state:

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[456] Tr. 1775-76.

[457] ED Ex. KW-1 at 6.

[458] *BFI Waste Systems of North America, Inc. v. Martinez Environmental Group*, 93 S.W.3d 570 (Tex. App.—Austin 2002, pet. denied).

[459] FBR Ex. 14.

[460] Tr. 1984.

> All water conservation plans for wholesale water suppliers must include the following elements:
> (A) a description of the wholesaler's service area, including population and customer data, water use data, water supply system data, and wastewater data;
> . . .
> (D) a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply . . .

BRA's conservation plan describes its service area[461] and includes population, customer, water use, water supply, and wastewater system data.[462] It also describes the practices that it will use to account for diversions; it will use meters with an error rate of less than 5%.[463] Additionally, in accordance with other portions of 30 TAC § 288.5(1), BRA describes its metering and records management program and metering and leak detection and repair procedures.[464] Further, the plan states that BRA will implement a program of regular inspections, maintenance of repair of pipelines and pump stations, focusing on monitoring for unaccounted water and detection and repair of leaks.[465] In other words, BRA's water conservation plan fully complies with Section 288.5.

Third, the requirement at issue in *Martinez* was for "operating procedures for the site management and site operating personnel in sufficient detail to enable them to conduct the day-to-day operations of [a municipal solid waste] facility."[466] The text of Section 288.5(1) does not state or suggest a comparable level of detail is required for a water conservation plan, as FBR contends.

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[461] BRA Ex. 37 at 1.

[462] BRA Ex. 37 at 1-5.

[463] BRA Ex. 37 at 8.

[464] BRA Ex. 37 at 8.

[465] BRA Ex. 37 at 11.

[466] 93 S.W.3d 570, 579 (*citing to former* 30 TAC § 330.114).

E. NWF Objections

NWF also argues that BRA's 2009 updated water conservation plan for wholesale water supplier fails to meet the requirements set out in 30 TAC § 288.5. Among those requirements is the inclusion of "specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable unaccounted-for water, and the basis for the development of these goals."[467]

NWF concedes that BRA's 2009 water conservation plan includes quantified five-year target goals for municipal use in gallons per capita per day;[468] however, it argues that the 2009 plan lacks any specific, quantified targets for water savings for water uses other than municipal and that the required ten-year target goals are entirely missing. BRA's Mr. Brunett conceded that those were not in the plan.[469]

BRA and the ED disagree with NWF's criticisms concerning the five and ten year goals. Both note that the Section 288.5(1)(c) requirements for conservation plans are not specific and allow flexibility. While a wholesale water supplier's plan must include five and ten year targets for water savings, the rule provides that the targets are not enforceable. BRA notes that there is nothing in the rule that requires BRA to have a ten-year per capita per day goal. Instead the requirement is to identify goals, and BRA did that. Its goal is to reduce unaccounted water in the distribution systems to no more than twelve percent in year 2010 and maintain unaccounted losses at not more than twelve percent through the year 2020. BRA also includes a five-year

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[467] 30 TAC § 288.5 (1)(C).

[468] BRA Ex. 37 at 7.

[469] Tr. 887.

target goal for municipal use in gallons per capita per day.[470] BRA argues that these are the specific goals that it has determined are appropriate.

The ALJs agree with BRA and the ED that BRA has complied with the 30 TAC § 288.5 requirements concerning water conservation plans for wholesale water suppliers. NWF interprets the rule as requiring more than it actually does.

NWF also contends that it is unclear if BRA submitted a water conservation plan covering industrial, mining, and agricultural uses of water as required by 30 TAC § 295.9(1). That rule requires applications to appropriate water for those uses to submit conservation and drought contingency plans in accordance with the Chapter 288 rules. However, those rules are mostly applicable to end users of water for those purposes, not an entity, like BRA, that provides the water to end users.[471] There is no evidence that BRA is such an end user. With one exception, the ALJs conclude that the Chapter 288 water conservation plan rules for industrial, mining, and agricultural uses are not applicable to BRA.

The only exception is 30 TAC § 288.4(a)(3), which imposes obligations on a "system providing agricultural water to more than one user." Ms. Wang testified that BRA is subject to those rules and that she reviewed BRA's agricultural water conservation plan as part of its application, though she did not perform a technical review. She added that the Staff considers municipal use as the main use category for BRA.[472] Additionally, Ms. Wang testified that BRA's drought contingency plan complies with the chapter 288 rules.[473] Based on Ms. Wang's testimony and the absence of a more specific argument by NWF indicating how BRA failed to

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[470] BRA Ex. 37 at 7.

[471] *See* 30 TAC § 288.3(a) & (b), which refer to the obligations of an "the industrial or mining water user" and 30 TAC § 288.4(a)(1)(C) & (G), (2)(E) & (K), & (c), which impose obligations on the "agricultural water user," "individual agricultural user," "individual irrigation user," and "individual irrigation water user."

[472] Tr. 1781-82.

[473] ED Ex. 1 at 7.

comply with the water conservation plan rules for a "system providing agricultural water to more than one user," the ALJs conclude that BRA complied with those requirements.

According to NWF, the review required by 30 TAC § 288.30(8) was not completed. Ms. Wang testified that she did not undertake a technical or substantive review of the adequacy of the 2009 water conservation plans submitted by BRA.[474] However, NWF appears to be reading more into Section 288.30(8)than is there. The rule says that a water conservation plan or drought contingency plan submitted with an application in accordance with §295.9 "must also be subject to review and approval by the commission" but it does not say that the ED must review the plan.

NWF also argues that BRA failed to comply with 30 TAC 288.5(1)(G), which requires that every water supply contract entered into or renewed after adoption of the water conservation plan must include "a requirement . . . that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements of [Chapter 288]. . . ." Yet, NWF argues, BRA's contract language includes only a conditional water conservation provision and fails to establish any substantive standard for water conservation plans of customers. The relevant BRA contract language reads as follows:

> If required by applicable law or regulation or by BRA, Purchaser agrees to implement a water conservation and drought management program in accordance with a water conservation plan and that the water made available and diverted by Purchaser pursuant to this Agreement will be used in accordance with such conservation plan.[475]

The ALJs disagree with NWF's argument. As BRA notes, many of its customers are independently required by state law to have water conservation plans.[476] Additionally, TCEQ's

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[474] Tr. 1783.

[475] BRA Ex. 5 at 8 & Ex. 37 at 8 & 9.

[476] 30 TAC § 288.30.

rules require wholesale customers to implement water conservation plans that are consistent with the requirements of Chapter 288 of the TCEQ rules. Thus, because TCEQ's regulations require the adoption and implementation of water conservation plans that comply with TCEQ rules, BRA's contract requires its customers to meet these standards as well. Additionally, the Commission has approved BRA's Water Conservation Plan, which indicates BRA's contract language is consistent with TCEQ's rules. Given those legal requirements that its customers comply with conservation requirements, the ALJs find no fault with BRA's contract language just because it includes the if-required-by-law qualifier.

NWF also claims that BRA's water conservation plan fails to comply with the requirement of 30 TAC § 288.7(a)(2) because it does not provide data and information evaluating "conservation as an alternative to the proposed appropriation." BRA disagrees.

BRA responds that the information and data are not in the Water Conservation Plan itself, because the Plan is a policy document governing the operations of BRA and was not created for the limited purpose of filing the Application in this case. According to BRA, the information required by 30 TAC §§ 288.7(a) and 297.50(b) is, however, more appropriately found in its Application and evidence supporting the Application. The information is included in the Application,[477] the Plans for Regions G and H,[478] and the testimony of BRA witness Forte[479] and Mr. Hoffman.[480]

BRA's adopted per capita water use goals are based on the projected per capita water demands developed by the Texas Water Development Board for the 2007 State Water Plan.[481]

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[477] BRA 7-A-4 at 4-1, 5-1, Appendix B.

[478] BRA Exs. 12 & 13.

[479] BRA Ex. 1 at 22.

[480] BRA Ex. 10 at 5-17.

[481] *See* BRA 27 at 7.

The water needs identified for Regions G and H already reflect savings from conservation. The indentified water needs for those regions exist after implementing water conservation goals adopted by the regional planning groups, which indicate how much water can be expected to be made available through the implementation of conservation measures. These savings, however, are insufficient to meet those regions' anticipated water demands.[482]

NWF argues that BRA's reliance on "take or pay" contracts may act as a disincentive for conservation by its customers because one who must pay for something is inclined to take it. BRA's Mr. Forte acknowledged that was true.[483] While a take or pay contract may act as a disincentive to conservation, NWF fails to show how that is contrary to the rules applicable to BRA's application.

Water conservation plans for wholesale water suppliers must include a means for implementation and enforcement,[484] which must be evidenced by a document indicating official adoption. Both the 2005 Conservation Plan and the 2009 update were officially adopted by BRA's Board; hence, they were implemented.[485] BRA's Mr. Brunett testified that he did not know if BRA had authority to enforce water conservation requirements.[486] However, the 2005 plan and 2009 update both say that they and plans developed under them are required to be followed by purchasers in all of BRA's water availability agreements and that a violation of the plan is a violation of the agreement provision and will be treated as such.[487] The ALJs conclude

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[482] BRA Ex. 10 at 10 & 15; BRA Ex. 12 at ES-13; BRA Ex. 13 at ES-7; 2011 Region G Water Plan at 4B.2-1 to 4B.2-28 & 4B.4-1 to 4B.4-14 (Officially noticed by Order No. 7 and available on TWDB web site); 2011 Region H Water Plan at 4-16 to 4-18, 4B.1-1 to 4B.3-9 & 4B.36-1 to 4B.36-4 (Officially noticed by Order No. 7 and available on TWDB web site).

[483] Tr. 99.

[484] 30 TAC § 288.5(1)(I).

[485] BRA Ex. 7E at BRA-CA-000302 & Ex. 37, Apx. C.

[486] Tr. 881-82.

[487] BRA Ex. 7E at BRA-CA-000288 & BRA Ex. 37 at 10.

that the Plans included a means of enforcement, treating a purchaser's failure to follow the plan as a contract breach.

Despite all of the above, NWF questions BRA's commitment to conservation, because Mr. Forte testified that BRA would make water conservation changes only if such changes would be acceptable to those customers,[488] and BRA does not specify a monetary penalty for customers that fail to comply with water conservation requirements.[489] NWF fails to show, however, how either of these points is contrary to a requirement applicable to BRA's application.

Although it claims that BRA has failed to demonstrate that it will avoid waste and conserve water, NWF suggests adding the following condition to any permit that might be issued:

> Beginning with the submission of the initial application for approval of the water management plan and no less frequently than once every ten years thereafter in connection with an application for reconsideration or amendment of the plan, Permittee shall submit for review and approval updated water conservation plans and drought contingency plans demonstrating compliance with the requirements of the Commission rules then in effect for applications for new water rights and with the requirements of this Section 5 applied as of the date of the filing of the application under consideration.[490]

While BRA contends that it has proven its compliance with waste avoidance and conservation requirements, BRA agrees to the inclusion of the language proposed by NWF. The ALJs recommend including this additional condition in any permit the Commission issues to BRA in this case. The ALJs also find that BRA's water conservation plan complies with 30 TAC Chapter 288.

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[488] Tr. 32.

[489] Tr. 875.

[490] NWF suggests renumbering Provision 5 in the ED's Proposed Permit as Provision 5.A and adding this as a new Provision 5.B.

F. ALJs' Conclusion

Based on the above, the ALJs conclude that BRA's application complies with all applicable drought and water conservation planning legal requirements.

XVI. RETURN FLOWS

The BRA Application raises a number of complex issues related to return flows. It treats return flows[491] from any source as "state water" available for appropriation to the extent that such return flows continue to be discharged or returned to the Brazos River or its tributaries. BRA based its requested appropriation, at least in part, on the availability of return flows, current and future, from all sources once they are discharged into a watercourse. Under the approach advocated by BRA, the original sources of the return flows would include groundwater, surface water from the Brazos River Basin, and surface water imported from other basins.[492] Under BRA's approach, if discharged return flows were treated as state water available for appropriation, the results would be as follows:

- Once discharged, all return flows would be available for appropriation pursuant to Water Code § 11.046(c) for beneficial use by any existing water right holder or future appropriator.
- Once discharged, all return flows would be subject to established rules regarding the use and appropriation of state water.
- To the extent return flows make up part of a new appropriation, both current and future return flows would be subject to environmental flow requirements.

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[491] Return flows are treated wastewater or unused portions of diversions that are discharged into watercourses in the state. BRA Ex. 15 at 46.

[492] BRA Ex. 8B at 9; BRA Ex. 15 at 46.

- The appropriation of current and future return flows would be permitted only to the extent they are available as unappropriated water after meeting the needs of all existing senior water rights.[493]

The ED disagrees with the BRA approach and, instead, proposes a different treatment for the appropriation of return flows. Rather than proposing a new appropriation, the ED proposes to give BRA a "bed and banks" permit to transport only those return flows originating from BRA's water rights or from wastewater treatment facilities owned or operated by BRA. Under the ED's approach, BRA would not be entitled to appropriate return flows originating from sources other than BRA's water rights or from wastewater treatment facilities owned or operated by BRA.[494] Under the ED's approach, use of return flows would be implemented as follows:

- A Water Code § 11.042(c) bed and banks authorization for indirect reuse could be obtained by the holder of the base water right, the owner or operator of the wastewater treatment facility, or a third party with contractual rights from either of them.
- The authorization, while not considered an appropriation, would be given the priority date of the application insofar as it applies to historically discharged return flows in order to protect existing rights.
- Historically discharged return flows would be subject to environmental flow and beneficial inflow requirements.
- Discharges in excess of historically discharged amounts would not be subject to call by senior water rights and would have no environmental flow requirements.
- The maximum authorization would be limited to the current TPDES permitted discharge amount. Any increase in the TPDES permitted discharge would necessitate an amendment of the bed and banks permit to authorize use of the increased volume.[495]

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[493] BRA Initial Brief at 56-57.

[494] BRA Ex. 15 at 48; ED Ex. K2 at 6-14.

[495] BRA points out that none of these provisions have been explicitly adopted by Commission by rule or order. Thus, BRA worries there would be little assurance that Section 11.042 will necessarily be implemented in same fashion in the future.

These competing approaches raise a number of issues, each of which is addressed below.

A. Applicable Law

The disputes regarding the treatment of return flows for the SysOp Permit largely turn on the construction of Water Code §§ 11.042 and 11.046. Those statutory provisions provide, in relevant part, as follows:

> Sec. 11.042. DELIVERING WATER DOWN BANKS AND BEDS. (a) Under rules prescribed by the commission, a person . . . may use the bank and bed of any flowing natural stream in the state to convey the water from the place of storage to the place of use or to the diversion point of the appropriator.
>
> . . .
>
> (b) A person who wishes to discharge and then subsequently divert and reuse the person's existing return flows derived from privately owned groundwater must obtain prior authorization from the commission for the diversion and the reuse of these return flows. The authorization may allow for the diversion and reuse by the discharger of existing return flows, less carriage losses, and shall be subject to special conditions if necessary to protect an existing water right that was granted based on the use or availability of these return flows. Special conditions may also be provided to help maintain instream uses and freshwater inflows to bays and estuaries. A person wishing to divert and reuse future increases of return flows derived from privately owned groundwater must obtain authorization to reuse increases in return flows before the increase.
>
> (c) Except as otherwise provided in Subsection (a) of this section, a person who wishes to convey and subsequently divert water in a watercourse or stream must obtain the prior approval of the commission through a bed and banks authorization. The authorization shall allow to be diverted only the amount of water put into a watercourse or stream, less carriage losses and subject to any special conditions that may address the impact of the discharge, conveyance, and diversion on existing permits, . . . instream uses, and freshwater inflows to bays and estuaries. Water discharged into a watercourse or stream under this chapter shall not cause a degradation of water quality to the extent that the stream segment's classification would be lowered.
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> Sec. 11.046. RETURN SURPLUS WATER. (a) A person who takes or diverts water from a watercourse or stream for the purposes authorized by this code shall conduct surplus water back to the watercourse or stream from which it was taken

if the water can be returned by gravity flow and it is reasonably practicable to do so.

(b) In granting an application for a water right, the commission may include conditions in the water right providing for the return of surplus water, in a specific amount or percentage of water diverted, and the return point on a watercourse or stream as necessary to protect senior downstream permits . . . or to provide flows for instream uses or bays and estuaries.

(c) Except as specifically provided otherwise in the water right, water appropriated under a permit . . . may, prior to its release into a watercourse or stream, be beneficially used and reused by the holder of a permit . . . for the purposes and locations of use provided in the permit . . . . Once water has been diverted under a permit . . . and then returned to a watercourse or stream, however, it is considered surplus water and therefore subject to reservation for instream uses or beneficial inflows or to appropriation by others unless expressly provided otherwise in the permit . . . .

B. Once discharged, return flows are "state water" and, therefore, available for appropriation by others.

At the hearing, the primary question regarding return flows was: Once return flows are discharged into a watercourse, should they be considered "state water" and, therefore, available for appropriation by anyone, or do they remain the property of (or at least reserved for) the original water-right holder or discharger? BRA describes this issue as possibly "the most significant legal issue presented by this proceeding" with "far-reaching impacts" in the state.[496] The dispute centers on the construction of two provisions, Water Code §§ 11.042 and 11.046(c), both amended as part of Senate Bill 1 in 1997 (SB 1).[497] BRA relies primarily upon Section 11.046(c), which states that once water has been diverted and is returned to a watercourse "it is considered surplus and therefore subject to . . . appropriation by others." The ED relies primarily upon Section 11.042(c), which states that a person who wishes to "convey and subsequently divert water in a watercourse" must obtain approval of the Commission through a bed and banks permit.

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[496] BRA Initial Brief at 51.

[497] Act of 1997, 75th R.S., ch. 1010, General and Special Laws of Texas.

1. BRA's Arguments

In support of its approach, BRA starts by examining the state of the law regarding return flows in place at the time the legislature passed SB 1. BRA argues that TCEQ policy regarding return flows and reuse prior to passage of SB 1 was clear, and was consistent with the approach now being advocated by BRA.[498] The ED disputes the claim that TCEQ policy prior to SB 1 was clear or consistent.[499] On this point, the evidence in the record appears to support BRA. That evidence indicates that, prior to SB 1:

- return flows discharged into a state watercourse were considered "state water;"
- direct reuse (*i.e.*, reuse of the water *prior to discharge*) was authorized unless the water right provided otherwise;
- indirect reuse (*i.e.*, reuse of the water *following discharge into a watercourse*) required a new water right; and
- bed and banks permits were available for developed water (groundwater-based discharges and imported water) that had not been historically discharged.[500]

Historically, return flows served as the basis for water rights recognized in the water rights adjudication process: they were included in the water availability analysis for permitting on a case-by-case basis (*e.g.*, Lake Livingston); they were included in early "legacy" WAMs; and they were specifically recognized in the Commission's Regulatory Guidance Document as being available for appropriation and included in then-current WAMs.[501]

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[498] BRA Initial Brief at 52-53.

[499] ED Reply Brief at 3-4. The ED's claim on this point is undercut by his admission that the treatment of return flows in water rights appropriation "changed when the TCEQ created its new models as required by Senate Bill 1."

[500] BRA Ex. 58 (Interoffice memo documenting Commission's December 13, 1996 work session); *see also Domel v. City of Georgetown*, 6 S.W.3d 349, 353-54, 360 (Tex. App. – Austin 1999, pet. denied); *see also South Texas Water Co. v. Bieri*, 247 S.W.2d 268, 272-73 (Tex. Civ. App – Galveston 1952, writ ref'd n.r.e.); HUTCHINS, THE TEXAS LAW OF WATER RIGHTS 155 (1961); BRA Ex. 72.

[501] BRA Ex. 71 (Summary of Historical Treatment of Return Flows); BRA Ex. 56 (Excerpts from TNRCC Regulatory Guidance Document).

Against this backdrop, SB 1 amended Texas Water Code §§ 11.042 and 11.046(c) in 1997. BRA contends that the SB 1 amendments, with the exception of groundwater-based return flows, confirmed rather than revised the then-existing law with respect to the treatment of return flows.[502] BRA argues that the legislature did not intend to radically change the existing law regarding return flows when, in SB 1, it adopted Section 11.042(c), particularly because SB 1 also enacted Section 11.046(c), which appears to restate existing law regarding return flows.

Prior to SB 1, Section 11.042 simply authorized delivery of stored or conserved water via a bed and banks permit, essentially as reflected by the current subsection (a). SB 1 added Subsections (b) and (c). Subsection (b) allows the Commission to authorize bed and banks permits for delivery and reuse of *groundwater-based return flows*, subject to conditions described therein. Subsection (c) allows the Commission to authorize bed and banks permits "for a person who wishes to convey and subsequently divert water," also subject to conditions.

BRA points out that Subsection 11.042(b) specifically addresses "reuse" of "return flows," while Subsection 11.042(c) generically refers to "water" and does not explicitly mention "return flows" or "reuse."[503] As construed by BRA, the reference in Subsection (c) to "water" necessarily implies some ownership interest in the water sought to be transported, such as would be present for "developed water" (imported surface water or raw groundwater not naturally part of the water in the basin) but would not be present in return flows once discharged into a watercourse.[504] TPWD agrees with this interpretation.[505]

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[502] BRA Initial Brief at 53-55.

[503] The ED incorrectly asserts that Section 11.042(c) "specifically discuss[es] *reuse* of return flows." ED Initial Brief at 16 (emphasis in original).

[504] BRA Initial Brief at 7.

[505] TPWD Initial Brief at 2.

BRA contends that if, as the ED suggests, Subsection 11.042(c) deals with return flows, then Subsection 11.042(b) would be entirely unnecessary because return flows, whether based on groundwater or surface water, would already be covered by Subsection (c). BRA argues that, because it specifically addresses return flows (and limits its authorization to *groundwater-based* return flows), the existence of Subsection (b) suggests that Subsection (c) must be addressing a category of water other than return flows.[506]

As to Section 11.046, SB 1 added Subsections (b), (c), and (d). In BRA's view, the amendments simply codified existing law regarding return flows. Significantly, Subsection (c) authorizes direct reuse, but then explicitly states that, once the water is returned to the watercourse, "it is considered surplus water and therefore subject to reservation for instream uses or beneficial inflows or *to appropriation by others. . . .*"[507] In BRA's view, this means that return flows are state water, available for appropriation "by others," so long as those flows are not otherwise required for senior rights or environmental needs.[508] TPWD and OPIC agree.[509]

In BRA's view, the two statutes can only be construed so that no conflict exists between them by defining the word "water" in Section 11.042(c) to mean "developed water" (*i.e.*, imported surface water or raw groundwater not naturally part of the water in the basin).[510] BRA contends that the benefits of its approach include:

- All return flows would be available for appropriation and beneficial use.

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[506] BRA Initial Brief at 54.

[507] (Emphasis added.) BRA contends that the final phrase of the subsection—"unless expressly provided otherwise in the permit, certified filing, or certificate of adjudication"— provides a vehicle for the water right holder to seek reuse authorization by amendment of the underlying water right.

[508] BRA Initial Brief at 40.

[509] TPWD Initial Brief at 3; OPIC Initial Brief at 5-6.

[510] TPWD makes the same argument. TPWD Initial Brief at 2.

- All return flows would be available for satisfaction of environmental flow needs, and the needs of senior water rights, often enhancing the reliability of senior water rights. By contrast, the ED's approach would generally subject only historically discharged return flows to such requirements, while future discharges would not be subject to the priority system or environmental flow requirements.

- The BRA approach is consistent with historical permitting decisions.

- The BRA approach does not result in multiple categories of water with independent accounting requirements, facilitating enforcement under the prior appropriation system.

- Under the BRA approach, all return flows would be subject to well-established requirements applicable to all state water. By contrast, because it is not mandated by statute or defined by rules, much of the ED's approach could be modified in the future if the Executive Director or Commission chose to do so.[511]

BRA submits that these public policy considerations clearly support treating return flows as state water available for appropriation following their discharge into a watercourse.

2. The ED's Arguments

Under the ED's approach, specific accounting provisions would be imposed to require that the discharge and diversion of return flows be accounted for separately from other water in the river.[512] The ED believes that its approach does a better job of describing how return flows will be accounted for in order to protect water rights.[513] In the ED's view, there is a conflict between Sections 11.042 and 11.046,[514] that can only be resolved by defining "others" in Section 11.046(c) to mean that only the discharger of return flows, the owner of the base water right, or someone having contractual rights with either of them can be the ones to apply to reuse the

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[511] BRA Exs. 77 and 78.

[512] Tr. 1975-81.

[513] ED Initial Brief at 13.

[514] *See, e.g.*, BRA Ex. 59 (Chenoweth February 25, 2005 memo).

return flows.[515] Dow agrees with this interpretation, because it considers it to be "more conservative and likely to be more protective of existing water rights."[516]

The ED construes Subsection 11.042(c) to apply to, among other things, all return flows other than groundwater-based return flows (which are addressed by Subsection 11.042(b)).[517] The ED disagrees with BRA's contention that the word "water" in Subsection 11.042(c) should be construed to mean "developed water." The ED argues that Subsection 11.042(c) is addressing a wider category than Subsection (b) which only addresses "return flows." Thus, the ED contends that Subsection (c) deals with a broad array of different kinds of water, including return flows.[518] BRA counters that when Section 11.042(c) is construed as broadly as the ED proposes, it not only creates a significant break from pre-existing law, but it also creates the "conflict" with Section 11.046(c) that results in the ED's strained and otherwise unsupported limitation of "appropriation by others" to three specific categories of persons not identified in the statute.[519]

The ED bases his approach, at least in part, on Commissioner statements made at the Commission's August 12, 2005 work session.[520] BRA counters that this Commission work session is a "slender and ambiguous reed" upon which the ED relies. For example, at the conclusion of the work session, the Commission directed the staff to prepare a memo memorializing its decisions. However, the staff was never able to do so because it could not reach consensus on what had been decided as to how to implement Sections 11.042 and 11.046.[521]

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[515] BRA Ex. 59 (Chenoweth February 25, 2005 Memo); TPWD Ex. 1 at 35-36 (Chenoweth Deposition); Tr. 2060, 2079-80.

[516] Dow Initial Brief at 47.

[517] ED Reply Brief at 4.

[518] ED Reply Brief at 4-5.

[519] BRA Initial Brief at 55.

[520] BRA Ex. 66 (Interrogatory Nos. 2 & 3). None of the current Commissioners was serving at that time.

[521] TPWD Ex. 1 at 47-48.

Further, the ED's current position on Section 11.046 appears to be inconsistent with the Commission's decision regarding construction of that statute in a prior contested hearing, ironically a position that was adopted by the Commission at the urging of the ED. That case involved accounting for inflows and storage in Lake Grapevine among three holders of water rights of different priorities.[522] In response to exceptions filed by the ED and by Dallas County Park Cities Municipal Utility District (DCPCMUD), the Commission ruled that return flows discharged by the City of Grapevine (the most junior water right holder) and subject to Grapevine's pending indirect reuse application were properly allocated to the senior water rights first. The senior water right holder, DCPCMUD, asserted a prior right to Grapevine's return flows, unsupported by any contract or other agreement with Grapevine. In making its decision, the Commission relied upon Section 11.046, holding that upon discharge Grapevine's return flows became state water subject to the prior appropriation system.[523] Among other things, the ED told the Commission that "[I]f a water right holder uses water, then returns it to the watercourse or stream it is considered unappropriated state water and may be used by others."[524]

It is undisputed that the Commission has never adopted rules or a formal policy authorizing the approach that is now being advocated by the ED.[525] BRA submits that the ED's position, reserving return flows solely for the discharger or water right holder, cannot be justified and should not be followed.

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[522] An Order granting the Executive Director's Petition to Amend Certificate of Adjudication No. 08-2363 of Dallas County Park Cities Municipal Utility District, Certificate of Adjudication No. 08-2458 of City of Dallas, and Certificate of Adjudication No. 08-2362 of City of Grapevine; TNRCC Docket Nos. 95-1626-WR and 96-1017-WR; SOAH Docket Nos. 582-96-1213 and 582-96-1214 (Apr. 4, 2000).

[523] Exs. BRA 74, 75, and 76.

[524] BRA Ex. 75 at 5.

[525] Tr. 2002, 2061-64.

3. The ALJs' Analysis

The ALJs disagree with both parties' competing analyses of Sections 11.042(c) and 11.046(c). As noted by TPWD, the return flows issues raised by the BRA Application are "extremely complex," and involve a great deal of ambiguity about confusing legal and regulatory issues.[526] In its initial brief, TPWD states:

> There is no adopted TCEQ policy that controls the outcome of the application [regarding return flows]. The ED staff is using its own interpretation of existing law to review the application, and it simply has a different approach than TPWD and BRA. It is up to the Administrative Law Judges to examine the different approaches and determine how to apply the law. There is no commission policy that guides the resolution of these contested issues.

The ALJs agree. A considerable amount of evidence was introduced by the parties attempting to prove that the TCEQ currently has, or has had in the past, an established approach to reuse issues.[527] On balance, however, this evidence demonstrates that no consistent agency policy exists with respect to these reuse issues. As such, there is no official TCEQ interpretation to which the ALJs might defer. Accordingly, the ALJs make the following conclusions regard how the bed and banks and return flow provisions of the Water Code should properly be applied to the SysOp Permit.

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[526] TPWD Initial Brief at 9.

[527] *See, e.g.*, Exs. TPWD 1, BRA Exs. 56-58, 61, 67, 70, 72-73,75; ED Exs. A1, C1, D1, E1, F1, and G1; *see also* Tr. 2005 (Alexander acknowledging that return flow issues historically handled on "case-by-case" basis, without a fixed policy).

a. BRA misconstrues Section 11.042(c): The bed and banks authorization contemplated in Section 11.042(c) applies to a wide array of types of water, including return flows.

Section 11.042(c) authorizes a person to obtain a bed and banks authorization to "convey and subsequently divert *water* in a watercourse."[528] BRA argues that the only way this section can be read so as to avoid a conflict with Section 11.046(c) is to interpret the word "water" in Section 11.042(c) to mean developed water, but not return flows. This interpretation is not reasonable and is contrary to the plain wording of the statute. If the Legislature had intended for Section 11.042(c) bed and banks authorizations to only be available for raw surface water imported from another basin or raw groundwater, then it could easily have so stated in the statute. There is ample evidence that the Legislature knows how to be specific when it wishes to. For example, in Subsection (a-1) the legislature authorized bed and banks permits for a different type of imported water—water imported from another state. Similarly, in Subsection (b), the Legislature chose allow beds and banks authorizations for a highly specific category of water – "existing return flows derived from privately owned groundwater." The use of the broad and generic word "water" in Subsection (c), indicates a legislative intent that the bed and banks authorization contemplated in that subsection should apply to a wide array of various types of water, including return flows.

b. The ED misconstrues Section 11.046(c): The right to appropriate return flows provided by Section 11.046(c) does not extend only to the discharger of those return flows, the owner of the base water right from which the return flows originated, or someone having contractual rights with either of them.

Section 11.046(c) provides that once water has been diverted and is returned to a watercourse "it is considered surplus and therefore subject to . . . appropriation *by others*."[529] The ED argues that the only way Sections 11.042(c) and 11.046(c) can be read so as to avoid a

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[528] Emphasis added.

[529] Emphasis added.

conflict is to interpret the phrase "by others" in Section 11.046(c) to mean that only the discharger of return flows, the owner of the base water right from which the return flows originated, or someone having contractual rights with either of them can be the ones to apply to reuse the return flows. Again, this interpretation is not reasonable and is contrary to the plain wording of the statute. Clearly, the legislative intent behind this language was that once a holder of a water right discharges his return flows back into a watercourse, then third parties (*i.e.*, "others") could seek to appropriate that returned water. The ED would define the universe of "others" to include only the discharger, and those related to the original water right. For example, assume City X holds a permit to divert and use Brazos River water. Under the ED's approach, if City X discharges its return flows into the Brazos River, then the only "other" that would be entitled to seek to appropriate those return flows would be City X. This result is directly contrary to the clear statutory language. Moreover, the ALJs find that the ED's interpretation is exactly the opposite of what the statute allows. As discussed further below, because Section 11.046(c) states that discharged return flows are available for appropriation "by others," the discharger of the return flows is *not* among those who can seek to appropriate the flows pursuant to Section 11.046(c).

c. Sections 11.042(c) and 11.046(c) are reconcilable because they address mutually exclusive scenarios.

The ALJs believe that no conflict exists between Sections 11.042(c) and 11.046(c) because the two sections deal with different subject matters. As noted by TPWD[530] and OPIC,[531] Section 11.042(c) does not create an independent right to appropriate water. It merely entitles a person to "convey and subsequently divert" water for which he already holds an appropriative right. Stated differently, a bed and banks authorization can only be issued to a person who already has the right to use the water he seeks to convey. On the other hand, and again as noted

[530] TPWD Initial Brief at 1.

[531] OPIC Initial Brief at 7.

by TPWD[532] and OPIC,[533] Section 11.046(c) deals with an appropriative right. It is well-settled in Texas that water becomes state water once it enters a watercourse.[534] Section 11.046(c) simply codifies this rule by making it clear that once the water has been returned to a watercourse, it can be appropriated.

This means that the determination of which section is applicable to a request to divert return flows depends upon the relationship of the requestor to the return flows being sought. Based upon the wording of the two statutes, the ALJs conclude that when BRA seeks to reuse its own surface water-based return flows,[535] it need only obtain a bed and banks authorization pursuant to Section 11.042(c), and need not obtain an appropriative right pursuant to Section 11.046(c). Notably, Section 11.046(c) expressly states that return flows, once discharged into a watercourse, become available for appropriation "by others" (*i.e.*, persons *other than* the discharger). In other words, Section 11.046(c) does not enable a discharger of return flows to obtain a new appropriative right for those discharges. Instead, if a discharger wishes to retain the right to divert its return flows after they have been discharged back into a watercourse, the only mechanism available to the discharger is through Section 11.042(c).[536] In such cases, when BRA seeks to reuse its own return flows, it is seeking to "convey and subsequently divert" water for which it already has a diversion right. The parties agree that BRA could, if it so desired, fully utilize its appropriative right through direct reuse. Thus, by seeking to indirectly reuse its water via a bed and banks permit, it is simply seeking to do what it is otherwise entitled to do via direct reuse.

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[532] TPWD Initial Brief at 3-4.

[533] OPIC Initial Brief at 6.

[534] Water Code § 11.021(a); *Edwards Aquifer Authority v. Day*, 274 S.W.3d 742 (Tex. App. – San Antonio 2009, pet. granted).

[535] For the sake of convenience, throughout this discussion, the ALJs refer to the "discharger" of the return flows. However, the ALJ's broadly define "discharger" as "the discharger of return flows, the owner of the base water right from which the return flows originated, or someone having contractual rights with either of them."

[536] In effect, the bed and banks authorization granted in Section 11.042(c) works as an exception to the general rule in Section 11.046(c) that once return flows are discharged into a watercourse, the discharger loses claim to those waters.

Conversely, the ALJs conclude that when BRA seeks to divert someone else's surface water-based return flows it need only obtain an appropriative right pursuant to Section 11.046(c), and need not obtain a bed and banks authorization pursuant to Section 11.042(c). In such a case, and consistent with the wording of Section 11.046(c), BRA would clearly be an "other" person seeking to appropriate someone else's return flows. Likewise, BRA would not be seeking to "convey," as required by Section 11.042(c), someone else's return flows, but only to divert those flows.

The ALJs note a caveat to this general rule. In order to address the needs of in-basin dischargers and many of its own customers, BRA's version of the proposed SysOp Permit adopts a return flow policy that encourages direct reuse and indirect reuse of return flows by dischargers, within their boundaries or service areas, by allowing BRA's appropriation of others' return flows to be interrupted for these purposes. Additionally, as a result of an agreement with the Cities of Bryan and College Station, a provision addressing groundwater-based return flows, without any service area limitation, has also been requested and is included in the BRA preferred draft of the permit. In this respect, BRA's position differs from a pure "state water" approach to return flows that might prevent future indirect reuse by dischargers.[537] Because this deviation from the general rule—that return flows become state water upon discharge into a watercourse – is agreed to by BRA and serves as a limitation upon BRA's permit, the ALJs find no reason to reject it.

d. BRA's request to divert "future" return flows (*i.e.*, return flows that are not already being discharged into the Brazos River Basin) is reasonable and preferable to the approach advocated by the ED.

In the Application, BRA seeks to appropriate both current and future return flows, "to the extent that such return flows continue to be discharged or returned to the bed and banks of the Brazos River, its tributaries, and BRA reservoirs."[538] In BRA's modeling, future return flows for

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[537] BRA Ex. 1 at 30-32; BRA Initial Brief at 61-62.

[538] BRA Ex. 15 at 16.

the year 2060 were estimated based on projected population multiplied by current per capita return flows based on historical data. In certain cases, future return flows were reduced to account for existing or proposed reuse projects.[539] BRA then included those estimated future return flows in the WAM and assumed they would be available to all water rights in order of seniority. Any amounts left over were assumed to be available to the SysOp Permit, subject to environmental flow requirements.[540]

The ED argues that granting BRA an appropriation based upon future return flows poses a risk of harm to senior water rights holders because the water availability analysis will likely find more water available than actually exists in the stream.[541] Dow agrees: "If the water availability is inflated because the amount of return flows assumed to be discharged into the river exceeds the amount that is actually discharged into the river, the water availability analysis will overestimate the unappropriated water."[542]

BRA responds that over-appropriation is not a risk because the objective of the draft SysOp Permit was to ensure that, in actual practice, BRA is able to divert return flows only to the extent that they are actually being discharged into the basin, and to not interfere with the ability of return flow dischargers from reusing their own return flows if they wish to do so.[543] A number of special permit conditions are included in the draft permit to achieve those goals. Special condition 5.A.1. in the SysOp Permit requires development of a return flow accounting plan prior to use of the return flows, in order to assure that the amount of supply actually available for use based on return flows is accurately determined.[544] Special condition 5.A.2 provides that BRA's ability to divert surface water-based return flows is subject to interruption

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[539] BRA Ex. 15 at 46.

[540] BRA Ex. 15 at 46.

[541] ED Ex. KA-1 at 18, 33-34; ED Initial Brief at 18.

[542] Dow Reply Brief at 39.

[543] Tr. 423.

[544] BRA Ex. 8B at 8; BRA Ex. 15 at 47.

by direct use or indirect use by the discharger of those return flows, provided that the discharger is using those return flows within its corporate limits, extraterritorial jurisdiction, or contiguous water certificate of convenience and necessity (CCN) boundaries and the discharger has applied for and been granted authorization to reuse the return flows. This provision is meant to ensure that dischargers will be able to develop their own reuse programs.[545] Similarly, Special Condition 5.A.3 provides that BRA's ability to divert groundwater-based return flows is subject to interruption by direct or indirect reuse by the discharger of those return flows, provided that the discharger obtains a bed and banks authorization to reuse the return flows. This provision is also meant to ensure that dischargers will be able to develop their own reuse programs.[546] Special condition 5.A.4 requires the installation of meters at the discharge points for each wastewater treatment plant (WWTP) from which return flows will be used, and the recording of discharge amounts on a daily basis. Discharges from a WWTP generally cannot be used until such meters are installed.[547]

OPIC has no objection to BRA's approach regarding appropriation of future return flows, contending that all diversions of return flows by BRA under the SysOp Permit, regardless of whether those diversions are of existing or future return flows, should be treated as new appropriations and, therefore, subject to all legal requirements for new appropriations including instream flow requirements.[548] That issue will be discussed more in the next section.

As stated above, the ED argues that granting BRA an appropriation based upon future return flows poses a risk of harm to senior water rights holders because the water availability analysis will likely find more water available than actually exists in the stream. However, the ED's treatment of return flows in the ED's modeling efforts and draft SysOp Permit is not consistent with that approach. Under the ED's approach, BRA would obtain authorization to

[545] BRA Ex. 8B at 8-9; BRA Ex. 15 at 47.

[546] BRA Ex. 8B at 9; BRA Ex. 15 at 47.

[547] BRA Ex. 8B at 9; BRA Ex. 15 at 47.

[548] OPIC Initial Brief at 5.

divert return flows up to the amount of return flows that each discharger can make pursuant to its Texas Pollution Discharge Elimination System (TPDES) permit.[549] The ED calculated that the total discharge amount for all applicable TPDES permits was 120,625 acre-feet.[550] The ED conceded, however, that actual current discharge totals might be much less than 120,625 acre-feet.[551] In other words, the ED's Proposed Permit would also authorize BRA to divert future return flows that do not currently exist in the stream, albeit for a smaller quantity of such return flows. Moreover, the ED's draft SysOp Permit then explicitly allows BRA to appropriate future return flows (*i.e.*, return flows over and above the TPDES total of 120,625 acre-feet).[552]

The ALJs conclude that, assuming the Commissioners agree with the overall two-step approach contemplated in this application, BRA's approach as to future return flows is sufficiently tailored so as to avoid authorizing diversions of return flows that are not actually in the river at the time. The special conditions in BRA's draft SysOp Permit are sufficient to ensure that, in actual practice, BRA will be authorized to divert only return flows that are actually being discharged, and without interfering with the ability of return flow dischargers to reuse their own return flows if they wish to do so.

e. BRA's diversions of return flows, both current and future, should be treated as new appropriations subject to satisfying instream flow requirements.

NWF and OPIC contend that all diversions of return flows by BRA under the SysOp Permit, regardless of whether those diversions are of existing or future return flows, should be

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[549] ED Ex. KA-1 at 30; ED Initial Brief at 18.

[550] ED Ex. K2 at 13; Tr. 2107.

[551] Tr. 2007-08, 2107-08.

[552] ED Ex. K2 at 13-14. Admittedly, the right to use future return flows is limited by an additional clause mandating that, prior to use of such future return flows, BRA "must apply for and be granted the right to reuse those return flows." ED Ex. K2 at 14. In this regard, the ED's draft permit is confusing. On the one hand, it grants BRA the right to use future return flows with a 2004 priority date. On the other hand, it states that, before BRA may use such return flows, it must obtain the right to use such return flows.

treated as new appropriations and, therefore, subject to all legal requirements for new appropriations, including instream flow requirements.[553] BRA agrees with them.

The ED takes a different approach. As noted above, as to what he considers "current" return flow discharges (*i.e.,* the TPDES total of 120,625 acre-feet), the ED would give BRA the right to divert those return flows at a 2004 priority date and would make those diversions subject to instream flow requirements.[554] As to what he considers "future" return flow discharges (*i.e.,* those over and above 120,625 acre-feet), the ED would give BRA the right to divert those return flows at a 2004 priority date, but the diversions would not be subject to instream flow requirements.[555] The rationale behind this different treatment is that future return flows "have not been present in the river" and, thus, have not been relied upon in the past to satisfy instream needs.[556]

The Commission need not decide if the ED's position is legally correct. BRA is willing to make all of its diversions of return flows (both current and future) subject to instream flow requirements.[557] BRA asserts, convincingly, that its approach is more protective of the environment because it makes more water subject to instream flows protections.[558] In light of BRA's consent to such treatment of future return flows, the ALJs conclude that all BRA diversions of return flows under the SysOp Permit, both current and future, should be treated as subject to satisfying instream flow requirements.

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[553] NWF Reply Brief at 7; OPIC Initial Brief at 5.

[554] ED Ex. K2 at 13; ED Ex. KA-1 at 26, 31; Tr. 2108-09.

[555] ED Ex. K2 at 13-14; ED Ex. KA-1 at 26, 31; Tr. 437, 2107.

[556] ED Ex. KA-1 at 31.

[557] BRA Ex. 8B at 8;

[558] Tr. 2722-23.

f. Both BRA's and the ED's versions of the SysOp Permit comply with 30 TEX. ADMIN. CODE § 297.42(g).

Pursuant to 30 TEX. ADMIN. CODE § 297.42(g), a water right may be granted based upon the availability of return flows. However, a water right granted upon return flows might cease in the future because of new or increased direct or indirect reuse by the discharger. Thus, Section 297.42(g) states that a water right granted based upon the availability of return flows must "be granted with the express provision that the water available for the water right is dependent upon potentially interruptible return flows or discharges."

In reliance upon this rule, the ED crafted the draft SysOp Permit to make a distinction between the quantities of water available under the permit as "firm" water and as "non-firm" water (with "non-firm" being the water based upon the availability of return flows).[559] The ED contends that this is the required approach in order to comply with Section 297.42(g).[560] BRA's version of the SysOp Permit makes no distinction between "firm" and "non-firm" water. It does, however, expressly note that diversions of return flows are based upon potentially interruptible return flows.[561] Thus, both approaches comply with the requirements of 30 TAC § 297.42(g). Accordingly, having proven that its version is compliant, the ALJs conclude that BRA is entitled to its choice of approach over the ED's.

XVII. BED AND BANKS AUTHORIZATION

BRA's application for a bed and banks authorization complies with Water Code § 11.042, which provides, in relevant part:

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[559] ED Ex. KA-1 at 23-24, 30; ED Ex. K2 at 5-6; Tr. 2009-10.

[560] ED Ex. KA-1 at 23-24.

[561] BRA Ex. 8B at 8-9.

> Sec. 11.042. DELIVERING WATER DOWN BANKS AND BEDS. (a) Under rules prescribed by the commission, a person . . . may use the bank and bed of any flowing natural stream in the state to convey the water from the place of storage to the place of use or to the diversion point of the appropriator.
>
> . . .
>
> (b) A person who wishes to discharge and then subsequently divert and reuse the person's existing return flows derived from privately owned groundwater must obtain prior authorization from the commission for the diversion and the reuse of these return flows. The authorization may allow for the diversion and reuse by the discharger of existing return flows, less carriage losses, and shall be subject to special conditions if necessary to protect an existing water right that was granted based on the use or availability of these return flows. Special conditions may also be provided to help maintain instream uses and freshwater inflows to bays and estuaries. A person wishing to divert and reuse future increases of return flows derived from privately owned groundwater must obtain authorization to reuse increases in return flows before the increase.
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> (c) Except as otherwise provided in Subsection (a) of this section, a person who wishes to convey and subsequently divert water in a watercourse or stream must obtain the prior approval of the commission through a bed and banks authorization. The authorization shall allow to be diverted only the amount of water put into a watercourse or stream, less carriage losses and subject to any special conditions that may address the impact of the discharge, conveyance, and diversion on existing permits, . . . instream uses, and freshwater inflows to bays and estuaries. Water discharged into a watercourse or stream under this chapter shall not cause a degradation of water quality to the extent that the stream segment's classification would be lowered.

The permits proposed by both BRA and the ED grant to BRA authorization to:

> [U]se the bed and banks of the Brazos River below Possum Kingdom Lake, its tributaries and Permittee's authorized reservoirs for the conveyance, storage, and subsequent diversion of the water authorized herein, subject to identification of specific losses and special conditions.[562]

BRA explains that it needs bed and banks authorization as a part of the SysOp Permit because many of its wholesale water customers are located downstream of BRA's reservoirs. Delivering water by the bed and banks of the Brazos River and its tributaries avoids the cost and

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[562] BRA Ex. 8B at 6; ED Ex. K2 at 6.

environmental impacts of constructing water transmission facilities to deliver the water and of using electric power for pumping. It also has an environmental benefit because it puts additional instream flows into the river.[563]

Special conditions in the SysOp Permit address the use of the bed and banks of the Brazos River and its tributaries to transport water in a manner that satisfies the requirements of Water Code § 11.042. The permit authorizes the use of the bed and banks, subject to identification of specific losses and various other conditions, including a requirement that BRA develop an accounting procedure to estimate daily deliveries of water that considers losses and travel time.[564] Special Condition 5.B.1 specifies that use of the bed and banks of Allens Creek below ACR requires an amendment of the Allens Creek permit.[565] Special Condition 5.B.2 identifies the specific stream reaches to which the bed and banks authorization applies.[566] BRA has developed estimates for carriage losses for the stream reaches covered by the bed and banks authorization. These losses are calculated using loss coefficients representing long-term averages and are the same as those used in the Brazos WAM. The carriage losses will be documented in the WMP and tracked in BRA's accounting plan.[567]

The evidence introduced at the hearing demonstrates that there should not be any effect on water quality in the Brazos River Basin as a result of the bed and banks authorization. The water to be transferred in the bed and banks of the Brazos River and its tributaries originates in the basin and will have water quality consistent with the natural water quality of the Brazos River. While there could be changes in timing and magnitude of existing flows which could affect water quality by changing river velocities or depths and concentration of constituents in

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[563] BRA Ex. 15 at 95.

[564] BRA Ex. 8B at 10; ED Ex. K2 at 15.

[565] BRA Ex. 15 at 94; BRA Ex. 8B at 9; ED Ex. K2 at 14.

[566] BRA Ex. 15 at 94; BRA Ex. 8B at 9-10; ED Ex. K2 at 14-15.

[567] BRA Ex. 8B at 9-10; BRA Ex. 15 at 94-95; BRA Ex. 35 at 31-32; ED Ex. KA-1 at 26, 36; ED Ex. K2 at 14-15.

the water, the SysOp Permit places restrictions on the exercise of the water right so that river conditions are maintained within the range of historically occurring conditions.[568]

BRA and the ED argue that this evidence demonstrates compliance with the statutory and regulatory requirements for obtaining a bed and banks authorization.[569] No party meaningfully contended otherwise. The ALJs find that BRA's requested bed and banks authorization should be approved.

XVIII. INTERBASIN TRANSFERS

The SysOp Permits proposed by both BRA and the ED grant to BRA so-called "exempt interbasin transfers," authorizing the transfer of water: (1) to any county or municipality or any municipality's retail service area that lies partially in the Brazos River Basin for use on a firm and non-firm basis in that part of the county or municipality and the municipality's retail service area within the Guadalupe, Lavaca, Trinity, Red, Colorado, or San Jacinto river basins; and (2) for use in BRA's service area in the adjoining San Jacinto-Brazos Coastal Basin and the Brazos-Colorado Coastal Basin.[570]

The BRA application for an interbasin transfer complies with Water Code § 11.085. Pursuant to that section, a person wishing to transfer water from one river basin to another typically must apply for and obtain an "interbasin transfer" authorization from the TCEQ, typically after completing extensive review, analysis, and contested case hearing procedures.[571] Certain types of interbasin transfers, however, are exempt from many of the review, analysis, and hearing procedures. Among the types of interbasin transfers that are considered exempt are proposed transfers "from a basin to its adjoining coastal basin" or "from a [river] basin to a

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[568] BRA Ex. 15 at 95-96; BRA Ex. 29 at 41-42.

[569] BRA Initial Brief at 20-21; ED Initial Brief at 8.

[570] BRA Ex. 8B, §1.C; BRA Ex. 55, § 1.C; BRA Ex. 15 at 97-98.

[571] Water Code § 11.085.

county or municipality or the municipality's retail service area that is partially within the basin for use in that part of the county or municipality and the municipality's retail service area not within the basin."[572] The interbasin transfer authorization sought by BRA fits within these exemptions, and no water availability analysis specific to the interbasin transfer was required.[573] No party contends otherwise.

FBR complains, however, that the BRA and ED draft permits contain no limit on the maximum amount of water that could be transferred out of the Brazos River Basin. FBR also complains that the SysOp Permit would, from an accounting perspective, "muddy the waters" between the exempt interbasin transfers authorized by the SysOp Permit and BRA's pre-existing, non-exempt interbasin transfer authorizations. FBR advocates revised language to the draft permit that would, primarily, require BRA to include in its WMP, an "interbasin transfer accounting plan" that includes details on how and where those transfers will be used.[574] However, information such as "a detailed description of the proposed uses and users under each category [of water use]" is exactly the kind of information that need not be shown for an exempt interbasin transfer.[575] Thus, the ALJs conclude that the revised permit language sought by FBR is not warranted.

XIX. OTHER CONCERNS REGARDING THE TWO-STEP PROCESS.

A. The Two-Step Process Is Unprecedented

By electing to pursue a two-step approach, BRA is asking that the TCEQ enter into essentially uncharted territory on this very large and complex application. There are no statutes,

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[572] Water Code § 11.085(v)(3) and (4).

[573] ED Ex. KA-1 at 35-36; ED Ex. KA-3 at 4; BRA Ex. 15 at 97-98.

[574] FBR Initial Brief at 72-76.

[575] *See* Water Code § 11.085(b)(2), (v)(3) and (4).

TCEQ rules, or written TCEQ polices regarding WMPs.[576] Thomas Gooch was the project manager who served as BRA's chief consultant in preparing the BRA Application. He has worked on Texas water rights and permitting issues for over 30 years. Mr. Gooch conceded that the two-step process used in this Application is unusual, and he has never previously participated in a water rights application in which a permit is first applied for, and then the details of the permit, such as the diversion points, are later filled in via a WMP.[577]

Dr. Ralph Wurbs is a professor of civil engineering at Texas A&M University. He has taught engineering courses in water resources and hydrology for more than 30 years. Much of his research over the years has been funded by, among others, BRA, the TCEQ, and the Texas Water Development Board. Since 1986, Dr. Wurbs has been the primary developer of the Water Rights Analysis Package (WRAP) modeling system, which is a suite of computer models that process the TCEQ's WAM. He is a published author on water rights issues in Texas.[578] Dr. Wurbs served as a water availability modeling consultant to BRA on the Application, and testified on BRA's behalf.[579] Prior to the BRA Application, Dr. Wurbs had never before participated in a two-step permitting effort.[580]

Cindy Loeffler is employed as the Water Resources Branch Chief for TPWD, and has been involved in the review of over 400 water rights applications.[581] She testified on BRA's behalf. She was unaware of any other water rights permitting process that utilized a two-step process, other than possibly a permitting decision involving the Lower Colorado River Authority (LCRA), although she was not knowledgeable about the specifics of the LCRA permitting

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[576] Tr. 365, 1685-86, 1693.

[577] Tr. 369-70.

[578] BRA Ex. 27 at 2-14.

[579] BRA Ex. 27 at 15.

[580] Tr. 616.

[581] BRA Ex. 33 at 2-3.

matter.[582] BRA's other witnesses were also unfamiliar with prior usage of the two-step approach.[583]

BRA contends that there are applicable precedents which support use of the two-step process here. BRA relies most heavily upon a 2005 TCEQ order amending a water right held by the City of Irving.[584] In that case, Irving held a water right authorizing it to, among other things, import 54,000 acre-feet of water from Lake Chapman in the Sulphur River Basin (the Lake Chapman water) for use in the Trinity River Basin. The water right included a condition requiring Irving to discharge any unconsumed Lake Chapman water into the Trinity River. Irving sought an amendment to delete that condition, and replace it with a new condition authorizing the city to reuse its effluent derived from Lake Chapman water, subject to providing the TCEQ with a measuring and accounting method for the reused water, and obtaining future authorizations after identifying discharge and diversion points. In other words, at the time Irving asked for an amendment to allow it to reuse its effluent, it did not know the details of exactly how and where it would use that effluent. The TCEQ granted the amendment, noting:

> The Commission's jurisdiction allows it to grant reuse authorization to Irving in a two-step process, by which Irving first obtains authorization to reuse its Lake Chapman water as developed water in the Trinity River Basin so that neither existing nor future water rights in the Trinity River Basin, nor the environment, will rely on its availability; and later obtains authorization for a specific reuse project after satisfying the special conditions of Certificate of Adjudication No. 03-4799C and all applicable statutory and regulatory requirements.[585]

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[582] The LCRA permitting matter is discussed more below.

[583] *See, e.g.*, Tr. 758.

[584] ED Ex. A1.

[585] ED Ex. A1 at 8.

In the Irving case, the TCEQ expressly noted that the effluent derived from Lake Chapman water that Irving was discharging into the Trinity River was a "new source" in the Trinity Basin, and that no water rights in the basin had relied upon that water.[586]

FBR argues that the Irving permit amendment is so dissimilar from the BRA Application that it cannot support the two-step process now envisioned by BRA. FBR points out, for example, that the Irving decision involved only an amendment to an existing water right, not a new appropriation.[587]

BRA next cites a permit amendment issued to Gulf Coast Water Authority (GCWA) as precedent for the two-step process.[588] In that case, GCWA held a water right authorizing it to import 155,000 acre-feet from the Brazos River Basin (the Brazos water) for use in adjoining basins. GCWA sought an amendment to add a new, specific diversion point 3.9 miles upstream of the existing diversion point. The TCEQ granted the amendment, but added a permit condition mandating that, prior to the diversion of water at the new diversion point, GCWA was required to apply for and be granted an amendment to its water right "providing that [GCWA] have an approved daily accounting plan" which would include "a method that accounts by priority date, diversion rate, restrictions and authorization number for all water diverted from the Brazos River."[589]

FBR again argues that the GCWA permit amendment is so dissimilar from the present application that it cannot support the two-step process now envisioned by BRA.[590] For example, the GCWA decision involved only an amendment to an existing water right, not a new appropriation. Moreover, all of the diversion points and diversion rates were specified in the

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[586] ED Ex. A1 at 6.

[587] FBR Reply Brief at 5.

[588] FBR Ex. 13.

[589] FBR Ex. 13 at 3.

[590] FBR Reply Brief at 6.

GCWA permit,[591] and the amendment did not change the authorized diversion amount.[592] The permitting decision in the GCWA matter was not made as a result of a contested case proceeding. Instead, the permit terms were based upon the terms of a settlement reached between GCWA, the ED, and the other parties.[593]

The ED and BRA concede that an "accounting plan," such as was required in the GCWA permit, is merely a mechanism for implementing the specific terms of a water right, and is substantially different from the WMP envisioned in the BRA Application. Unlike the WMP, an accounting plan is specifically intended to provide a mechanism to account for the very specific requirements that are set out in a water right. In other words, an accounting plan lays out "the specifics of how do we keep track of what we've authorized in the permit" but it "doesn't authorize new things."[594] As explained by Mr. Gooch, the WMP prepared for the SysOp Permit will include as one of its components, an accounting plan.[595]

BRA also cites a permit issued to the Lower Colorado River Authority (LCRA) as precedent for the two-step process. In that case, LCRA was apparently issued an "excess flows" permit that involved off-channel storage, but the location of the off-channel storage infrastructure had not yet been constructed. The permit apparently required LCRA to subsequently apply for approval of a WMP for its off-channel storage facility.[596] FBR again argues that the LCRA permit is so dissimilar from the present application that it cannot support the two-step process envisioned by BRA.[597] For example, the LCRA permit identified specific diversion points and instream flow requirements, and the excess flows permit left no

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[591] Tr. 1668.

[592] Tr. 1692.

[593] Tr. 1741-42.

[594] Tr. 2081-82.

[595] Tr. 308.

[596] Tr. 369-72, 1947-48.

[597] FBR Reply Brief at 6.

uncertainties, setting out how the water right would be operated and how instream flows would be protected and enforced.[598] Moreover, the two-step process was agreed to as a part of a negotiated settlement between interested parties. It was not chosen after a contested case hearing.[599]

FBR, NWF, Dow, and CCG join in arguing that the two-step process is unprecedented and lacks any legal support.[600] The ALJs agree with Protestants on this question. None of the precedents cited by BRA involved a two-step process on a scale close to what is envisioned in this case. Both the City of Irving and GCWA permitting matters merely involved fairly specific amendments to existing water rights, not massive new appropriations. As to the LCRA permitting matter, based upon the evidence in the record, it is impossible to knowledgeably determine what was involved. The LCRA permit itself was not admitted in the record and the testimony about the LCRA matter was not sufficiently specific. Most notably, none of the precedents cited by BRA and the ED involved the TCEQ issuing a water right without requiring the applicant to prove all the elements required by Water Code § 11.134 at the time of permit issuance. Thus, the ALJs conclude that there is no precedent in water rights permitting in Texas which supports the use of the two-step process envisioned by BRA and the ED.

B. The First of the Two Steps May Result In an Order That Is Not Final

A number of parties, led primarily by CCG, contend that any order in this proceeding granting the SysOp Permit would not constitute a legally binding final and appealable decision. If they are correct, then they would not be allowed to appeal the order to district court.[601] As explained by CCG:

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[598] Tr. 2080.

[599] Tr. 2136.

[600] FBR Initial Brief at 16; NWF Initial Brief at 1; CCG Initial Brief at 14.

[601] Strictly speaking, the question of whether an agency order is final and, therefore, appealable, is not before the ALJs. Rather, the issue relates to the subject matter jurisdiction of the judiciary and is properly left to the

> BRA seeks the issuance of a permit based on theoretical diversion points, to be followed (perhaps) by an extensive Water Management Plan to be litigated in a subsequent case where details such as specific diversion points are revealed and the actual impact of the permit can be assessed. This two-step process unlawfully separates the issues that the TCEQ is obligated to resolve in *this* hearing and leaves a gaping condition subsequent for the Agency to resolve if it purports to issue the water rights permit. . . . [T]here is a serious question whether an order that approves BRA's request actually constitutes a definitive order of the Agency; or actually fixes some legal relationship between BRA and other water rights holders and water permit applicants . . . after the administrative process in this case is completed. Protestants respectfully urge that the requested permit by BRA would not constitute a final and appealable order, as a matter of law – under the TEXAS WATER CODE.[602]

Pursuant to the Administrative Procedure Act (APA), in order for a party to obtain judicial review of an order issued following a contested case hearing, the order must be a "final order."[603] In *Texas-New Mexico Power Co. v. Tex. Indus. Energy Consumers* (*TNP*),[604] the Texas Supreme Court held that, although there is no single rule dispositive of all questions of finality, a court should consider the statutory and constitutional context in which the agency operates and should consider an order as final if it is:

(1) definitive in nature;

(2) promulgated in a formal manner;

(3) one with which the agency expects compliance; and

(4) imposes an obligation, denies a right, or fixes some legal relationship as a "consummation" of the administrative process.[605]

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judicial courts to decide. Nevertheless, the ALJs believe the Commission would benefit from a discussion of the issue.

[602] CCG Initial Brief at 14-15.

[603] TEX. GOV'T CODE § 2001.171.

[604] 806 S.W.2d 230 (Tex. 1991).

[605] *TNP*, 806 S.W.2d at 232.

CCG contends that an order granting the SysOp Permit could not meet the standard for finality set forth in *TNP*. In order to understand why, CCG argues that it is necessary to understand the background and context of the *TNP* case. In *TNP*, the Texas-New Mexico Power Company (TNP) had applied to the Public Utility Commission of Texas (PUC) for a permit to construct a power plant. The PUC granted the permit, but it was conditioned upon TNP obtaining all permits necessary from other state or federal agencies. When TNP attempted to challenge the terms of the permit in district court, an opponent party successfully argued in the lower courts that the district court lacked jurisdiction to hear the case because the underlying order was not final and appealable. The Austin Court of Appeals reasoned that absence of the necessary permits from other agencies and the inability to know whether TNP would succeed in obtaining the permits from the other agencies rendered the PUC order conditional and therefore non-final.[606]

The Supreme Court disagreed with this ruling because it would place TNP in a "Catch-22":

> An examination of the process for obtaining one of the permits upon which the [PUC] conditioned TNP's certificate reveals a potentially impossible Catch-22 predicament in which a utility would be placed if the arguments of TIEC were accepted. Before it can build a new power plant, a utility must obtain a certificate from the PUC. Prior to receiving this approval, TNP must acquire all the necessary permits from various governmental agencies. These entities, however, cannot statutorily issue all permits until construction has begun or is completed. For example, only after sixty days of operation may TNP apply for an operating permit under the Texas Clean Air Act. . . . Shuffling citizens in such an endless, inefficient circle from one agency to the next in search of permits, licenses, and stamps of approval that cannot be issued until some other office acts represents government at its worst. . . . A more pragmatic and flexible approach must be employed to evaluate the finality of an agency's order. This requires recognition of the need both to minimize disruption of the administrative process and to afford regulated parties and consumers with an opportunity for timely judicial review of actions that affect them.[607]

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[606] *TNP*, 786 S.W.2d 795, 796-97 (Tex. App. – Austin 1990, *rev'd and remanded*).

[607] *TNP*, 806 S.W.2d at 231-32.

Accordingly, the Supreme Court adopted the standard for finality set forth above.

CCG and Dow distinguish certain aspects of the *TNP* case from the present case. For example, in *TNP*, the court was concerned about the circumstance where the order of one agency might be deemed non-final simply because it acknowledges the subsequent requirements of other government agencies. CCG and Dow point out that this is not a concern as to the SysOp Permit. Rather, subsequent action on the WMP will be taken not by other agencies, but by the TCEQ itself.[608]

As noted above, the Supreme Court in *TNP* stated that when evaluating whether an agency order is final, courts "should consider the statutory and constitutional context in which the agency operates."[609] CCG contends that this is the single most important standard for determining finality. CCG argues that because any order granting the SysOp Permit will not answer all of the required elements of the water permitting statutes – such as identifying specific, non-theoretical diversion points – an order granting the SysOp Permit cannot be considered final because it would not be adopted in compliance with the statutory and constitutional context.[610] Similarly, Dow argues that, by stressing consideration of the statutory and constitutional context in which the agency operates, the court in *TNP* intended for applicants to proceed within the boundaries and requirements prescribed by statute. Thus, argues Dow, because BRA's Two-Step process does not follow the express language of the Texas Water Code," an order granting the SysOp Permit should not be considered final.[611]

CCG also argues that an order granting the SysOp Permit will not meet the first and fourth required elements for finality as set out in *TNP*; that is, the order will not be "definitive in nature," and will not "fix" legal relationships:

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[608] CCG Initial Brief at 18; Dow Reply Brief at 17-18.

[609] *TNP*, 806 S.W.2d at 232.

[610] CCG Initial Brief at 18, 21-25.

[611] Dow Reply Brief at 18.

> The use of theoretical diversion points in BRA's application requires a theoretically perfect operation of BRA's system to produce yields anywhere close to what BRA requests. . . . [T]here is no way to ascertain the availability of water at a requested diversion point. . . . [A]n order that rests on evidence that is bifurcated between hearings over a period of *years* could not be realistically called 'definitive.' . . . Ms. Alexander admitted that she, 'realistically,' has no idea how the water at Glen Rose would be used because the water management plan was not yet before the agency. She also admitted that if *different* diversion points are identified in the water management plan case years from now, that instream flows could be impacted *differently* than the Executive Director assumes they will be impacted in this application. . . . This level of uncertainty begs the question how any order resulting from this docket *could be* considered 'definitive' or one that 'fixes a legal relationship' under the *Texas-New Mexico Power* analysis.[612]

FBR argues that an order granting the SysOp Permit will not meet the first and third required elements for finality as set out in *TNP*; that is, the order will not be "definitive in nature," and will not be an order "with which the agency expects compliance." FBR explains its position as follows:

> No one can . . . determine exactly how much water BRA is authorized to appropriate under the SYSOP. That will . . . be decided in later WMP actions. There are three different specific diversion amounts included in the SYSOP, but all are hypothetical. BRA will not use these points and thus, will not end up with the permitted amounts indicated for those points. (Those hypothetical locations and amounts, however, may have to be used in the future in the WAMs to determine if water is available for others to appropriate.)[613]

BRA counters that an order granting the SysOp Permit will meet the *TNP* finality test:

> TCEQ's final order will be definitive in nature, the culmination of an extensive contested case hearing that spanned nearly a month, allowed the full participation of all parties, and generated a voluminous, nearly 3,000-page transcript. TCEQ's order will be promulgated in a formal manner as a final order, including findings of fact and conclusions of law. TCEQ will expect compliance with the terms of any order it issues and has continuing authority to assure compliance with the

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[612] CCG Initial Brief at 25 (emphasis in original).

[613] FBR Reply Brief at 34-35.

> permits that it issues. Finally, the TCEQ order on BRA's Application . . . will either grant or deny a water right to BRA and will define the legal responsibilities and rights of the parties going forward, establishing the amount of appropriation authorized to BRA, the legal status of return flows, the environmental flow requirements, and other specific terms and conditions. . . [T]he final order will not 'decide all potential related controversies,' but it will set the terms and conditions that will provide the basis for the subsequent WMP proceeding.[614]

For a variety of reasons, the ALJs conclude that an order granting the SysOp Permit might not be deemed a final order on appeal. First, pursuant to *TNP*, to be final, an agency order must be "definitive in nature." The most prominent aspects of the SysOp Permit, however, are far from definitive. A few examples:

- The permit purports to grant substantial new appropriation rights to BRA, but does not actually allow BRA to make those appropriations until completion of the WMP process.[615]
- The permit purports to grant substantial new appropriation rights to BRA, but amounts of water that will actually be appropriated by BRA pursuant to the permit will remain unknown until completion of the WMP process.[616]
- The permit authorizes specific diversion amounts at specific diversion points, but these are merely "placeholders" for what will actually be authorized in the WMP, and the parties agree that neither the specified diversion amounts nor control points identified as diversion points will actually be utilized.[617]
- The permit fails to specify diversion rates, leaving that to resolution during the WMP process.[618]
- The permit purports to allow BRA to appropriate return flows, but does not actually allow BRA to do so until completion of the WMP process.[619]

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[614] BRA Reply Brief at 8 (citations omitted).

[615] BRA Ex. 8B at 6, 10-14; ED Ex. K2 at 5-6, 15-19.

[616] BRA Ex. 8B at 6, 9-10; ED Ex. K2 at 5-6, 15-19.

[617] BRA Ex. 8B at 6-7; ED Ex. K2 at 5-6.

[618] BRA Ex. 8B at 7; ED Ex. K2 at 11.

[619] BRA Ex. 8B at 7-9; ED Ex. K2 at 6-14.

- The permit purports to give BRA bed and banks authorization, but does not actually allow BRA to use the bed and banks until completion of the WMP process.[620]
- Most tellingly, if the SysOp Permit is issued, it cannot be exercised by BRA until the WMP process is completed.[621]

Second, pursuant to *TNP*, to be final, an agency order must impose an obligation, deny a right, or fix some legal relationship as a "consummation of the administrative process." Many aspects of the SysOp Permit do not meet this standard. Most notably, if BRA is granted the SysOp Permit, it will hardly constitute a "consummation" of BRA's permitting effort. Instead, with the SysOp Permit, BRA will only be halfway to the finish line, and the WMP process will have to be completed before the permit can be exercised. Moreover, the SysOp Permit would "fix" a legal relationship in only the loosest sense. The SysOp Permit would grant to BRA "some" water, but the details of where, when, how, and how much of that water could be utilized would be left to be worked out in the WMP process.

In *Texas Utilities Co. v. Public Citizen, Inc.*,[622] the Austin Court of Appeals has specifically held that completion of only the first step of a two-step permitting process results in a non-final order. In that case, Texas Utilities Company (TXU) was seeking to build new power plants. Consistent with PUC procedures, TXU filed notice of intent (NOI) applications for the power plants. The PUC then issued an order granting the NOI applications. The opponents of the power plants attempted to challenge the order in district court. Applying the *TNP* standard for finality, the Austin Court of Appeals held that the NOI order was not a final order. The court explained as follows:

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[620] BRA Ex. 8B at 6, 9-10; ED Ex. K2 at 6, 14-15.

[621] Tr. 323.

[622] 897 S.W.2d 443 (Tex. App. – Austin 1995, no pet.).

> Approval of the NOI simply allows a utility to proceed to the CCN stage . . . The CCN is the second stage of a *two-step process* for approving plans for new utility plants. At the CCN stage, review of need and alternatives will be more extensive than during the NOI proceedings. Considerations excluded from the NOI proceeding, such as 'the specific site or site facilities, whether conservation and alternative energy sources cannot meet the need, or whether the proposed plant is the best and most economical choice of technology available,' will be addressed at the CCN stage. . . . Alternatives to the proposed plant and compatibility with the Commission's forecast must be considered in both the NOI and the CCN proceedings.[623]

In addition to the finality standard set out in *TNP*, there appear to be further requirements for finality which also suggest that any order granting the SysOp Permit will not be considered final. Specifically, if an agency issues an order granting a permit, but places conditions on the permit requiring subsequent approval by the agency, then the order will not be considered final.[624] The SysOp Permit is rife with special permit conditions requiring future approval by the TCEQ. For example:

- The permit purports to grant substantial new appropriation rights to BRA, but use of that water is conditioned upon BRA submitting and getting approved, via a contested case proceeding, the WMP.[625]
- The permit purports to allow BRA to appropriate return flows, but does not actually allow BRA to do so until it submits, and the TCEQ approves, a "return flow accounting plan."[626]
- The permit purports to give BRA bed and banks authorization, but does not actually allow BRA to use the bed and banks until it submits, and the TCEQ approves, an "accounting/delivery plan."[627]

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[623] *Texas Utilities*, 897 S.W.2d at 446-47 (citations omitted, emphasis added).

[624] *See North Alamo Water Supply Corp. v. Texas Dept. of Health*, 839 S.W.2d 448, 450 (Tex. App. – Austin 1992, writ denied); *Walker Creek Homeowners Ass'n of Ellis County, Texas v. Texas Dep't of Health Resources*, 581 S.W.2d 196 (Tex. App. – Austin 1979, no writ); *Pistocco v. Texas Nat. Res. Cons. Comm'n.*, 2000 Tex. App. LEXIS 1094 (Tex. App. – Austin 2000).

[625] BRA Ex. 8B at 6, 10-14; ED Ex. K2 at 5-6, 15-19.

[626] BRA Ex. 8B at 7-9; ED Ex. K2 at 6-12.

[627] BRA Ex. 8B at 6, 9-10; ED Ex. K2 at 6, 14-15.

For these reasons, the ALJs conclude that any order granting the SysOp Permit, as it is currently proposed, would likely not be considered to be a final and appealable order.

XX. FOLLOWING CONSTRUCTION OF THE ALLENS CREEK RESERVOIR, THE ED'S LIMITATIONS ON THE OPERATION OF THE RESERVOIR ARE UNNECESSARY

As to the time after ACR has been constructed, there is disagreement between BRA and the ED regarding how the reservoir should be treated in the SysOp Permit. As a general rule, all of the existing reservoirs in the BRA system, as part of the SysOp Permit, would be allowed to trap and store additional water that is made available through system operations at the 2004 priority date. BRA believes that ACR should be treated the same way. In its modeling, BRA limited diversions into the reservoir under its existing permit to 202,000 acre-feet at the 2002 priority date. BRA then allowed additional diversions into the reservoir at the 2004 priority date that the SysOp Permit would have at times when there was unappropriated flow available under the terms of the SysOp Permit and there was empty storage in the reservoir. As a result, if the SysOp Permit were issued, total diversions from the Brazos River into ACR could exceed 202,000 acre-feet per year.[628]

In the ED's modeling, additional diversions from the Brazos River into ACR at the priority of the SysOp Permit were not allowed. However, impoundment of additional flows from Allens Creek into the reservoir at the priority date of the SysOp Permit was allowed. As compared to BRA's approach, the ED's treatment of ACR reduced the yield available for the SysOp Permit by 50,000 to 55,000 acre-feet per year.[629]

BRA contends that its approach to ACR is superior to the ED's because it recognizes the full benefit of system operation in increasing the amount of water available for use in the Brazos

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[628] BRA Ex. 15 at 43-44; Tr. 2387-88.

[629] BRA Ex. 15 at 45; Tr. 1960, 2388-89.

River Basin. It contends that diversions into the reservoir should be treated comparably to additional water that could be impounded in any other BRA reservoir in the BRA system. BRA argues that the ED's approach would unnecessarily prevent the full utilization of a large investment in storage capacity needed in the basin, and would effectively exclude ACR from the BRA system of reservoirs for purposes of the SysOp Permit.[630]

The ED argues that BRA cannot increase the Allen's Creek authorization via the SysOp Permit. According to the ED, if BRA wishes to divert more Brazos River water to ACR, it must apply to amend its Allens Creek permit.[631] However, at the hearing, the ED's staff was conceptually open to BRA's approach, provided that the SysOp Permit included a special provision mandating that the additional diversions into the Allens Creek Reservoir could not be made until BRA amended its Allens Creek permit.[632] FBR agrees that before ACR can be treated as a part of the SysOp Permit, the Allens Creek Permit must be amended. Among other things, FBR contends that, if the SysOp Permit were granted, it would necessarily change the diversion points authorized in the Allens Creek Permit.[633]

The arguments of the ED and FBR on this point lack merit. BRA also holds an existing "excess flows" permit.[634] That permit authorizes diversions from the Brazos River at four specific locations, including at a location along the "west bank of the Brazos River in the R.M. Williamson Grant, Abstract 105, Austin County, Texas."[635] That location coincides, in part, with ACR.[636] As such, BRA's existing excess flows permit already authorizes BRA to divert excess Brazos River flows into ACR.[637] Thus, BRA already has the authority to make diversions into

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[630] BRA Ex. 15 at 45-46; BRA Initial Brief at 48-50.

[631] ED Initial Brief at 12; Tr. 1960-63.

[632] Tr. 1959-63, 2203-04.

[633] FBR Initial Brief at 8, 11.

[634] Dow Ex. 42.

[635] Dow Ex. 42, § 2.A.

[636] BRA Ex. 104.

[637] Tr. 2400-02.

the reservoir over and above the 202,000 acre-feet limit.[638] Moreover, it can make those diversions at the diversion point authorized in the excess flows permit without necessitating any amendment to the Allens Creek Permit. Thus, the ALJs conclude that BRA need not obtain an amendment to its Allen Creek permit because it already possesses the right to divert more than 202,000 acre-feet into ACR at points authorized in its excess flows permit.[639]

XXI. COASTAL MANAGEMENT PLAN

Rule 31 TAC § 501.33(a)(3) of the Coastal Coordination Council, states, "In its consideration of an application for a permit to store, take, or divert water, the TCEQ shall assess the effects, if any, of the issuance of the permit on the bays and estuaries of Texas. . . . " FBR complains that TCEQ staff did not conduct a sufficient consistency review in its consideration of BRA's application.[640]

The ED claims that his Staff conducted all applicable reviews concerning the permit's consistency with the CMP that are set out at 31 TAC § 501.33(a)(1), (3), (4), (5), (7) and (8). BRA agrees with the ED that its application is consistent with the CMP. Moreover, BRA argues that FBR's complaint about the adequacy of the ED's CMP review is outside the scope of this case and a collateral attack on the ED's determination.

The ALJs conclude that the ED conducted the CMP review required by the Coastal Coordination Counsel and reasonably concluded that BRA's application is consistent with the CMP.

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[638] Tr. 2402.

[639] BRA Initial Brief at 49-50; NWF Initial Brief at 17.

[640] FBR Initial Brief at 46-49.

The ED's expert, Dakus Geeslin, testified that applicable CMP standards are set out at 31 TAC § 501.33(a)(1), (3), (4), (5), (7) and (8). Based on his review of those policies and the conditions in the ED's Draft Permit, Mr. Geeslin testified that BRA's application should not have significant adverse impacts on coastal natural resource areas.[641] Like the earlier Draft Permit, the Proposed Permit states, "the issuance of this permit is consistent with the goals and policies of the Texas CMP."[642] BRA agrees with the ED on all of these points. It contends that its application is consistent with the CMP standards found at 30 TAC Ch. 281 and 31 TAC §§ 501.12 and 501.33.

FBR alleges that there are evidentiary and procedural gaps in the CMP review, but the ALJs see none. Many of the factors that are required to be considered under 31 TAC § 501.33(a) to which FBR points are also required to be considered under Water Code § 11.134(b)(3)(D). For example, protection of instream uses, water quality, bays, estuaries, and fish and wildlife habitat. Elsewhere in the PFD, the ALJs discuss the evidence concerning those and other overlapping issues and conclude that the evidence shows BRA's application complies with those standards. There is no need to repeat those discussions here. Moreover, Mr. Geeslin's memo supporting his conclusions on both the Water Code and CMP standards sets out his analysis and rationale. FBR points to no evidence to contradict Mr. Geeslin.

FBR notes that under 30 TAC § 281.43(c) the permit or order in this case must include a written explanation supporting the ED's determination under 30 TAC § 281.43(a) that issuing a permit to BRA will have no adverse effect impacts on the coastal natural resource areas. That requirement would be satisfied by a Final Order in this case, which would contain detailed findings that the permit will comply with the overlapping Water Code standards, have no significant adverse impacts on the coastal natural resources, and be consistent with the goals and policies of the Texas CMP.

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[641] ED Ex. DG-1 at 12 & Ex. DG-3A at 12-13; *see also* BRA Ex. 31 at 11.

[642] BRA Ex. 8B at 6 & Ex. 18 at 5; ED Ex. K2 at 5.

Finally, BRA argues that the Protestants cannot collaterally attack the adequacy of TCEQ's consistency review in this proceeding as a means to obtain a permit denial. The CMP has a procedure by which consistency reviews of certain agency actions may be referred to the Coastal Coordination Council for review to determine consistency with the CMP goals and policies. According the BRA, only through those procedures may FBR challenge the agency's consistency review.[643]

The ALJs conclude that BRA's application and the ED's CMP review complies with the law applicable to this case; thus there is no need to address BRA's arguments that FBR's criticism is an impermissible collateral attack.

XXII. WETLANDS

FBR argues that BRA has failed to meet its burden of proof on statutory and regulatory criteria concerning protection of wetlands.[644] FBR claims that BRA and TCEQ should have explicitly considered the water quality and related environmental issue of wetlands periodically inundated by overbanking flows in the Brazos River.[645]

BRA and the ED respond that there is no law concerning wetlands that is applicable to the approval of BRA's application. Although FBR includes background information and references to authority regarding TCEQ's consideration of wetlands protection in other contexts, BRA claims the FBR cites to no authority for its ultimate proposition that "TCEQ includes protection of wetlands in its water quality standards that apply to federal and state actions, including BRA's application."[646] The ED agrees with BRA. He maintains that nowhere in the

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[643] *See* 31 TAC §§ 505.30 – 505.42.

[644] FBR Initial Brief at 1.

[645] FBR Initial Brief at 39-42.

[646] FBR Initial Brief at 41.

Commission's rules or the Water Code is there any requirement for the Commission to require overbanking or any similar type of extra condition to be placed in this type of permit.

Nevertheless, BRA has agreed to consult with the U.S. Army Corps of Engineers on federal projects to determine whether intentional overbanking, which FBR advocates due to its wetland concerns, might be feasible or advisable in light of the potential for liability.[647] Moreover, when FBR cross-examined BRA's experts on this subject they testified that the draft permit's high-flow pulse provisions would accomplish some of this overbanking effect.[648] The ED argues that there is nothing in the record to suggest that granting this permit will negate or hinder these natural overbanking situations.

The conclude that wetlands issues are outside the scope of and not relevant to this case.

XXIII. NEED FOR A WATERMASTER

The question of whether a watermaster should be appointed for the Brazos River Basin was not an issue that the Commission formally referred to SOAH for hearing.[649] However, at the meeting when the Commission referred BRA's Application to SOAH, the Commission's Chairman apparently informally raised the question of the need for a Brazos River Basin watermaster. For that reason, several parties addressed that point during the case. During the hearing, BRA stated its belief that the Commissioners "would like to have SOAH address the issue of the necessity of a watermaster in connection with this permit."[650] Additionally, no party opposed the appointment of a water master.[651]

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[647] BRA Ex. 8B at 23; ED Ex. K-2 at 28.

[648] Tr. 754 & 788-792.

[649] *See* Interim Order.

[650] Tr. 2736.

[651] Tr. 2736.

Dow especially seeks the appointment of a watermaster, which it believes would facilitate the protection of its senior water rights. In fact, it argues that either the appointment of a watermaster or a stream flow restriction at the Rosharon Gauge equal to Dow's permitted diversion rate of 630 CFS or Dow's actual daily pumping rate is necessary to protect its senior rights. The necessity of streamflow restrictions is addressed elsewhere in the PFD. Dow urges the ALJs and the Commission to require that the Proposed Permit be conditioned on the establishment of a watermaster program for the Brazos River.[652]

BRA contends that a watermaster operation cannot be imposed as part of this hearing, but it believes that the ALJs can make a recommendation to the Commission regarding such an appointment. It cites Water Code § 11.451 and following statutes, which authorize the Commission to authorize the ED to appoint a watermaster following a hearing to determine if a need exists for an appointment. However, these statutes say nothing about SOAH.

In the absence of a notice of hearing indicating that a watermaster might be appointed and a specific referral of that hearing to SOAH, the ALJs decline to definitively conclude that a watermaster should be appointed. However, because there is a wide disparity between the assumptions made in the WAM and how water rights are exercised in the real world, it may be prudent for the Commission to consider the appointment of a watermaster for the Brazos River Basin.

Dow presented considerable evidence indicating that, beyond the water availability modeling done in the WAM, there is a need for the TCEQ to have an effective mechanism in place for regulating the exercise of water rights in order to protect the first in time/first in right concept. Mr. Gooch, BRA's primary expert witness on water modeling, conceded that there is a wide disparity between how the WAM represents water rights and how water rights are actually

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[652] Dow Initial Brief at 8, 12, 22-23, 47-48 & 50-51 & Reply Brief at 37-38.

operated in the real world.[653] The central premise of water rights in Texas is: "as between appropriators, the first in time is the first in right."[654] The WAM assumes that each water right holder only makes appropriations according to his level of seniority. In other words, the WAM assumes that: (1) each appropriator is acting with perfect knowledge regarding water availability for all other water right holders; and (2) each water right holder behaves in perfect accordance with the premise of "first in time is first in right" by making his authorized diversion only after all senior water right holders have been able to make their full diversions.[655]

In actual practice, however, each water right holder has very limited knowledge regarding water availability for senior rights. In real world operations (and in the absence of a watermaster), the only way a senior water right holder can enforce its seniority is by making what is referred to as a "priority call." By making a priority call, the senior water right holder asks the TCEQ to notify upstream junior rights that they should refrain from making diversions so that water to which the senior right is entitled can flow downstream to satisfy the senior right.[656] Unless a water right holder has been advised by TCEQ not to make diversions due to a priority call, the holder will make his water diversions without regard to whether all senior rights have been (or can be) fully satisfied.[657] Thus, Mr. Gooch conceded that, in the absence of a watermaster or a priority call, there could be a wide divergence between the actual amount of water available in the river for a senior right to divert, and the amount that the WAM predicts should be available.[658]

Mr. Gooch also conceded that there are other ways in which real world operations differ greatly from the assumptions made in the WAM. For example, the WAM assumes that a

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[653] Tr. 248.

[654] Water Code § 11.027.

[655] Tr. 248-49, 254-56, 2686; *see also* Finley testimony, Ex. Dow 1 at 28-29.

[656] Tr. 249.

[657] Tr. 252-53.

[658] Tr. 253.

reservoir operator has perfect knowledge of the volume of water stored in the reservoir. In the real world, by contrast, a reservoir owner might not know with complete accuracy, on a day-to-day basis, how much new water has been impounded, how much has been diverted, and so on.[659] Similarly, BRA witness Dr. Wurbs readily conceded that the WAM is inherently uncertain, and that, as more and more water is allocated from the Brazos River, the potential for uncertainties in the WAM to adversely impact actual water allocation increases.[660]

Tim Finley, a Senior Environmental Engineer at Dow, testified on his company's behalf. He explained that Dow owns 235,000 acre-feet of fairly senior water rights in the basin. Other than BRA's water right related to Possum Kingdom Reservoir, all of Dow's rights are senior to all of BRA's water rights.[661] Moreover, Dow's rights are some of the most downstream rights in the entire basin. Mr. Finley explained the problems of holding senior, but far downstream, rights as follows:

> For Dow, being the last water right on the Brazos River means that under low flow conditions any diversion by upstream water right holders that exceed the amount of water that they are entitled to under their water right is likely to result in the flow at Dow's diversion points being inadequate for Dow to divert the amount of water it is entitled to under its water rights.[662]

Mr. Finley testified that there have been four instances within the last fifteen years in which there have been insufficient river flows at Dow's diversion points. In those instances, Dow was forced to purchase, on a short-term basis, water from BRA. Mr. Finley opined that, on those occasions, Dow was essentially purchasing its own water from BRA. In other words, it is Mr. Finley's belief that, if the priority system had been working as it should, there would have been sufficient

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[659] Tr. 255-57.

[660] Tr. 556-58.

[661] Ex. Dow 1 at 4-5.

[662] Ex. Dow 1 at 5-6.

water in the river for Dow to make its diversions without the need to purchase water from BRA.[663] He complained that, currently:

> senior water right holders in the Brazos River have little timely recourse to assure rights are not being infringed upon by upstream junior diversions and reservoir operators. . . . [In the absence of a watermaster] the bottom line is the lower basin senior rights holders bear the impact of shortage while up basin reservoirs and junior rights holders continue to pump and impound water.[664]

Mr. Finley also expressed frustration with the efficacy (or lack thereof) of the priority call system. He explained that, in 2009, Dow attempted to make a priority call on the Brazos River. He complained that the TCEQ's actions in implementing the call were opaque and confusing. For reasons unknown to Dow, the TCEQ established a 1983 priority date for the Dow call (even though the priority dates for Dow's water rights date from 1929 through 1960). Mr. Finley complained that, by giving the call a 1983 priority date, the TCEQ rendered the call junior to BRA's reservoir rights. According to Mr. Finley, the TCEQ's efforts to implement the priority call were not effective for Dow's needs.[665] Mr. Finley opined that a watermaster program for the river would more effectively ensure protection for Dow's senior water rights.[666] Mr. Gooch agreed.[667]

BRA concedes that there is some cause for concern on Dow's part concerning the differences between the WAM and the real world.[668] Accordingly, BRA does not oppose appointment of a watermaster. Based upon these concerns, the Commission may wish to initiate the formal process to determine whether a watermaster should be appointed.

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[663] Ex. Dow 1 at 16, 28.

[664] Ex. Dow 1 at 25-26.

[665] Ex. Dow 1 at 26-27.

[666] Ex. Dow 1 at 25.

[667] Tr. 2685.

[668] BRA Reply Brief at 18.

XXIV. POSSIBLE FUTURE LOSS OF USGS GAUGES

FBR, NWF, and OPIC raise concerns about what could happen if one or more of the USGS gauges listed as measuring points in the Interim Special Conditions Relative to Environmental Flows in the Proposed Permit is taken out of service.[669] NWF and FBR suggest permit language that would require BRA to replace stream flow gauges if USGS gauges are removed.

The advocating parties point to no law requiring, allowing, or suggesting that permits contain special conditions requiring replacement of USGS gauges. There is no evidence in the record showing that any of the specific gauges listed in the permit are in actual danger of being lost or decommissioned. The ED contends that it would be unusual for the Commission to require such a permit condition and there are no permits mentioned in the record containing such a provision.

BRA notes that the Proposed Permit provides a mechanism to address the problem, should it arise. The WMP will include considerations for adding, deleting, or modifying the measurement points identified in the Proposed Permit and any changes to these measurement points must be approved by the ED.[670] If a gauge is eliminated by USGS, BRA, through the process established by the WMP, can identify and propose an alternative measuring location, and submit that measuring location for approval by the ED.

The ALJ do not find that a permit issued to BRA in this case should contain a USGS gauge replacement provision as suggested by FBR, NWF, and OPIC.

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[669] FBR Initial Brief at 70-71; NWF Initial Brief at 16-17; OPIC Initial Brief at 9.

[670] BRA Ex. 8B at ¶¶ 5.D.4.b., 5.E.5; ED-K2 at ¶¶ 6.D.4.b, 6.E.5.

XXV. PERMIT CONDITIONS PROPOSED BY OTHER PARTIES

If a permit is issued in this case, despite their objections, Dow, NWF, or FBR propose the addition of 22 provisions to the Permit. BRA does not object to three of the proposed conditions. The ALJs recommend that the Commission include those three changes in any permit that it might issue to BRA in this case, as described below:

Party Proposing	Nature of Proposed Change	BRA Position
NWF (NWF Initial Brief at 9-10)	New section 5.B added, to require BRA to submit, as part of the initial WMP and thereafter at least every 10 years as part of its application for reconsideration or amendment of the WMP, updated water conservation plans and drought contingency plans	BRA has no objection to this condition.
NWF (NWF Initial Brief at 19)	Revision of section 6.E.16 [section 6.E.15 in ED-K2] to clarify that flow values are intended to be applied as instantaneous flow values	BRA has no objection to this revision.
FBR (FBR Initial Brief, App. A at 18)	Addition of extensive definition of accounting/delivery plans.	BRA does not oppose this revision, even though the substance of the definition is already included in other provisions of the permit.

Additionally, Dow proposes that a new streamflow restriction be added at the Rosharon gauge that would prohibit BRA from diverting or impounding water under the Proposed Permit or its existing water rights. Alternatively, Dow proposes conditioning the appropriation on the

establishment of a watermaster for the Brazos River, in which case the streamflow restriction need only apply to diversions and impoundments under the permit at issue in this case.[671]

BRA responds that minimum streamflow requirements are not necessary if a watermaster is supervising diversions. The watermaster will provide the required protection for senior rights without the necessity of additional restrictions. Further, contrary to Dow's suggestion, BRA contends that no legitimate basis exists in this hearing or through this permit application to impose Dow's streamflow restriction on BRA's existing water rights. Nevertheless, BRA and the ED would not oppose the following additional permit condition:

> Permittee shall not divert or impound water pursuant to the authorizations in this permit if such diversions or impoundments would cause the flow at USGS Gauge 081166550 (Brazos River near Rosharon) to fall below the lesser of 630 cfs, or Dow Chemical Company's projected daily pumping rate. This provision is not effective if (a) Dow Chemical Company has not provided its projected daily pumping rate to Permittee, or (b) a watermaster having jurisdiction over the lower Brazos River has been appointed.

Because BRA has agreed to add a condition similar to the one that Dow proposes, the ALJs recommend that the Commission include BRA's proposed condition in any permit that is issued to BRA in this case.

That leaves eighteen proposed permit changes to which BRA objects. BRA claims that they are either not supported by the evidence, the law, or both, or they are not necessary. The ALJs agree with BRA and recommend that the Commission not include the following proposed permit change if it issues a permit to BRA in this case.

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[671] Dow Initial Brief at 47-48 & 51.

Party Proposing	Nature of Proposed Change	BRA Position
Dow (Initial Brief at 48-49, 51)	New special condition added for protection of water quality, prohibiting operations under Proposed Permit (preferably also applying to reservoirs operated as part of system) when chloride concentrations exceed 250 mg/L and TDS exceed 500 mg/L at the Richmond gauge	This condition cannot be justified legally or factually. *See* Section III.D. of BRA's Initial Brief.
Dow (Initial Brief at 49, 51)	New permit condition added, to require BRA to "restore its storage to permitted amounts in its reservoirs associated with Proposed Permit pursuant to Tex. Water Code § 11.145 before exercising the permit"	This condition cannot be justified legally or factually. *See* Section II.B.2 of BRA's Reply Brief.
NWF (NWF Initial Brief at 11-12); adopted by FBR (Initial Brief at 42)	Language added to section 6.E.16, to require BRA to develop, with TPWD and TCEQ, a "full suite" of environmental flow conditions for each of the eight 7Q2 "water quality control points"	There is no evidentiary basis for this provision. The draft permit requires studies to determine whether these additional flow requirements are necessary and this provision is sufficient. *See* Section II.E of BRA's Reply Brief.
NWF (NWF Initial Brief at 15); adopted by FBR (Initial Brief at 42)	New subsection 6.C.7.c added, to condition the "operational flexibility" provision for satisfying downstream water rights, such that BRA's use of this option "may not cause or contribute to" flows falling below the 7Q2/subsistence level at any of the 14 identified gauges	BRA objects to this provision. No evidence in the record supports its imposition.

Party Proposing	Nature of Proposed Change	BRA Position
NWF (NWF Initial Brief at 16-17)	New section 6.E.21 added, to require BRA to obtain approval for and implement alternative means to measure permit compliance at any USGS gauging station listed in sections 6.E.5, 6.E.7, or 6.E.16 that may be discontinued	BRA objects to this provision. Any need for it is speculative. Discontinuance or modification of gauging stations is best left to the WMP.
NWF (NWF Initial Brief at 18)	New special condition added, requiring separate WMP accounting of, and requiring BRA to obtain authorization in WMP for diversion or use based on demonstration that amount of Possum Kingdom storage is actually available for use	BRA objects to this provision as unnecessary and duplicative of existing WMP requirements. BRA will be adjusting storage capacity in all reservoirs as part of WMP. *See* Section II.B.2 of BRA's Reply Brief.
NWF (NWF Initial Brief at 19	Revision of section 6.D.4.d., to clarify that studies will evaluate "the level" of instream protection to be provided, not "whether" further instream flow protection is needed	BRA objects to this provision. Evaluating the "need for" instream flow protection allows for both the possibility of increasing or decreasing the protection provided by the draft permit's interim conditions.
NWF (NWF Initial Brief at 19)	Revision of section 6.E.5, to clarify that the interim instream flow provisions are in effect until replacement instream flow conditions are put into effect based upon the required studies	BRA believes that the proposed revision is unnecessary. The existing condition is adequate and it implies development of new or alternative requirements.
NWF (NWF Initial Brief at 19)	Revision of section 6.E.5, to clarify intent to limit BRA's diversion or impoundment rights, by inserting "only" between "authorized" and "when" in the second-to-last line	BRA believes that the proposed revision is unnecessary.

Party Proposing	Nature of Proposed Change	BRA Position
NWF (NWF Initial Brief at 19)	Revision of section 6.E.8, to clarify intent to limit BRA's diversion or storage rights, by inserting "only" between "pulse" and "when" in the third line	BRA believes that the proposed revision is unnecessary.
FBR (FBR Initial Brief at 59-61 & App. A at 5-6)	Revised terms and limited amounts authorized for new appropriation	BRA opposes these revisions. FBR's approach to limiting the amount of new appropriation is based on its flawed arguments on beneficial use and diversion locations, as addressed in Sections II.C and II.A. of BRA's Reply Brief.
FBR (FBR Initial Brief at 6 & App. at 26-27 and Inserts at 2)	Language added, to require adoption of specific flow regimes for the John Graves Scenic Riverway prior to capture or diversion of any "new" water from Possum Kingdom	BRA opposes the proposed condition. BRA has no objection to the JGSR provision set forth in Section III.B.2.c of BRA's Reply Argument. The existing requirement of the draft permit already calls for continued study at this location and no evidence has been introduced to support the necessity of the proposed provision.
FBR (FBR Initial Brief at 63-65 & App. A, Inserts at 2 and Draft Permit passim)	Noting that virtually any change to the WMP is a "major amendment"	BRA opposes these revisions as unnecessary and overbroad.
FBR (FBR Initial Brief at 71-72 & App. A, Inserts at 1-2 and Draft Permit)	Wholesale/retail service area distinction	BRA opposes these revisions as unnecessary; it provides no retail water service.
FBR (FBR Initial Brief at 72-76 & App. A, Inserts at 1 and Draft Permit)	Interbasin transfer alternative provision, with accounting plan requirement	BRA opposes this revision as unnecessary.

Party Proposing	Nature of Proposed Change	BRA Position
FBR (FBR Initial Brief at 70-71 & App. A, Inserts at 3)	Addition of gauge replacement requirement	BRA opposes this revision as unnecessary.
FBR (FBR Arg. at 69-70; FBR App. A, Inserts at 3)	Additional special condition regarding wetlands and periodic inundation	BRA opposes this addition as unnecessary and contrary to the evidence, which indicated that overbank flows are subject to management by the Corps of Engineers and beyond BRA's control.
FBR (FBR Initial Brief at 68-69 & App. A, Inserts at 3)	Additional special condition regarding using available water for environmental and recreational purposes.	BRA opposes this addition. It is not supported by evidence or the law and would unreasonably interfere with BRA's management and ability to satisfy its water supply obligations.

XXVI. TRANSCRIPTION COSTS

In its Initial Post-Hearing Brief, BRA offered evidence of the costs incurred for the reporting and transcription costs associated with this case.[672] The total amount paid to the reporting service was $15,987.00. BRA proposes that the Commission allocate that cost as follows:

PARTY	ALLOCATION
BRA	$7,994[673]
CCG and Mr. Ware	$2,177
Dow	$1,602
FBR	$2,669

[672] No party in its Reply Brief objected to this offer of evidence concerning the transcript cost. Attachment 2 to BRA's initial brief is admitted into evidence as BRA Ex. 106.

[673] TPWD has agreed to reimburse BRA $1,000 of this amount.

NWF	$1,545
Other parties	$0[674]

Only three other parties–Dow, NWF and FBR–addressed the issue of transcript cost allocation. Dow agrees with BRA's proposed allocation. NWF argues that BRA should be assessed "the vast majority, if not all" of these costs and suggests 90 to 100%.[675] FBR initially urged that BRA should be assessed 85% of the costs, but later agreed with NWF that BRA should pay 90%. FBR suggests that the Commission should allow the "remaining four private parties"—presumably FBR, NWF, Dow, and CCG and Mr. Ware, as a group—to decide how to divide the remaining 10% among themselves.

Commission rule 30 TAC § 80.23(d) provides that the Commission will not assess transcript costs against the ED or the OPIC and that it will consider the following relevant factors in allocating reporting and transcription costs among the other parties:

- the party who requested the transcript;
- the financial ability of the party to pay the costs;
- the extent to which the party participated in the hearing;
- the relative benefits to the various parties of having a transcript;
- the budgetary constraints of a state or federal administrative agency participating in the proceeding;
- in rate proceedings, the extent to which the expense of the rate proceeding is included in the utility's allowable expenses; and
- any other factor which is relevant to a just and reasonable assessment of costs.

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[674] Other that the ED and OPIC, who may not be assessed a share of the transcript costs, the remaining parties did not significantly participate in the hearing on the merits.

[675] NWF Initial Brief at 20-21.

BRA acknowledges that as the applicant and the party who requested the transcript it will certainly benefit from having a transcript (in the event any party appeals) and for that reason agrees that it would be appropriate for it to pay 50% of the cost. It notes that the other parties to whom it proposes an allocation were able to pay for attorneys (generally more than one) to participate in the entire hearing, and most of them also retained expert witnesses. It argues, without citing evidence, that the transcription costs are modest and affordable compared to attorneys' fees. BRA also claims that the parties who actively participated will benefit equally from the availability of a hearing transcript, both in terms of preparation of written argument and exceptions, and possible appeal.

Given the above, BRA argues that the remaining 50% should be allocated among the remaining four active parties in proportion to the extent that each participated in the hearing. Its proposed allocation is based on the number of pages of the hearing transcript for which BRA contends each was responsible compared to number of pages for which all of the four active parties was responsible. On this basis, the remaining one-half of the total transcription costs would be allocated as follows:

PARTY	PERCENT OF PROTESTANTS' HEARING TIME	ALLOCATED COST
CCG & Mr. Ware	27.24%	$2,177
Dow	20.04%	$1,602
FBR	33.39%	$2,669
NWF	20%	$1,545

The ALJs conclude that BRA and the Protestants fully participated in the hearing and benefited from the transcript, as evidenced by the transcript and their post-hearing briefs. There is no evidence of budgetary constraints or whether the expense of this proceeding may be recovered through utility rates.

FBR and NWF argue that they participated in an attempt to protect the fish and wildlife resources and instream uses of Texas and Texans. Those goals are consistent with applicable law, but as indicated above, the ALJs find, with one exception, that those concerns were protected by the Proposed Permit even without the participation of FBR and NWF. The exception is for the additional flow out of Possum Kingdom Dam that FBR showed is in the public interest and should be required. Moreover, all of the parties have advocated goals that they believed were in the public interest.

NWF and FBR contend that BRA has the greatest financial ability to pay for the transcript and benefits the most from it since it has the burden of proof. They claim that BRA can roll the transcript costs into its water rate structure, whether or not the permit is issued. FBR notes that BRA sells one acre-foot of water for short term contracts at about $65/ac-ft for one year.[676] According to FBR, the water that BRA seeks in this proceeding is worth millions of dollars to BRA. The ALJs conclude that BRA has the financial ability to easily pay the full cost of the transcript.

Conversely, NWF claims that it has no such cost recovery mechanism, and that it is a nonprofit entity that raises its money almost exclusively from member contributions and foundation grants. BRA responds that NWF is a national, professional environmental organization that ought to consider such expenses a cost of doing its business. FBR is a small non-profit organization that raises funds from members and several foundations to allow it to normally do some river clean-up events and public education.[677] Both contend that they have no prospect for financial gain through their participation in this hearing, although FBR acknowledges that it is seeking to protect its members' recreational uses and property values, which could be reduced in value if the permit is granted.

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[676] Tr. 1042.

[677] FBR Ex. 1 at 3-5.

FBR cites recent cases in which the Commission allocated 93% to 85% of the transcript costs to the Applicant. It argues those precedents support allocating 85% or more of the cost to BRA.[678] However, BRA responds that those cases support the allocation of 15% percent of the transcript cost to one protesting party. It notes that it proposal would allocate just over 15% to FBR and smaller percentages to the other Protestants, as follows:

PROTESTANT	COST ALLOCATION	PERCENT OF TOTAL COST
Dow	$1,602	10.0%
CCG & Mr. Ware	$2,177	13.6%
NWF	$1,545	9.6%
FBR	$2,669	16.7%

Because they conclude that the Application cannot be approved and should either be denied or remanded to SOAH for further hearing on the WMP, the ALJs conclude that BRA should pay the full transcript cost.

XXVII. RECOMMENDATION

As explained above, the ALJs cannot find that BRA has shown that water is available for appropriation at the points where BRA would eventually divert water or that senior water rights would not be impaired by BRA's proposed diversions. That is mostly due to BRA's proposed two-step process, which the ALJs also believe might result in a non-final order. This leads the ALJ to recommend that the Commission either: (1) deny the Application or (2) defer a final ruling on the Application by providing BRA with time to prepare its WMP and remanding the Application back to SOAH for further hearings on the WMP.

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[678] *In the matter of the Application by Farmersville Investors, LP, for TPDES Permit No. WQ0014778001*; SOAH Docket No. 582-09-2895; TCEQ Docket No. 2008-1305-MWD; *Application of Far Hills Utility District for Proposed TPDES Permit No. WQ0014555001*; Docket No. 2005-1899-MWD; SOAH Docket No. 582-06-0568; *Application by Lerin Hills, Ltd., for TPDES Permit No. WQ0014712001*; TCEQ Docket No. 2007-1178-MWD; SOAH Docket No. 582-08-0690. *Application of Lake Travis II Investments, Ltd. for a Water Quality Land Application Permit*, TCEQ Docket No. 2002-1378-MWD; SOAH Docket No. 582-03-2828 at 6.

The Commission might also consider granting the Application in part and only authorize diversions at Glen Rose, Highbank, Richmond, or the Gulf and solely for the quantities identified in the Application for those locations. However, such a partial grant would not resolve all the problems discussed herein.

Because the ALJ's are making alternative recommendations, they have not prepared a Proposed Order containing findings or fact and conclusions of law for the Commission's consideration. Should the Commission determine after considering the PFD that it is ready to issue a Final Order without a remand hearing, the ALJs will prepare a Proposed Order to assist the Commission.

SIGNED on October 17, 2011.

WILLIAM G. NEWCHURCH
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

HUNTER BURKHALTER
ADMINISTRATIVE LAW JUDGE/MEDIATOR
STATE OFFICE OF ADMINISTRATIVE HEARINGS

6/2/11
DRAFT ~~2-11-10~~

WATER USE PERMIT

PERMIT NO. 5851

TYPE §§ 11.121, 11.042 & 11.085

Permittee: Brazos River Authority

Granted:

Filed: October 15, 2004

Counties: Parmer, Castro, Swisher, Bailey, Lamb, Hale, Floyd, Cochran, Hockley, Archer, Lubbock, Crosby, Baylor, Dickens, King, Knox, Jack, Terry, Lynn, Mitchell, Chambers, Young, Garza, Throckmorton, Kent, Haskell, Stonewall, Parker, Palo Pinto, Dawson, Scurry, Borden, Fisher, Stephens, Jones, Shackelford, Johnson, Hood, Nolan, Erath, Eastland, Taylor, Callahan, Somervell, Hill, Comanche, Bosque, Brown, Freestone, Hamilton, McLennan, Limestone, Mills, Coryell, Leon, Falls, Lampasas, Robertson, Bell, Madison, Milam, Burnet, Brazos, Grimes, Williamson, Burleson, Travis, Lee, Washington, Bastrop, Fayette, Waller, Harris, Austin, Colorado, Fort Bend, Galveston, Matagorda, Wharton, and Brazoria

Purposes: Domestic, Municipal, Agricultural, Industrial, Mining, and Recreation

Watersheds: Brazos River Basin, Trinity River Basin, Red River Basin, Colorado River Basin, San Jacinto River Basin, San Jacinto-Brazos Coastal Basin, Brazos-Colorado Coastal Basin, Lavaca River Basin, Guadalupe River Basin

Watercourses: Multiple Tributaries of the Brazos River and the Brazos River

Record Copy

JUN 0 2 2011

Address: P.O. Box 7555
Waco, Texas 76714-7555

ATTACHMENT A

ED K2

WHEREAS, the Brazos River Authority, Applicant, owns the water rights and reservoirs authorized by Certificate of Adjudication (Certificate) No. 12-5155 (Possum Kingdom Lake), Certificate No. 12-5156 (Lake Granbury), Certificate No. 12-5165 (Lake Limestone), and Water Use Permit No. 2925A (Allens Creek Reservoir in conjunction with the Texas Water Development Board and the City of Houston); and

WHEREAS, Applicant also owns the water rights and has contracts with the United States Army Corps of Engineers for storage authorized by Certificate No. 12-5157 (Lake Whitney), Certificate No. 12-5158 (Lake Aquilla), Certificate No. 12-5159 (Lake Proctor), Certificate No. 12-5160 (Lake Belton), Certificate No. 12-5161 (Lake Stillhouse Hollow), Certificate No. 12-5162 (Lake Georgetown), Certificate No. 12-5163 (Lake Granger), Certificate No. 12-5164 (Lake Somerville); and

WHEREAS, Applicant also owns the water rights authorized by Certificates Nos. 12-5166 and 12-5167, which authorize various uses of water within the Applicant's other certificates and permits; and

WHEREAS, Applicant is currently authorized, pursuant to the 1964 System Operation Order, as amended, to manage and operate its tributary reservoirs as elements of a system, coordinating releases and diversions from the tributary reservoirs with releases and diversions from the Applicant's mainstem reservoirs to minimize waste, and to conserve water in reservoirs in which the supply is short by making releases from tributary reservoirs in which the supply is more abundant; and

WHEREAS, Applicant has indicated that their service area includes the following counties: Parmer, Castro, Swisher, Bailey, Lamb, Hale, Floyd, Cochran, Hockley, Archer, Lubbock, Crosby, Baylor, Dickens, King, Knox, Jack, Terry, Lynn, Mitchell, Chambers, Young, Garza, Throckmorton, Kent, Haskell, Stonewall, Parker, Palo Pinto, Dawson, Scurry, Borden, Fisher, Stephens, Jones, Shackelford, Johnson, Hood, Nolan, Erath, Eastland, Taylor, Callahan, Somervell, Hill, Comanche, Bosque, Brown, Freestone, Hamilton, McLennan, Limestone, Mills, Coryell, Leon, Falls, Lampasas, Robertson, Bell, Madison, Milam, Burnet, Brazos, Grimes, Williamson, Burleson, Travis, Lee, Washington, Bastrop, Fayette, Waller, Harris, Austin, Colorado, Fort Bend, Galveston, Matagorda, Wharton, Brazoria; and

WHEREAS, Applicant has applied for a Water Use Permit to authorize:

- A new appropriation of state water in the amount of 421,449 acre-feet per year for multiple uses, including domestic, municipal, agricultural, industrial, mining, and other beneficial uses on a firm basis in the Brazos River Basin. The amount of this new appropriation of water includes the current and future return flows requested in this application. Applicant indicates that the entire amount of 421,449 acre-feet of water per year is available only if all of it is diverted at the mouth of the Brazos River, and can only be made available by the Applicant through the system operation of its water rights. To the extent water is diverted upstream, the remaining unappropriated water downstream is reduced and will itself vary depending upon the location of its diversion and use. Out of the 421,449 acre-feet per year of unappropriated water being requested, the maximum amount of unappropriated water that will be available if such water is diverted upstream at USGS Gage No. 08091000 near Glen Rose, Texas is 150,538 acre-feet per year firm, and if such unappropriated water is diverted upstream at USGS Gage No. 08098290 near Highbank, Texas, the maximum amount of unappropriated water that will be available at that location is 144,306 acre-feet per year firm;

- Diversion of the water authorized by this permit, if granted, from: (i) the existing diversion points authorized by Applicant's existing water rights; (ii) the Brazos River at

the USGS Gage No. 08091000 near Glen Rose, Texas; (iii) the Brazos River at USGS Gage No. 08098290 near Highbank, Texas; (iv) the Brazos River at the Gulf of Mexico; and (v) at such other diversion points that may be identified and included in Applicant's proposed Water Management Plan which is subject to TCEQ's approval;

- Use of up to 90,000 acre-feet of water per year of its firm supply (part of the 421,449 acre-feet of firm water requested above) to produce, along with other unappropriated flows, an interruptible water supply of 670,000 acre-feet per year and the appropriation of that interruptible water supply. Applicant indicates that the entire amount of 1,001,449 acre-feet of water (331,449 acre-feet of firm water and 670,000 acre-feet of interruptible water) is available only if all of it is diverted at the mouth of the Brazos River, and can only be made available by the Applicant through the system operation of its water rights. To the extent water is diverted upstream, the remaining unappropriated water downstream is reduced and will itself vary depending on the location of its diversion and use. This new appropriation of water includes the current and future return flows requested in this application. Out of the 1,001,449 acre-feet of firm and interruptible water being requested, the maximum amount of firm and interruptible water that will be available if such water is diverted upstream at USGS Gage No. 08091000 near Glen Rose, Texas is 60,538 acre-feet of firm water per year and 157,000 acre-feet of interruptible water per year and if such water is diverted upstream at USGS Gage No. 08098290 near Highbank, Texas, the maximum amount of firm water is 54,306 acre-feet of water per year and 303,000 acre-feet of interruptible water per year;

- An exempt interbasin transfer authorization to transfer and use, on a firm and interruptible basis, such water in the adjoining San Jacinto-Brazos Coastal Basin and the Brazos-Colorado Coastal Basin, and to transfer such water to any county or municipality or the municipality's retail service area that is partially within the Brazos River Basin for use, on a firm and interruptible basis, in that part of the county or municipality and the municipality's retail service area not within the Brazos River Basin;

- An appropriation of current and future return flows (treated sewage effluent and brine bypass/return) to the extent that such return flows continue to be discharged or returned into the bed and banks of the Brazos River, its tributaries, and Applicant's reservoirs. Applicant indicates that such appropriation of return flows would be subject to interruption by direct reuse or indirect reuse within the discharging entity's city limits, extraterritorial jurisdiction, or contiguous water certificate of convenience and necessity boundary. Specified discharge points and amounts of water will be accounted for on a monthly basis as part of Applicant's Water Management Plan which is subject to TCEQ's approval;

- Operational flexibility to (1) use any source of water available to the Applicant to satisfy the diversion requirements of senior water rights to the same extent that those water rights would have been satisfied by passing inflows through the Applicant's reservoirs on a priority basis; and (2) release, pump and transport water from any of the Applicant's reservoirs for subsequent storage, diversion and use throughout the Applicant's service area. (Applicant's "service area" includes all counties listed above);

- Recognition that this System Operation Permit approved pursuant to this application will prevail over inconsistent provisions in the Applicant's existing water rights regarding system operation;

- Use of the bed and banks of the Brazos River, its tributaries and the Applicant's reservoirs for the conveyance, storage, and subsequent diversion of (i) water that the Applicant seeks to appropriate under this application; (ii) waters that are being conveyed via pipelines and subsequently discharged into the Brazos River, its tributaries or stored in the Applicant's reservoirs; (iii) surface water imported from areas located outside the Brazos River Basin for subsequent use; (iv) in-basin surface water and groundwater subject to the Applicant's control; (v) waters developed from future Applicant projects; and (vi) current and future reuse of surface and groundwater based return flows requested by this application. This bed and banks authorization is subject to Applicant, after identifying specific points of discharge and diversion and conveyance and other losses, obtaining future authorizations to satisfy the requirements of TWC § 11.042. Such points of discharge and diversion and conveyance and other losses may also be identified and included in Applicant's proposed Water Management Plan which is subject to TCEQ's approval; and

WHEREAS, until the construction of Allens Creek Reservoir is completed, Applicant requests that the System Operation Permit include special conditions which authorize:

- The Applicant to appropriate state water in the amount of 425,099 acre-feet per year for multiple use purposes, including domestic, municipal, agricultural, industrial, mining, and other beneficial uses on a firm basis in the Brazos River Basin. This amount includes the current and future return flows requested in this application. This amount is available if all of the water is diverted at the mouth of the Brazos River, and can only be made available by the Applicant through the system operation of its water rights. To the extent water is diverted upstream, the remaining unappropriated water downstream is reduced and will itself vary depending upon the location of its diversion and use. Out of the 425,099 acre-feet per year of unappropriated water being requested, the maximum amount of unappropriated water that will be available if such water is diverted upstream at USGS Gage No. 08091000 near Glen Rose, Texas is 150,538 acre-feet per year firm and if such unappropriated water is diverted upstream at USGS Gage No. 08098290 near Highbank, Texas the maximum amount of unappropriated water that will be available is, at that location, 175,306 acre-feet per year firm;

- The Applicant to use up to 90,000 acre-feet of water per year of its firm supply to produce, along with other unappropriated flows an interruptible water supply of 869,000 acre-feet per year. This amount includes the current and future return flows requested in this application. Applicant indicates that the entire amount of 1,204,099 acre-feet of water (335,099 acre-feet of firm water and 869,000 acre-feet of interruptible water) is only available if all of it is diverted at the mouth of the Brazos River, and can only be made available by the Applicant through the system operation of its water rights. To the extent water is diverted upstream, the remaining unappropriated water downstream is reduced and will itself vary depending upon the location of its diversion and use. Out of the 1,204,099 acre-feet of firm and interruptible water being requested, the maximum amount of firm and interruptible water that will be available if such water is diverted upstream at USGS Gage No. 08091000 near Glen Rose, Texas, will be 60,538 acre-feet of firm water per year and 190,000 acre-feet of interruptible water per year and if such water is diverted upstream at USGS Gage No. 08098290 near Highbank, Texas the maximum amount of firm water will be 85,306 acre-feet of water per year and 284,000 acre-feet of interruptible water per year;

- Exempt interbasin transfer authorization to transfer and use, on a firm and interruptible basis, such water in the adjoining San Jacinto-Brazos Coastal Basin and the Brazos-Colorado Coastal Basin, and to transfer such water to any county or municipality or the municipality's retail service area that is partially within the Brazos River Basin for use, on a firm and interruptible basis, in that part of the county or municipality and the municipality's retail service area not within the Brazos River Basin; and

WHEREAS, the Texas Commission on Environmental Quality (Commission) finds that jurisdiction over the application is established; and

WHEREAS, the Executive Director recommends that specific stream flow restrictions should be included in the permit to maintain the instream uses and water quality conditions of the Brazos River; and

WHEREAS, as additional factual and scientific information becomes available, it is anticipated that the interim special conditions in Paragraph 6.E. below relative to environmental flows will be revised, through Commission approved revisions of the Water Management Plan, to better provide for the environmental instream flow needs of the Brazos River and its tributaries and to make the maximum amount of water available for beneficial use that is consistent with those needs; and

WHEREAS, the Executive Director recommends that in order to protect senior and superior water rights owners, special conditions should be included in the permit; and

WHEREAS, to avoid ambiguities between this system operation authorization and Applicant's previous system operation authorizations reflected by the System Operation Order and existing permits, the Executive Director recommends that this System Operation Permit be subject to all provisions included in the Commission's July 23, 1964 System Operation Order, as amended, authorizing system operation of certain reservoirs in the Brazos River Basin and to all terms and conditions of Permittee's authorizations in Certificates Nos. 12-5155, 12-5156, 12-5165, 12-5157, 12-5160, 12-5159, 12-5164, 12-5161, 12-5163, 12-5162, 12-5158, 12-5166 and 12-5167 and Water Use Permit No. 2925A except to the extent specifically provided otherwise by conditions in this permit regarding the total amount of water appropriated and available for storage, use and diversion and purpose of use, and as may be modified in the future by Commission approval of Applicant's Water Management Plan; and

WHEREAS, this application is subject to the Texas Coastal Management Program (CMP) and must be consistent with the CMP goals and policies; and

WHEREAS, the Commission finds that the issuance of this permit is consistent with the goals and policies of the Texas CMP; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this permit;

NOW, THEREFORE, Water Use Permit No. 5851 is issued to the Brazos River Authority, subject to the following terms and conditions:

1. USE

A. NEW APPROPRIATION

1) Permittee is authorized to impound, divert, and use not to exceed the following volumes of unappropriated water per year for domestic, municipal, agricultural,

industrial, mining and recreation use within its service area subject to special conditions:

New Appropriation Amounts

Volume in acre-feet		
Location	**Firm Water**	**Non-firm Water**
Glen Rose	131,363	157,000
Highbank	144,306	303,000
Richmond	188,005	670,000
Gulf of Mexico	191,044	670,000

2) Until such time as the ports are closed on the dam impounding Allens Creek Reservoir, authorized by Water Use Permit No. 2925, in lieu of Paragraph 1.A.1, Permittee may impound, divert, and use not to exceed the following volumes of unappropriated water per year, subject to special conditions:

New Appropriation Amounts without Allens Creek

Volume in acre-feet without Allens Creek Reservoir		
Location	**Firm Water**	**Non-firm Water**
Glen Rose	131,363	190,000
Highbank	175,306	284,000
Richmond	237,920	869,000
Gulf of Mexico	241,765	869,000

B. USE OF BED AND BANKS

Permittee is authorized to use the bed and banks of the Brazos River below Possum Kingdom Lake, its tributaries and Permittee's authorized reservoirs for the conveyance, storage, and subsequent diversion of the water authorized herein, subject to identification of specific losses and special conditions.

C. INTERBASIN TRANSFER

Permittee is hereby granted an exempt interbasin transfer authorization to transfer and use the water authorized herein in Permittee's service area in the adjoining San Jacinto-Brazos Coastal Basin and the Brazos-Colorado Coastal Basin and to transfer such water to any county or municipality or the municipality's retail service area that is partially within the Brazos River Basin for use on a firm and non-firm basis in that part of the county or municipality and the municipality's retail service area within the Trinity, Red, Colorado, Guadalupe, Lavaca and San Jacinto River Basins.

D. RETURN FLOWS

Permittee is authorized to impound, divert and use return flows discharged from the Permittee's facilities or originating from diversions pursuant to Permittee's water rights, as indicated in the table below, for multiple uses (domestic, municipal, agricultural, industrial, mining) within their service area, subject to special conditions to protect water rights granted based on the presence of those return flows as well as other senior water rights:

Return Flows Available to Permittee

Name	TPDES Permit #	Permitted Discharge (mgd)	Current BRA Source	Percent of Surface Water from BRA	Current Surface Water Returns (ac-ft/yr)	Current Ground-water Returns (ac-ft/yr)
Sportsmans World MUD WTP	02461000	0.800	Possum Kingdom	100%	11.2	0
Double Diamond	02789000	0.060	Possum Kingdom	100%	67	0
Authority SWATS	02889000	2.500	Granbury System	100%	730	0
City of Copperas Cove	10045003	2.500	Lake Belton	100%	923	0
City of Copperas Cove	10045004	2.500	Lake Belton	100%	1,375	0
City of Copperas Cove	10045005	4.000	Lake Belton	100%	1,600	0
City of DeLeon	10078001	0.295	Lake Proctor	100%	192	0
City of Marlin	10110002	2.000	Whitney System	16%	159.4	0
City of Harker Heights	10155001	3.000	Lake Belton	100%	2,780	0
City of Gatesville	10176002	2.200	Lake Belton	100%	1,731	0
City of Gatesville	10176004	1.500	Lake Belton	100%	703	0
City of Granbury	10178002	2.000	Granbury System	23%	302	1,011
City of Lampasas	10205002	1.500	Lake Stillhouse Hollow	100%	580	0
City of McGregor (South WWTP)	10219002	1.100	Lake Belton	95%	651.7	0
City of Moody	10225001	0.200	Lake Belton	100%	157	0
BRA/LCRA BCRWSS West	10264001	3.000	Georgetown/Still -house System	100%	2,402	1,657

Name	TPDES Permit #	Permitted Discharge (mgd)	Current BRA Source	Percent of Surface Water from BRA	Current Surface Water Returns (ac-ft/yr)	Current Ground-water Returns (ac-ft/yr)
BRA/LCRA BCRWSS East	10264002	21.500	Georgetown/Still -house System	100%	16,767	0
City of Taylor	10299001	4.000	Granger System	100%	2,220	0
Bell County WCID#1	10351001	0.900	Lake Belton	100%	983	0
Bell County WCID#1	10351002	18.000	Lake Belton	100%	14,123	0
Bell County WCID#1	10351003	6.000	Lake Belton	100%	5,389	0
City of Brenham	10388001	3.550	Lake Somerville	100%	2,485	0
City of Dublin	10405001	0.450	Lake Proctor	100%	325	0
City of Georgetown	10489002	2.500	Georgetown/Still -house System	100%	1,815	0
City of Georgetown	10489003	2.500	Georgetown/Still -house System	100%	1,423	0
City of Georgetown	10489005	3.000	Georgetown/Still -house System	100%	1,389	0
City of Hamilton	10492002	0.880	Lake Proctor	100%	392	0
City of Hillsboro	10630001	1.810	Lake Aquilla	100%	1,440	0
City of Rosebud	10731001	0.250	Lake Stillhouse Hollow	100%	194	0
Bell County WCID#3	10797001	0.675	Lake Belton	100%	360	0
City of Holland	10897001	0.200	Lake Stillhouse Hollow	100%	93	0
Bell County WCID#2	11090001	0.094	Lake Belton	100%	63	0
Bell County WCID#2	11091001	0.160	Lake Belton	100%	70	0
Authority TBRSS	11318001	10.000	Lake Belton	100%	8,523	0
Acton MUD	14211001	0.600	Granbury System	11%	40	326
Acton MUD	14212001	0.820	Granbury System	11%	29	239
City of Comanche	14445001	0.595	Lake Proctor	100%	324	0

2. DISCHARGE

The points of origin and rates for Permittee's return flows are itemized below:

Name	TPDES Permit #	Discharge (mgd)	Receiving Stream	North Latitude	West Longitude
Sportsmans World MUD WTP	02461000	0.800	Bluff Creek	32.845111	-98.486972
Double Diamond	02789000	0.060	Unnamed Tributary to the Brazos River	32.8552778	98.4186111
BRA[1] SWATS[2]	02889000	2.500	Lake Granbury/ Brazos River	32.4169445	97.6747223
City of Copperas Cove	10045003	2.500	Clear Creek	31.0925000	97.9072222
City of Copperas Cove	10045004	2.500	Unnamed tributary to Turkey Run	31.1297223	97.8808334
City of Copperas Cove	10045005	4.000	House Creek	31.1488889	97.9077778
City of DeLeon	10078001	0.295	Unnamed tributary to Leon River (Proctor Lake)	32.1111111	98.5238889
City of Marlin	10110002	2.000	Brazos River	31.2591667	96.9277778
City of Harker Heights	10155001	3.000	South Nolan Creek	31.0922222	97.6538889
City of Gatesville	10176002	2.200	Stillhouse Branch	31.4391666	97.7497222
City of Gatesville	10176004	1.500	Leon River	31.4261111	97.7441666
City of Granbury	10178002	2.000	Lake Granbury/Brazos River	32.4183334	97.7758334
City of Lampasas	10205002	1.500	Sulphur Creek	31.1893000	98.1540000
City of McGregor (South WWTP)	10219002	1.100	Unnamed tributary of South Bosque River	31.412416	97.395694
City of Moody	10225001	0.200	Unnamed tributary to Stampede Creek	31.3097222	97.3633333

Name	TPDES Permit #	Discharge (mgd)	Receiving Stream	North Latitude	West Longitude
BRA/LCRA[3] BCRWSS[4] West	10264001	3.000	Brushy Creek	30.5155556	97.6647222
BRA/LCRA[3] BCRWSS[4] East	10264002	21.500	Brushy Creek	30.5263889	97.6172223
City of Taylor	10299001	4.000	Mustang Creek	30.5575000	97.3883333
Bell County WCID[5]#1	10351001	0.900	Belton Lake	31.1252778	97.5152778
Bell County WCID[5]#1	10351002	18.000	South Nolan Creek	31.1075000	97.7016667
Bell County WCID[5]#1	10351003	6.000	South Nolan Creek	31.1086111	97.7036111
City of Brenham	10388001	3.550	Hog Branch	30.1711111	96.3775000
City of Dublin	10405001	0.450	Resley Creek	32.0619444	98.3369444
City of Georgetown	10489002	2.500	San Gabriel River	30.6530556	97.6613889
City of Georgetown	10489003	2.500	unnamed tributary to Mankins Branch	30.6313889	97.6311111
City of Georgetown	10489005	3.000	Berry Creek	30.672944	97.609750
City of Hamilton	10492002	0.880	Pecan Creek	31.7094444	98.1138889
City of Hillsboro	10630001	1.810	Hackberry Creek	31.9983333	97.1444444
City of Rosebud	10731001	0.250	Salt Creek	31.0633333	96.9911111
Bell County WCID[5]#3	10797001	0.675	South Nolan Creek	31.6688889	97.6038889
City of Holland	10897001	0.200	Unnamed tributary to Darr Creek	30.8808334	97.3958333
Bell County WCID[5]#2	11090001	0.094	Boggy Creek	30.9783334	97.3436111
Bell County WCID[5]#2	11091001	0.160	Unnamed tributary to Boggy Creek	30.9847222	97.3663889
BRA TBRSS[6]	11318001	10.000	Nolan Creek	31.0438889	97.4397222
Acton MUD	14211001	0.600	McCarty Branch	32.4372222	97.6952777

Name	TPDES Permit #	Discharge (mgd)	Receiving Stream	North Latitude	West Longitude
Acton MUD[7]	14212001	0.820	Brazos River	32.3591667	97.6869444
City of Comanche	14445001	0.595	Indian Creek	31.8902777	98.5933333

1 BRA - Brazos River Authority
2 SWATS – Surface Water and Treatment System (Lake Granbury)
3 LCRA – Lower Colorado River Authority
4 BCRWSS – Brushy Creek Regional Wastewater Sewage System
5 WCID – Water Control & Improvement District
6 TBRSS – Temple-Belton Regional Sewage System
7 MUD – Municipal Utility District

3. DIVERSION

Permittee is authorized to divert and use the water authorized by this permit as follows:

A. POINTS

1) At the diversion points authorized by Permittee's existing water rights.

2) At United States Geological Survey (USGS) Gage No. 08091000, Brazos River near Glen Rose at Latitude 31.2589°N, Longitude 97.7022°W in Somervell County.

3) At USGS Gage No. 08098290, Brazos River near Highbank at Latitude 31.1339°N, Longitude 96.8247°W in Falls County.

4) At USGS Gage No. 08114000, Brazos River at Richmond at Latitude 29.5822°N, Longitude 95.7575°W in Fort Bend County.

5) At the mouth of the Brazos River at the Gulf of Mexico at Latitude 28.8783°N, Longitude 95.379111°W in Brazoria County.

6) At other such diversion points located in the reaches specified in USE Paragraph 1.B, above, or as may be identified and included in Permittee's Commission approved Water Management Plan, or as may be otherwise authorized in the future.

B. RATES

1) At the diversion rates authorized by the Certificates of Adjudication and Water Use Permit authorizing each of the reservoirs comprising the system operation as defined in this permit.

2) At unspecified rates at points within the reaches authorized in USE paragraph 1.B, including at the diversion points authorized by 3.A.2., 3.A.3., and 3.A.4., or points identified in the Commission approved Water Management Plan, subject to Permittee's accounting/delivery plan.

4. PRIORITY

The priority date for the rights authorized by this permit, including diversion of return flows, is October 15, 2004.

5. CONSERVATION

Permittee shall implement water conservation plans that provide for the utilization of those reasonable practices, techniques, and technologies that will reduce on a per unit basis the consumption of water, prevent or reduce the loss or waste of water, improve the efficiency in the use of water, increase the recycling and reuse of water, and prevent the pollution of water, so that a water supply is made available for future or alternative uses. The practices, techniques, and technologies used shall be designed to achieve a level of efficiency of use that is equal to or greater than the level provided for in Permittee's most recent water conservation plans on file with the Commission as of the date of the issuance of this permit. Such plans shall include a requirement that in every wholesale water supply contract entered into on or after the date of this permit, including any contract extension or renewal, that each successive wholesale customer develop and implement conservation measures meeting the requirements of this provision. If the customer intends to resell the water, then the contract for resale of the water must have water conservation requirements so that each successive wholesale customer in the resale of the water is required to implement water conservation measures meeting the requirements of this provision.

6. SPECIAL CONDITIONS

A. SPECIAL CONDITIONS RELATIVE TO USE OF RETURN FLOWS

1) Prior to the diversion of return flows authorized by this permit, Permittee must submit to and have approved by the Executive Director, a return flow accounting plan. The return flow accounting plan must be in electronic format and account, by source, for all return flows discharged and subsequently diverted. The return flow accounting plan shall include amounts discharged by outfall, amounts of return flows used by permits granted based on the presence of these return flows, estimated travel times and conveyance losses from discharge point to diversion point(s), and environmental flow requirements. If the return flows will be stored in Permittee's reservoirs, the return flow accounting plan should include any evaporative losses associated with the storage of these return flows. Permittee shall maintain the approved return flow accounting plan in electronic format and make it available to the general public during normal business hours and to the Executive Director upon request. Modifications or changes to the return flow accounting plan must be approved by the Executive Director. The return flow accounting plan shall be included as part of Permittee's accounting/delivery plan.

2) The right to divert discharged return flows from plants owned by the City of Granbury (TPDES Permit No. 10178002), Acton MUD (TPDES Permits Nos. 14211001 and 14212001), Bell County WCID #2 (TPDES Permit No. 11090001), City of Georgetown (TPDES Permits Nos. 10489002 and 10489003) and the City of Holland (TPDES Permit No. 10897001) is limited to the amount of surface water based return flows discharged from those plants that originates from water rights owned by the Permittee. Permittee is not authorized to divert groundwater based return flows discharged from these plants, except as may be authorized by Special Condition 6.A.4. Permittee must include in the reuse

accounting plan the total amount discharged from the plants and the percentage of that water that is divertable under this permit.

3) Permittee is authorized to divert historically discharged groundwater based return flows from the Brazos River Authority/LCRA BCRWSS West (TPDES Permit No. 10264001).

4) Future discharges of groundwater based return flows may be diverted if those return flows originate from groundwater owned by Permittee or are discharged from treatment plants owned by the Permittee. Prior to diversion, Permittee must apply for and be granted an amendment to this permit authorizing these diversions and shall submit for approval by the Executive Director, a revised accounting/delivery plan addressing such new groundwater based discharges.

5) Permittee is authorized to divert only that water discharged by the City of Marlin (TPDES Permit No. 10110002) originating from water rights owned by the Permittee. Permittee shall calculate the divertable amount of the City's discharge and include this information in the reuse accounting plan.

6) Permittee shall only divert the actual annual amount of return flows discharged from the Bell County WCID #1 (TPDES Permits Nos. 10351001 and 10351002) and the City of Harker Heights (TPDES Permit No. 10155001) less up to 172 acre-feet as authorized by Water Use Permit No. 4218, 37 acre-feet as authorized by Permit 5088 and 60 acre-feet as authorized by Water Use Permit No. 5089 when the aforementioned permits are being used.

7) Diversions and storage of return flows shall not occur at rates or in amounts higher than the actual daily amount of return flows discharged into watercourses in the Brazos River Basin, after accounting for the calculated losses and travel time from the discharge point(s) to the diversion point(s) in accordance with the accounting/delivery plan.

8) Prior to diversion of the water authorized herein, if sufficiently accurate measuring devices are not available, Permittee shall install and maintain measuring device(s) capable of measuring within plus or minus 5% accuracy, at the discharge point of each wastewater treatment plant (WWTP) to record the amount of return flows discharged into the Brazos River or its tributaries on a daily basis. If Permittee does not, or cannot, install such metering devices at specific discharge points, return flows from those discharge points cannot be included in the return flow accounting plan and the additional water supply attributable to those return flows shall not be available for storage, diversion and use pursuant to this permit, unless an alternate method for measuring or estimating return flows from those discharge points is approved by the Executive Director.

9) The priority date for diversion of up to 120,625 acre-feet (107.639 mgd) of return flows is October 15, 2004, and these return flows are subject to the environmental flow requirements in Special Condition 6.E.

10) The priority date for diversion of future return flows in excess of 120,625 acre-feet (107.639 mgd) of discharged return flows is October 15, 2004 but is not

subject to call by senior and superior permit holders in the basin and is not subject to instream flow limitations.

11) Prior to diversion of any return flows in excess of the individual TPDES Permit limits indicated in Paragraph 1.D. RETURN FLOWS, Permittee must apply for and be granted the right to reuse those return flows. Permittee must amend the reuse accounting plan to include future return flows prior to diverting said return flows.

12) The diversion of up to 120,625 acre-feet (107.639 mgd) of water is dependent upon potentially interruptible return flows or discharges and is conditioned on the availability of those discharges. The right to divert the discharged return flows is subject to revocation if discharges become permanently unavailable for diversion and may be subject to reduction if the return flows are not available in quantities and qualities sufficient to fully satisfy the permit. Should any discharges become permanently unavailable for diversion, Permittee shall immediately cease diversions of these return flows, amend this permit to reflect any reductions in the amount of non-firm water available for diversion and use, and reflect such reductions in the reuse accounting plan.

13) Permittee's diversion and use of return flows is subject to interruption by direct use or indirect use within the discharging entity's corporate limits, extraterritorial jurisdiction, or contiguous water certificate of convenience and necessity boundary, provided the discharging entity has applied for and been granted authorization to reuse the return flows.

B. SPECIAL CONDITIONS RELATIVE TO USE OF BED AND BANKS

1) The use of the bed and banks of Allens Creek from below Allens Creek Reservoir to the Brazos River is not authorized until Permittee applies for and is granted an amendment to Water Use Permit No. 2925 authorizing such use.

2) Permittee is authorized to use the following reaches, authorized in Permittee's certificates and amendments, for conveyance of water, previously appropriated to the Permittee and water authorized by this permit, downstream for diversion at Glen Rose, Highbank and the Gulf of Mexico and any of the Permittee's currently authorized diversion points within these reaches:

a. Brazos River from below Possum Kingdom Lake to the Gulf of Mexico;
b. Leon River from Lake Proctor to the confluence with the Little River;
c. Lampasas River from Lake Stillhouse Hollow to the confluence with the Little River;
d. Little River from the junction of Leon and Lampasas Rivers to the confluence with the Brazos River;
e. Yegua Creek from Lake Somerville to the confluence with the Brazos River;
f. Navasota River from Lake Limestone to the confluence with the Brazos River;
g. San Gabriel River from Lake Granger to the confluence with the Little River and downstream to its confluence with the Brazos River;
h. North Fork San Gabriel River from Lake Georgetown to the confluence with the San Gabriel River, to its confluence with the Little River and

downstream to its confluence with the Brazos River;

i. Aquilla Creek from Lake Aquilla downstream to its confluence with the Brazos River.

j. Allens Creek, following construction of Allens Creek Reservoir, downstream from Allens Creek Reservoir to its confluence with the Brazos River, subject to Special Condition 6.B.1.

3) Prior to use of the bed and banks identified in Special Condition 6.B.2 above, Permittee must submit to and have approved by the Executive Director, as part of its accounting/delivery plan, a procedure to estimate daily deliveries of water. This procedure should be in electronic format and detail by source, type and priority date, the amounts to be conveyed and delivered, losses associated with the conveyance, specific points of diversion, associated travel times, and times of commencement and termination of transit for conveyed waters. Documentation of actual deliveries as well as the accounting/delivery plan shall be maintained by the Permittee in electronic format and made available to the general public during normal business hours and to the Executive Director upon request. Modifications or changes to the accounting/delivery plan must be approved by the Executive Director.

4) The use of the bed and banks of additional streams and tributaries in the Brazos River Basin for conveyance of water appropriated under this permit, or other sources available to the Permittee, is subject to Permittee, after identifying specific sources and types of water, specific points of discharge and diversion, and conveyance and other losses, obtaining future authorizations to satisfy the requirements of TWC § 11.042, which approval may be granted by Commission approval of the Water Management Plan.

5) The use of additional points of diversion within the reaches specified in Special Condition 6.B.2 above is subject to Permittee obtaining authorization to use those diversion points. The points of diversion may also be identified and included in Permittee's proposed Water Management Plan which is subject to Commission approval.

C. SPECIAL CONDITIONS RELATIVE TO NEW APPROPRIATION

1) Prior to diversion or storage of the water authorized by this permit, Permittee shall provide to and have approved by the Executive Director, a daily accounting/delivery plan that includes, at a minimum, the following:

a. The accounting/delivery plan shall address reservoir storage and withdrawal plans for each system reservoir and account by priority date and amounts for any inflows, evaporation, water in storage and diversions from the reservoirs under all of Permittee's priority dates and authorizations including reuse;

b. A method to account for inflows to system reservoirs for purposes of compliance with special conditions requiring passage of pulse flows and estimation of those inflows;

c. An accounting of instream flow and pulse requirements to include total system storage, gage flows at the measurement points, high flow pulse

volume impounded and the release schedule for the impounded high flow pulse, and timing, magnitude and duration of pulse flows;

d. The accounting/delivery plan must detail how measurements will be taken to determine if impoundment or diversions under either Permittee's senior or junior rights can be made;

e. The accounting/delivery plan must identify, account for, and distinguish between firm and non-firm water supplied or delivered from Permittee's system of reservoirs. In addition, the accounting/delivery plan must specify diversion points for this water if those diversion points are not specifically identified in this permit. Any additional diversion points must be within the reaches where use of the bed and banks is authorized. Any diversion points outside those reaches will require an amendment to this permit;

f. Permittee shall maintain the approved daily accounting/delivery plan in electronic format and make it available to the general public during normal business hours and to the Executive Director upon request. Modifications or changes to the plan must be approved by the Executive Director.

2) If the total amounts of firm water indicated in Paragraph 1.A.1 are diverted at Glen Rose or Highbank, the additional amount of firm water available below those points is reduced accordingly. The Water Management Plan shall include a mechanism for determining the amount of firm and non-firm water available at specific locations.

3) The full additional amount of non-firm water is only available when the amount of firm water is reduced by 90,000 acre-feet per year at Glen Rose, Highbank, Richmond and the Gulf of Mexico. If less than the full amount of non-firm water is available, the amount of the firm water reduction shall be adjusted pursuant to Special Condition 6.C.2.

4) The non-firm water authorized in Paragraph 1.A.1 includes 72,811 acre-feet of historically discharged return flows. A reduction in firm yield water is not required in order to divert these return flows.

5) The remaining 47,814 acre-feet of return flows out of the total amount of 120,625 acre-feet of return flows as specified in 1.D. may be diverted by the Permittee so long as the total diversions under this permit for all of the authorizations do not exceed the amounts of firm water and non-firm water indicated in Paragraph 1.A.1. unless Permittee applies for and is granted the authorization to divert additional amounts of water.

6) Permittee may not exercise a priority call on water rights in the Brazos River Basin with priority dates senior to October 15, 2004 for purposes of increasing storage in and/or diversion from Permittee's system reservoirs where drawdown of Permittee's system reservoirs is caused by compliance with the terms and conditions of this permit.

7) The request for operational flexibility to use any source of water available to Permittee to satisfy the diversion requirements of senior water rights to the same extent that those water rights would have been satisfied by passing inflows

through the Permittee's system reservoirs on a priority basis is granted, but limited as follows:

a) To water previously stored in Permittee's reservoirs as documented in the accounting/delivery plan required in Special Condition 6.C.1 above;
b) Use of this option shall not cause Permittee to be out of compliance with Special Condition 6.C.1. and Special Condition 6.C.6.

8) Permittee may divert water from storage in its permitted reservoirs and store that water in Permittee's other reservoirs for use within the Permittee's service area so long as all diversions and storage are included in and comply with the provisions of the accounting/delivery plan required by Special Condition 6.C.1. above.

9) The total amount of water diverted and released from Permittee's system reservoirs pursuant to the authority of Permittee's existing water rights in any year for each authorized purpose of use may not exceed the cumulative authorized total for each purpose until Permittee applies for and is granted amendments to the underlying authorizations.

10) Permittee is required to comply with the existing System Operation Order and certificates of adjudication requiring Permittee to exclude tributary reservoirs from operation of the system during any period of time in which Permittee's permitted storage space in that reservoir is less than 30% full (until all system reservoirs are below 30% capacity, at which time the reservoir can resume system operation), until such time as Permittee submits, and the Commission approves, a Water Management Plan for the Brazos River Basin which details how such limitations will be altered. Any alterations to the limitations must be in compliance with the accounting provisions required in Special Condition 6.C.1 above.

11) Until such time as the ports are closed on the dam impounding Allens Creek Reservoir, authorized by Water Use Permit No. 2925, Permittee may impound and divert additional unappropriated water as specified in Paragraph 1.A.2 subject to Special Conditions 6.C.1 through 10 above.

12) Prior to diversion of water authorized by this permit below USGS Gage 08114000, Brazos River at Richmond, Permittee shall submit to the Executive Director, for review and approval, a method to extend the requirements of 6.E.5 and 6.E.7 to or below this point.

D. WATER MANAGEMENT PLAN SPECIAL CONDITIONS

1) Permittee shall prepare and submit to the Commission, a Water Management Plan (WMP) which shall include, in addition to the specific requirements listed below in Special Condition 6.D.4., such studies and other information as may be required by the Commission to demonstrate Permittee's compliance with and its ability to comply with all of the Special Conditions included in this permit.

2) The initial proceedings to consider the adoption of the WMP, and any major amendment thereof, shall be pursuant to contested case procedures. Any proceeding to consider the adoption or major amendment of the WMP shall be preceded by notice and opportunity to request a hearing, in accordance with the Commission's regulations applicable to water rights permitting proceedings. The WMP shall provide an adaptive management strategy for instream flow requirements and water supply and thus may be amended from time to time upon the request of Permittee, in accordance with the schedule set out in Special Condition 6.D.3. below, or on the Commission's own motion. The initial accounting/delivery plan shall be submitted for approval as part of the initial WMP. If the approved WMP describes the specific methodologies to be utilized, subsequent addition of diversion points within the authorization of this permit, modification of the accounting/delivery plan approved by the Executive Director, and similar modifications specifically provided for in the WMP are considered minor revisions of the WMP, to the extent such modifications do not otherwise require notice and opportunity for contested case hearing.

3) An initial application for approval of the WMP shall be submitted to the Executive Director not later than three years after the date that this permit becomes final and non-appealable. Permittee shall take the necessary steps to ensure that the application for the WMP is administratively and technically complete within one year after the initial submission of the application to the Executive Director. Deadlines established in this provision may be extended by the Executive Director. At minimum, every ten years after approval of the initial WMP, Permittee shall submit to the Executive Director an application for reconsideration or amendment of the approved WMP.

4) The issues addressed in the initial application for approval of the WMP shall include, but not be limited to, the following:

   a. Accounting/delivery plans (including return flow accounting plans);

   b. Consideration of adding, deleting, or modifying the measurement points and flow levels described in 6.E.5 and 6.E.7.;

   c. Consideration of establishing diversion rate trigger levels for high flow pulse (HFP) requirements, included in 6.E.7, below which the requirements of 6.E.7 would not apply;

   d. Establishment of a Brazos River Basin environmental flow study program identifying environmental flow studies to be conducted on specified reaches and the estimated time for completion of the studies. The program shall include such studies necessary to comply with Special Conditions 6.E.1 and 6.E.17. Permittee shall use the program studies to evaluate the need for instream flow protection for the mainstem Brazos River and tributaries impacted by the diversion and storage of water authorized by this permit;

   e. Development of operating guidelines to manage the frequency and magnitude of reservoir level fluctuations to avoid or minimize impacts

on fisheries. The operating guidelines may be subject to temporary suspension if necessary for water supply purposes;

f. Consideration of establishing maximum diversion rates for diversions of water authorized in this permit;

g. Development of operational and accounting criteria, in addition to that specified in 6.A.1, 6.B.3, and 6.C.1, to address uncertainty in forecasting and accounting for HFPs in a manner that balances the risks and benefits between water supply and environmental flow protection;

h. Consideration of revised storage triggers provided for in 6.E.3 and 6.E.4, and the process for recalculating those triggers;

i. Consideration of alteration of 6.C.10 relating to capacity limitations on tributary reservoirs. Should the existing 30% limitation be modified for any of Permittee's system reservoirs, Permittee shall apply to amend the water right authorizing that reservoir;

k. Development and implementation of a specific adaptive management strategy for meeting instream flow requirements consistent with providing water supplies. The adaptive management strategy shall include a monitoring program for assessing impacts on instream uses and address short and long term impacts to economically and ecologically important stream fisheries, unique aquatic communities and species, and water quality.

l. Development of a method to determine the amounts of firm and interruptible water used by Permittee directly or through Permittee's contracts for such water. Because the amounts of available firm and non-firm water are interrelated and may depend on locations and the extent to which discharged return flows are considered in the determination of available non-firm water, the Water Management Plan shall control the amounts of firm and non-firm water available at any location, subject to the limitations on permit amounts in Permit No. 5851.

m. Development of a method to determine reductions in the amount of the new appropriation of non-firm water authorized by this permit should return flows under TPDES permits included under this permit or any Water Management Plan or amendments thereof, as they exist on the date of issuance of this permit, become unavailable for diversion and use by Permittee.

5) Upon notification to Permittee, TPWD may petition the Commission to amend any WMP provisions related to environmental flow protection.

E. INTERIM SPECIAL CONDITIONS RELATIVE TO ENVIRONMENTAL FLOWS

1) The following interim conditions are preliminary and are based upon historic

flow analyses, without direct relationships to the biological and environmental benefits intended to be protected; therefore, Permittee shall conduct Instream Flow Studies (Studies) on the Brazos River and on segments of major tributaries upstream of their confluence with the Brazos River consistent with and in cooperation with the Texas Instream Flow Program (TIFP). Upon completion of the Studies, Permittee shall use the results to develop environmental flow conditions to replace the interim conditions in this permit for the measurement points identified in 6.E.5. Depending upon the time of completion of the Studies, replacement of these interim conditions shall be approved in the initial WMP or through the amendment of an approved WMP. The Studies are not limited to the geographic scope of the studies currently defined for the TIFP.

2) Seasons are defined as Spring (March–May), Summer (June-August), Fall (September-November), and Winter (December-February). The number of seasons and the months representing each season are subject to revision in the WMP based on best available science and information at the time of such revision.

3) Total storage in Permittee's system reservoirs is a trigger for determining instream flow requirements and is subject to revision in future Water Management Plans. Subsistence flows are to be implemented when total storage in Permittee's system reservoirs is below 60% of total capacity. "Dry" means times when the total storage in Permittee's system reservoirs is below 74%, but more than 60% of total capacity. "Average" means times when the total storage in Permittee's system reservoirs is at least 74%, but less than 96% of total capacity. "Wet" means times when the total storage in Permittee's system reservoirs is at least 96% of total capacity.

4) Permittee shall recalculate the storage triggers specified in 6.E.3 every five years to ensure that Subsistence, Dry, Average, and Wet conditions occur at the desired frequencies. The desired frequencies are Subsistence equal to 2.5% of the time, Dry equal to 22.5% of the time, Average equal to 50% of the time and Wet equal to 25% of the time.

5) Until such time as the Studies are completed, the interim instream flows in the following tables apply at the following USGS gauging stations. Measurement points for instream flows are subject to change in the WMP with approval of the Executive Director. The instream flow criteria in the following tables are applicable at all times. Depending upon the hydrologic condition (Subsistence, Dry, Average, or Wet), storage of water authorized by this permit in Permittee's system reservoirs upstream from the following flow gauging stations and the diversion and use of water pursuant to this permit at locations upstream from the flow gauging locations shall be authorized when streamflows exceed the instantaneous flow values established in the following tables:

Instream Flow (cfs)	BRAZOS RIVER NEAR GLEN ROSE - USGS #08091000			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	15.3	15.3	15.3	15.3
Dry	39.0	45.0	33.3	62.0
Average	92.0	138.0	101.5	150.0
Wet	234.0	292.8	249.5	332.0

Instream Flow (cfs)	YEGUA CREEK NEAR SOMERVILLE – USGS #08110000			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	0.1	0.1	0.1	0.1
Dry	5.6	3.9	0.4	0.3
Average	14.0	12.0	2.5	1.8
Wet	34.0	31.0	8.9	9.6

Instream Flow (cfs)	NAVASOTA RIVER NEAR EASTERLY USGS #08110500			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	7.6	7.6	7.6	7.6
Dry	7.6	10.0	7.6	7.6
Average	15.0	24.0	7.6	7.6
Wet	36.0	43.0	7.6	7.6

Instream Flow (cfs)	LITTLE RIVER NEAR CAMERON – USGS #08106500			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	67.9	67.9	67.9	67.9
Dry	100.0	135.0	133.0	82.0
Average	200.0	365.0	260.5	152.0
Wet	475.0	730.0	500.0	342.0

Instream Flow (cfs)	BRAZOS RIVER NEAR HIGHBANK – USGS #08098290			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	167.1	167.1	167.1	167.1
Dry	167.1	167.1	167.1	167.1
Average	220.59	344.19	323.85	225.29
Wet	672.74	759.30	780.69	508.98

Instream Flow (cfs)	BRAZOS RIVER NEAR RICHMOND – USGS #08114000			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	743	743	743	743
Dry	885	1,170	930	760
Average	1,630	2,030	1,450	1,150
Wet	2,955	3,670	2,635	2,038

6) A High Flow Pulse (HFP) is initiated when flows are greater than the 10th percentile and increase by more than 50% from the previous day, or when flows exceed the 75th percentile, regardless of the rate of change. A HFP is terminated when the flow drops below the 10th percentile or when the flow decreases from one day to the next by less than 5%, or when a succeeding pulse occurs. An entire HFP is also classified as a small flood if the maximum rate exceeds the small flood threshold at the 1.5 year recurrence interval.

7) Permittee shall meet a seasonal schedule of individual high flow pulses. Qualifying HFPs are defined as follows:

Pulse Flows (ac-ft)	BRAZOS RIVER NEAR GLEN ROSE - USGS #08091000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	2,329.6	3,208.3	2,617.2	2,211.6
Average	7,325.0	14,915.7	7,265.5	7,565.0
Wet	31,220.8	36,144.8	33,064.5	28,682.0

Peak Flows (cfs)	BRAZOS RIVER NEAR GLEN ROSE - USGS #08091000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	403	466	394	347
Average	1,120	2,070	1,320	1,040
Wet	4,945	5,265	4,370	3,525

Pulse Flow Schedule (days/# of events)	BRAZOS RIVER NEAR GLEN ROSE - USGS #08091000							
	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	6	2	4	3	4	2	4	2
Average	7	2	6	2	6	2	7	1
Wet	13	1	10	2	11	1	11	1

*Duration **Frequency

Pulse Flows (ac-ft)	YEGUA CREEK NEAR SOMERVILLE – USGS #08110000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	416.6	275.7	52.4	59.2
Average	1,904.1	1,225.8	239.2	372.9
Wet	8,510.1	4,331.3	845.2	3,367.3

Peak Flows (cfs)	YEGUA CREEK NEAR SOMERVILLE – USGS #08110000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	69	51	13	10
Average	294	176	53	64
Wet	978	620	140	490

Pulse Flow Schedule (days/# of events)	YEGUA CREEK NEAR SOMERVILLE – USGS #08110000							
	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	5	2	5	2	4	2	5	1
Average	10	1	8	1	7	1	7	2
Wet	15	1	13	1	11	1	11	1

*Duration **Frequency

Pulse Flows (ac-ft)	NAVASOTA RIVER NEAR EASTERLY-USGS #08110500			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	439.3	748.3	195.9	77.1
Average	2,142.1	2,220.5	746.9	275.0
Wet	7,927.9	8,537.9	3,399.7	2,456.3

Peak Flows (cfs)	NAVASOTA RIVER NEAR EASTERLY – USGS #08110500			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	76	124	33	11
Average	298	344	142	43
Wet	1,060	1,160	592	371

Pulse Flow Schedule (days/# of events)	NAVASOTA RIVER NEAR EASTERLY – USGS #08110500							
	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	5	2	5	3	5	2	4	2
Average	8	2	9	2	8	2	7	2
Wet	12	1	12	1	13	1	11	1

*Duration **Frequency

Pulse Flows (ac-ft)	LITTLE RIVER NEAR CAMERON – USGS #08106500			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	4,194.4	5,641.5	3,563.3	3,511.2
Average	9,633.7	16,251.6	9,088.3	9,183.5
Wet	29,414.9	42,034.7	25,811.4	20,494.2

Peak Flows (cfs)	LITTLE RIVER NEAR CAMERON – USGS #08106500			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	604	958	577	568
Average	1,600	2,545	1,875	1,630
Wet	5,190	6,405	3,665	3,723

Pulse Flow Schedule (days/# of events)	LITTLE RIVER NEAR CAMERON – USGS #08106500							
	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	5	1	4	2	4	2	4	2
Average	6	1	6	2	6	1	6	1
Wet	10	1	9	1	9	1	9	1

*Duration **Frequency

Pulse Flows (ac-ft)	BRAZOS RIVER AT HIGHBANK – USGS #08098290			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	5,113.9	6,040.7	4,784.0	3,652.4
Average	11,647.1	14,346.9	15,135.1	11,398.8
Wet	38,514.1	38,127.3	49,810.6	39,416.6

Peak Flows (cfs)	BRAZOS RIVER AT HIGHBANK – USGS #08098290			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	1,471	1,429	1,116	714
Average	2,576	2,952	2,566	2,274
Wet	5,225	6,748	7,703	5,366

Pulse Flow Schedule (days/# of events)	BRAZOS RIVER AT HIGHBANK – USGS #08098290							
	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	3	1	3	3	3	3	3	2
Average	4	1	4	3	5	2	5	2
Wet	7	1	7	1	8	1	9	1

*Duration **Frequency

Pulse Flows (ac-ft)	BRAZOS RIVER NEAR RICHMOND – USGS #08114000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	36,265.8	44,667.8	38,181.1	22,457.9
Average	90,287.6	101,405.0	77,176.9	56,162.0
Wet	297,550.4	270,153.7	166,115.7	146,866.1

Peak Flows (cfs)	BRAZOS RIVER NEAR RICHMOND – USGS #08114000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	3,748	5,640	4,880	2,500
Average	9,670	10,200	8,830	7,730
Wet	19,500	19,150	15,300	13,175

Pulse Flow Schedule (days/# of events)	BRAZOS RIVER NEAR RICHMOND – USGS #08114000							
	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	5	1	5	1	4	1	4	1
Average	8	1	7	1	7	1	7	1
Wet	16	1	13	1	12	1	11	1

*Duration **Frequency

8) Except under Subsistence conditions, diversion or storage of water upstream from defined measurement points under the authority of this permit shall be authorized during a pulse when the volume, duration, and peak flow of the individual pulse exceeds the individual pulse criteria, or when the number of pulse events in that season exceeds the pulse frequency criteria. When a Qualifying HFP is passed or provided for at one of the six defined measurement points it may be used as credit for meeting one seasonal HFP frequency requirement.

9) For streamflow events that meet the requirements of Special Condition 6.E.5, Permittee may temporarily impound all flows in excess of the instream flow requirement. If the streamflow event provided a Qualifying HFP, flow may need to be passed downstream for environmental needs, subject to seasonal requirements in Special Condition 6.E.7 above. If it did not, then Permittee may retain the impounded water for water supply purposes. Once the required number of HFPs is met, Permittee may divert or impound all subsequent HFPs for use as water supply as long as instream flow requirements specified in Special Condition 6.E.5 are met.

10) For streamflow events that meet the requirements of Special Condition 6.E.6, but do not meet the minimum requirements of a Qualifying HFP, Permittee may impound flows in excess of instream flow requirements and shall record the impounded volume in its accounting/delivery plan. At such time as the cumulative volume of streamflow events exceeds the volume of a Qualifying HFP, Permittee may release such a pulse to the environment. Such a release will result in a credit for a Qualifying HFP.

11) If the streamflow event is designated an HFP but ultimately does not meet the minimum requirements of a Qualifying HFP, the volume passed shall be recorded in the accounting/delivery plan. At such time as the cumulative volume of such pulses exceeds the volume of a Qualifying HFP, Permittee will be credited with one Qualifying HFP (even if the duration, peak flow, etc. characteristics were not met).

12) For purposes of determining satisfaction of Qualifying HFP criteria, each season is accounted for independently. There is no carry-over from season to season,

either in regard to exceeding or not meeting HFP requirements. In the event there are seasons where the requisite number or volume of HFPs do not occur naturally, the Permittee is not obligated to meet the seasonal HFP requirements. In the event that a pulse extends across seasonal boundaries, it will be accounted in the season in which it ends.

13) Seasonal HFP requirements are to be met using streamflow events with peak flows less than the 1.5-year return interval; however, streamflow events with both peak flows that exceed the 1.5-year return interval and satisfy the requirements of a Qualifying HFP may be classified as both overbanking flows and an HFP.

14) Special Conditions 6.E.6 - 6.E.14, relating to High Flow Pulses are subject to Special Condition 6.D.4, relating to the contents of the initial application for approval of the WMP.

15) In addition to the measurement points and requirements specified in Special Conditions 6.E.5 and 6.E.7 above, Permittee is prohibited from diverting and storing water authorized by this permit upstream of the following gages unless streamflow at the following gages meets or exceeds the values as follows:

Gage Name	Gage #	7Q2 Value (cfs)
Brazos River near Palo Pinto	08089000	32.0
Aquilla Creek above Aquilla	08093360	0.1
Brazos River near Aquilla	08093100	26.0
Leon River near Belton	08102500	4.7
Leon River near Gatesville	08100500	4.7
Lampasas River near Belton	08104100	4.8
N Fork San Gabriel River near Georgetown	08104700	1.1
San Gabriel River at Laneport	08105700	3.6

16) Permittee, in cooperation with TPWD and the Commission, shall conduct Monitoring Studies to assess instream flow protection at the water quality protection measurement points identified in 6.E.16. These Monitoring Studies shall collect baseline data on the biology, habitat, water quality, hydrology, ecosystem health and other environmental factors of the stream segment between the water quality protection point and the immediate downstream measurement point. If baseline data is sufficient to determine instream flow protection needs, and such criteria are determined to be necessary, the data shall be used to develop criteria to replace the values in 6.E.16. If the results of the Monitoring Studies indicate that additional study is needed, Instream Flow Studies shall be conducted to determine appropriate instream flow protection criteria for the water quality protection points and the results of such Instream Flow Studies shall be used to develop criteria to replace the values in 6.E.16. Depending upon the time of completion of the Monitoring Studies or applicable Instream Flow Studies, modification of the values in 6.E.16 shall be approved in the initial WMP or through the amendment of an approved WMP. As part of the study and analysis

required in this provision, Permittee shall perform and complete a Little River watershed study (including all points identified in 6.E.16 within the Little River watershed) prior to filing its application for approval of the initial WMP. If Permittee does not complete the Little River watershed study prior to filing its application for approval of the initial WMP, Permittee shall not divert or impound water authorized by this permit from the Little River watershed until that study is completed and results considered in an application to amend the WMP.

17) Permittee shall consult with the U.S. Army Corps of Engineers on federal projects to determine whether overbanking flows can be safely managed to maintain a sound ecological environment.

18) The requirements of these Special Conditions apply only to diversion and storage under the authority of this permit and do not address or limit diversion and storage of water authorized by other water rights held by Permittee.

19) These special conditions are subject to adjustment by the Commission if the Commission determines, through an expedited public review process, that such adjustment is appropriate to achieve compliance with applicable environmental flow standards adopted pursuant to Texas Water Code § 11.1471. Any adjustment shall be made in accordance with the provisions of Texas Water Code § 11.147(e-1).

This permit is issued subject to all superior and senior water rights in the Brazos River Basin.

Permittee agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This permit is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of state water resources exercised by the Commission.

_____
For the Commission

ISSUED:

BRA Draft

WATER USE PERMIT

PERMIT NO. 5851

TYPE §§ 11.121, 11.042 & 11.085

Permittee: Brazos River Authority

Address: P.O. Box 7555
Waco, Texas 76714-7555

Filed: October 15, 2004

Granted:

Purposes: Domestic, Municipal, Agricultural, Industrial, Mining, and Recreation

Counties: Parmer, Castro, Swisher, Bailey, Lamb, Hale, Floyd, Cochran, Hockley, Archer, Lubbock, Crosby, Baylor, Dickens, King, Knox, Jack, Terry, Lynn, Mitchell, Chambers, Young, Garza, Throckmorton, Kent, Haskell, Stonewall, Parker, Palo Pinto, Dawson, Scurry, Borden, Fisher, Stephens, Jones, Shackelford, Johnson, Hood, Nolan, Erath, Eastland, Taylor, Callahan, Somervell, Hill, Comanche, Bosque, Brown, Freestone, Hamilton, McLennan, Limestone, Mills, Coryell, Leon, Falls, Lampasas, Robertson, Bell, Madison, Milam, Burnet, Brazos, Grimes, Williamson, Burleson, Travis, Lee, Washington, Bastrop, Fayette, Waller, Harris, Austin, Colorado, Fort Bend, Galveston, Matagorda, Wharton, and Brazoria

Watercourses: Multiple Tributaries of the Brazos River and the Brazos River

Watersheds: Brazos River Basin, Trinity River Basin, Red River Basin, Colorado River Basin, San Jacinto River Basin, San Jacinto-Brazos Coastal Basin, Brazos-Colorado Coastal Basin Lavaca River Basin Guadalupe River Basin

Record Copy

MAY 13 2011

BRA Exhibit No. 8-B

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ATTACHMENT B

WHEREAS, the Brazos River Authority, Applicant, owns the water rights and reservoirs authorized by Certificate of Adjudication (Certificate) No. 12-5155 (Possum Kingdom Lake), Certificate No. 12-5156 (Lake Granbury), Certificate No. 12-5165 (Lake Limestone), and Water Use Permit No. 2925A (Allens Creek Reservoir in conjunction with the Texas Water Development Board and the City of Houston); and

WHEREAS, Applicant also owns the water rights and has contracts with the United States Army Corps of Engineers for storage authorized by Certificate No. 12-5157 (Lake Whitney), Certificate No. 12-5158 (Lake Aquilla), Certificate No. 12-5159 (Lake Proctor), Certificate No. 12-5160 (Lake Belton), Certificate No. 12-5161 (Lake Stillhouse Hollow), Certificate No. 12-5162 (Lake Georgetown), Certificate No. 12-5163 (Lake Granger), Certificate No. 12-5164 (Lake Somerville); and

WHEREAS, Applicant also owns the water rights authorized by Certificates Nos. 12-5166 and 12-5167, which authorize various uses of water within the Applicant=s other certificates and permits; and

WHEREAS, Applicant is currently authorized, pursuant to the 1964 System Operation Order, as amended, to manage and operate its tributary reservoirs as elements of a system, coordinating releases and diversions from the tributary reservoirs with releases and diversions from the Applicant's mainstem reservoirs to minimize waste, and to conserve water in reservoirs in which the supply is short by making releases from tributary reservoirs in which the supply is more abundant; and

WHEREAS, Applicant has indicated that their service area includes the following counties: Parmer, Castro, Swisher, Bailey, Lamb, Hale, Floyd, Cochran, Hockley, Archer, Lubbock, Crosby, Baylor, Dickens, King, Knox, Jack, Terry, Lynn, Mitchell, Chambers, Young, Garza, Throckmorton, Kent, Haskell, Stonewall, Parker, Palo Pinto, Dawson, Scurry, Borden, Fisher, Stephens, Jones, Shackelford, Johnson, Hood, Nolan, Erath, Eastland, Taylor, Callahan, Somervell, Hill, Comanche, Bosque, Brown, Freestone, Hamilton, McLennan, Limestone, Mills, Coryell, Leon, Falls, Lampasas, Robertson, Bell, Madison, Milam, Burnet, Brazos, Grimes, Williamson, Burleson, Travis, Lee, Washington, Bastrop, Fayette, Waller, Harris, Austin, Colorado, Fort Bend, Galveston, Matagorda, Wharton, Brazoria; and

WHEREAS, Applicant has applied for a Water Use Permit to authorize:

- A new appropriation of state water in the amount of 421,449 acre-feet per year for multiple uses, including domestic, municipal, agricultural, industrial, mining, and other beneficial uses on a firm basis in the Brazos River Basin. The amount of this new appropriation of water includes the current and future return flows requested in this application. Applicant indicates that the entire amount of 421,449 acre-feet of water per year is available only if all of it is diverted at the mouth of the Brazos River, and can only be made available by the Applicant through the system operation of its water rights. To the extent water is diverted upstream, the remaining unappropriated water downstream is reduced and will itself vary depending upon the location of its diversion and use. Out of the 421,449 acre-feet per year of unappropriated water being requested, the maximum amount of unappropriated water that will be available if such water is diverted upstream at USGS Gage No. 08091000 near Glen Rose, Texas is 150,538 acre-feet per year firm, and if such unappropriated water is diverted

upstream at USGS Gage No. 08098290 near Highbank, Texas, the maximum amount of unappropriated water that will be available at that location is 144,306 acre-feet per year firm;

- Diversion of the water authorized by this permit, if granted, from: (i) the existing diversion points authorized by Applicant's existing water rights; (ii) the Brazos River at the USGS Gage No. 08091000 near Glen Rose, Texas; (iii) the Brazos River at USGS Gage No. 08098290 near Highbank, Texas; (iv) the Brazos River at the Gulf of Mexico; and (v) at such other diversion points that may be identified and included in Applicant's proposed Water Management Plan which is subject to TCEQ's approval;

- Use of up to 90,000 acre-feet of water per year of its firm supply (part of the 421,449 acre-feet of firm water requested above) to produce, along with other unappropriated flows, an interruptible water supply of 670,000 acre-feet per year and the appropriation of that interruptible water supply. Applicant indicates that the entire amount of 1,001,449 acre-feet of water (331,449 acre-feet of firm water and 670,000 acre-feet of interruptible water) is available only if all of it is diverted at the mouth of the Brazos River, and can only be made available by the Applicant through the system operation of its water rights. To the extent water is diverted upstream, the remaining unappropriated water downstream is reduced and will itself vary depending on the location of its diversion and use. This new appropriation of water includes the current and future return flows requested in this application. Out of the 1,001,449 acre-feet of firm and interruptible water being requested, the maximum amount of firm and interruptible water that will be available if such water is diverted upstream at USGS Gage No. 08091000 near Glen Rose, Texas is 60,538 acre-feet of firm water per year and 157,000 acre-feet of interruptible water per year and if such water is diverted upstream at USGS Gage No. 08098290 near Highbank, Texas, the maximum amount of firm water is 54,306 acre-feet of water per year and 303,000 acre-feet of interruptible water per year;

- An exempt interbasin transfer authorization to transfer and use, on a firm and interruptible basis, such water in the adjoining San Jacinto-Brazos Coastal Basin and the Brazos-Colorado Coastal Basin, and to transfer such water to any county or municipality or the municipality's retail service area that is partially within the Brazos River Basin for use, on a firm and interruptible basis, in that part of the county or municipality and the municipality's retail service area not within the Brazos River Basin;

- An appropriation of current and future return flows (treated sewage effluent and brine bypass/return) to the extent that such return flows continue to be discharged or returned into the bed and banks of the Brazos River, its tributaries, and Applicant's reservoirs. Applicant indicates that such appropriation of return flows would be subject to interruption by direct reuse or indirect reuse within the discharging entity's city limits, extraterritorial jurisdiction, or contiguous water certificate of convenience and necessity boundary. Specified discharge points and amounts of water will be accounted for on a monthly basis as part of Applicant's Water Management Plan which is subject to TCEQ's approval;

- Operational flexibility to (1) use any source of water available to the Applicant to satisfy the diversion requirements of senior water rights to the same extent that those water rights would have been satisfied by passing inflows through the Applicant's reservoirs on a priority basis; and (2) release, pump and transport water from any of the Applicant's reservoirs for subsequent storage, diversion and use throughout the Applicant's service area. (Applicant's "service area" includes all counties listed above);

- Recognition that this System Operation Permit approved pursuant to this application will prevail over inconsistent provisions in the Applicant's existing water rights regarding system operation;

- Use of the bed and banks of the Brazos River, its tributaries and the Applicant's reservoirs for the conveyance, storage, and subsequent diversion of (i) water that the Applicant seeks to appropriate under this application; (ii) waters that are being conveyed via pipelines and subsequently discharged into the Brazos River, its tributaries or stored in the Applicant's reservoirs; (iii) surface water imported from areas located outside the Brazos River Basin for subsequent use; (iv) in-basin surface water and groundwater subject to the Applicant's control; (v) waters developed from future Applicant projects; and (vi) current and future reuse of surface and groundwater based return flows requested by this application. This bed and banks authorization is subject to Applicant, after identifying specific points of discharge and diversion and conveyance and other losses, obtaining future authorizations to satisfy the requirements of TWC § 11.042. Such points of discharge and diversion and conveyance and other losses may also be identified and included in Applicant's proposed Water Management Plan which is subject to TCEQ's approval; and

WHEREAS, until the construction of Allens Creek Reservoir is completed, Applicant requests that the System Operation Permit include special conditions which authorize:

- The Applicant to appropriate state water in the amount of 425,099 acre-feet per year for multiple use purposes, including domestic, municipal, agricultural, industrial, mining, and other beneficial uses on a firm basis in the Brazos River Basin. This amount includes the current and future return flows requested in this application. This amount is available if all of the water is diverted at the mouth of the Brazos River, and can only be made available by the Applicant through the system operation of its water rights. To the extent water is diverted upstream, the remaining unappropriated water downstream is reduced and will itself vary depending upon the location of its diversion and use. Out of the 425,099 acre-feet per year of unappropriated water being requested, the maximum amount of unappropriated water that will be available if such water is diverted upstream at USGS Gage No. 08091000 near Glen Rose, Texas is 150,538 acre-feet per year firm and if such unappropriated water is diverted upstream at USGS Gage No. 08098290 near Highbank, Texas the maximum amount of unappropriated water that will be available is, at that location, 175,306 acre-feet per year firm;

- The Applicant to use up to 90,000 acre-feet of water per year of its firm supply to produce, along with other unappropriated flows an interruptible water supply of 869,000 acre-feet per year. This amount includes the current and future return

flows requested in this application. Applicant indicates that the entire amount of 1,204,099 acre-feet of water (335,099 acre-feet of firm water and 869,000 acre-feet of interruptible water) is only available if all of it is diverted at the mouth of the Brazos River, and can only be made available by the Applicant through the system operation of its water rights. To the extent water is diverted upstream, the remaining unappropriated water downstream is reduced and will itself vary depending upon the location of its diversion and use. Out of the 1,204,099 acre-feet of firm and interruptible water being requested, the maximum amount of firm and interruptible water that will be available if such water is diverted upstream at USGS Gage No. 08091000 near Glen Rose, Texas, will be 60,538 acre-feet of firm water per year and 190,000 acre-feet of interruptible water per year and if such water is diverted upstream at USGS Gage No. 08098290 near Highbank, Texas the maximum amount of firm water will be 85,306 acre-feet of water per year and 284,000 acre-feet of interruptible water per year;

- Exempt interbasin transfer authorization to transfer and use, on a firm and interruptible basis, such water in the adjoining San Jacinto-Brazos Coastal Basin and the Brazos-Colorado Coastal Basin, and to transfer such water to any county or municipality or the municipality's retail service area that is partially within the Brazos River Basin for use, on a firm and interruptible basis, in that part of the county or municipality and the municipality's retail service area not within the Brazos River Basin; and

WHEREAS, the Texas Commission on Environmental Quality (Commission) finds that jurisdiction over the application is established; and

WHEREAS, the Executive Director recommends that specific stream flow restrictions should be included in the permit to maintain the instream uses and water quality conditions of the Brazos River; and

WHEREAS, as additional factual and scientific information becomes available, it is anticipated that the interim special conditions in Paragraph 6.E. below relative to environmental flows will be revised, through Commission approved revisions of the Water Management Plan, to better provide for the environmental instream flow needs of the Brazos River and its tributaries and to make the maximum amount of water available for beneficial use that is consistent with those needs; and

WHEREAS, the Executive Director recommends that in order to protect senior and superior water rights owners, special conditions should be included in the permit; and

WHEREAS, to avoid ambiguities between this system operation authorization and Applicant's previous system operation authorizations reflected by the System Operation Order and existing permits, the Executive Director recommends that this System Operation Permit be subject to all provisions included in the Commission's July 23, 1964 System Operation Order, as amended, authorizing system operation of certain reservoirs in the Brazos River Basin and to all terms and conditions of Permittee's authorizations in Certificates Nos. 12-5155, 12-5156, 12-5165, 12-5157, 12-5160, 12-5159, 12-5164, 12-5161, 12-5163, 12-5162, 12-5158, 12-5166 and 12-5167 and Water Use Permit No. 2925A except to the extent specifically provided otherwise by conditions in this permit regarding the total amount of water appropriated and available for storage, use and diversion and purpose of use, and as may be modified in the future by Commission approval of Applicant's Water Management Plan; and

WHEREAS, this application is subject to the Texas Coastal Management Program (CMP) and must be consistent with the CMP goals and policies; and

WHEREAS, the Commission finds that the issuance of this permit is consistent with the goals and policies of the Texas CMP; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this permit;

NOW, THEREFORE, Water Use Permit No. 5851 is issued to the Brazos River Authority, subject to the following terms and conditions:

1. USE

A. NEW APPROPRIATION

1) Permittee is authorized to impound, divert, and use not to exceed the following volumes of unappropriated water per year for domestic, municipal, agricultural, industrial, and mining use within its service area subject to special conditions:

	New Appropriation Amounts
Location	**Volume in acre-feet**
Glen Rose	217,538
Highbank	357,306
Richmond	1,001,449
Gulf of Mexico	1,001,449

2) Until such time as the ports are closed on the dam impounding Allens Creek Reservoir, authorized by Water Use Permit No. 2925, in lieu of Paragraph 1.A.1, Permittee may impound, divert, and use not to exceed the following volumes of unappropriated water per year, subject to special conditions:

	New Appropriation Amounts without Allens Creek
Location	**Volume in acre-feet**
Glen Rose	250,538
Highbank	369,306
Richmond	1,204,099
Gulf of Mexico	1,204,099

B. USE OF BED AND BANKS

Permittee is authorized to use the bed and banks of the Brazos River below Possum Kingdom Lake, its tributaries and Permittee's authorized reservoirs for the conveyance, storage, and subsequent diversion of the water authorized herein, subject to identification of specific losses and special conditions.

C. INTERBASIN TRANSFER

Permittee is hereby granted an exempt interbasin transfer authorization to transfer and use the water authorized herein in Permittee's service area in the adjoining San Jacinto-Brazos Coastal Basin and the Brazos-Colorado Coastal Basin and to transfer such water to any county or municipality or the municipality's retail service area that is partially within the Brazos River Basin for use on a firm and non-firm basis in that part of the county or municipality and the municipality's retail service area within the Trinity, Red, Colorado, Guadalupe, Lavaca and San Jacinto River Basins.

D. RETURN FLOWS

Permittee is authorized to impound, divert and use return flows discharged into the Brazos River Basin subject to special conditions to protect water rights granted based on the presence of those return flows as well as other senior rights. The storage and diversion of return flows is subject to environmental flow requirements set out in Special Condition 4.E.

2. DIVERSION

Permittee is authorized to divert and use the water authorized by this permit as follows:

A. POINTS

1) At the diversion points authorized by Permittee's existing water rights.

2) At United States Geological Survey (USGS) Gage No. 08091000, Brazos River near Glen Rose at Latitude 31.2589°N, Longitude 97.7022°W in Somervell County.

3) At USGS Gage No. 08098290, Brazos River near Highbank at Latitude 31.1339°N, Longitude 96.8247°W in Falls County.

4) At USGS Gage No. 08114000, Brazos River at Richmond at Latitude 29.5822°N, Longitude 95.7575°W in Fort Bend County.

5) At the mouth of the Brazos River at the Gulf of Mexico at Latitude 28.8783°N, Longitude 95.379111°W in Brazoria County.

6) At other such diversion points located in the reaches specified in USE Paragraph 1.B, above, or as may be identified and included in Permittee=s Commission approved Water Management Plan, or as may be otherwise authorized in the future.

B. RATES

1) At the diversion rates authorized by the Certificates of Adjudication and Water Use Permit authorizing each of the reservoirs comprising the system operation as defined in this permit.

2) At unspecified rates at points within the reaches authorized in USE paragraph 1.B, including at the diversion points authorized by 2.A.2.,

2.A.3., 2.A.4, and 2.A.5., or points identified in the Commission approved Water Management Plan, subject to Permittee's accounting/delivery plan.

3. PRIORITY

The priority date for the rights authorized by this permit, including diversion of return flows, is October 15, 2004.

4. CONSERVATION

Permittee shall implement water conservation plans that provide for the utilization of those reasonable practices, techniques, and technologies that will reduce on a per unit basis the consumption of water, prevent or reduce the loss or waste of water, improve the efficiency in the use of water, increase the recycling and reuse of water, and prevent the pollution of water, so that a water supply is made available for future or alternative uses. The practices, techniques, and technologies used shall be designed to achieve a level of efficiency of use that is equal to or greater than the level provided for in Permittee's most recent water conservation plans on file with the Commission as of the date of the issuance of this permit. Such plans shall include a requirement that in every wholesale water supply contract entered into on or after the date of this permit, including any contract extension or renewal, that each successive wholesale customer develop and implement conservation measures meeting the requirements of this provision. If the customer intends to resell the water, then the contract for resale of the water must have water conservation requirements so that each successive wholesale customer in the resale of the water is required to implement water conservation measures meeting the requirements of this provision.

5. SPECIAL CONDITIONS

A. SPECIAL CONDITIONS RELATIVE TO USE OF RETURN FLOWS

1) Prior to the diversion of return flows authorized by this permit, Permittee must submit to and have approved by the Executive Director, a return flow accounting plan. The return flow accounting plan must be in electronic format and account, by source, for all return flows discharged. The return flow accounting plan shall include amounts discharged by outfall and computation of the amount of additional firm yield attributable to the total amount of return flows actually discharged, taking into account environmental flow requirements and demands of senior water rights. Permittee's use of additional water supply attributable to return flows is limited to the amount shown to be available, based upon amounts discharged, by the return flow accounting plan. Permittee shall maintain the approved return flow accounting plan in electronic format and make it available to the general public during normal business hours and to the Executive Director upon request. Modifications or changes to the return flow accounting plan must be approved by the Executive Director. The return flow accounting plan shall be included as part of Permittee's accounting/delivery plan.

2) Permittee's storage, diversion and use of surface water based return flows is subject to interruption by direct use or indirect use within the

discharging entity's corporate limits, extraterritorial jurisdiction, or contiguous water certificate of convenience and necessity boundary, provided the discharging entity has applied for and been granted authorization to reuse the return flows.

3) Permittee's storage, diversion and use of groundwater based return flows is subject to interruption by direct reuse or indirect reuse upon issuance of a bed and banks authorization pursuant to Texas Water Code § 11.042(b) by TCEQ to the discharging entity.

4) Prior to diversion of the water authorized herein as attributable to return flows, if sufficiently accurate measuring devices are not available, Permittee shall install and maintain measuring device(s) capable of measuring within plus or minus 5% accuracy, at the discharge point of each wastewater treatment plant (WWTP) to record the amount of return flows discharged into the Brazos River or its tributaries on a daily basis. If Permittee does not, or cannot, install such metering devices at specific discharge points, return flows from those discharge points cannot be included in the return flow accounting plan and the additional water supply attributable to those return flows shall not be available for storage, diversion and use pursuant to this permit, unless an alternate method for measuring or estimating return flows from those discharge points is approved by the Executive Director.

B. SPECIAL CONDITIONS RELATIVE TO USE OF BED AND BANKS

1) The use of the bed and banks of Allens Creek from below Allens Creek Reservoir to the Brazos River is not authorized until Permittee applies for and is granted an amendment to Water Use Permit No. 2925 authorizing such use.

2) Permittee is authorized to use the following reaches, authorized in Permittee's certificates and amendments, for conveyance of water, previously appropriated to the Permittee and water authorized by this permit, downstream for diversion at Glen Rose, Highbank and the Gulf of Mexico and any of the Permittee's currently authorized diversion points within these reaches:

a. Brazos River from below Possum Kingdom Lake to the Gulf of Mexico;
b. Leon River from Lake Proctor to the confluence with the Little River;
c. Lampasas River from Lake Stillhouse Hollow to the confluence with the Little River;
d. Little River from the junction of Leon and Lampasas Rivers to the confluence with the Brazos River;
e. Yegua Creek from Lake Somerville to the confluence with the Brazos River;
f. Navasota River from Lake Limestone to the confluence with the Brazos River;
g. San Gabriel River from Lake Granger to the confluence with the

Little River and downstream to its confluence with the Brazos River;

h. North Fork San Gabriel River from Lake Georgetown to the confluence with the San Gabriel River, to its confluence with the Little River and downstream to its confluence with the Brazos River;

i. Aquilla Creek from Lake Aquilla downstream to its confluence with the Brazos River.

j. Allens Creek, following construction of Allens Creek Reservoir, downstream from Allens Creek Reservoir to its confluence with the Brazos River, in compliance with Special Condition 5.B.1, above.

3) Prior to use of the bed and banks identified in Special Condition 5.B.2 above, Permittee must submit to and have approved by the Executive Director, as part of its accounting/delivery plan, a procedure to estimate daily deliveries of water. This procedure should be in electronic format and detail by source, type and priority date, the amounts to be conveyed and delivered, losses associated with the conveyance, specific points of diversion, associated travel times, and times of commencement and termination of transit for conveyed waters. Documentation of actual deliveries as well as the accounting/delivery plan shall be maintained by the Permittee in electronic format and made available to the general public during normal business hours and to the Executive Director upon request. Modifications or changes to the accounting/delivery plan must be approved by the Executive Director.

4) The use of the bed and banks of additional streams and tributaries in the Brazos River Basin for conveyance of water appropriated under this permit, or other sources available to the Permittee, is subject to Permittee, after identifying specific sources and types of water, specific points of discharge and diversion, and conveyance and other losses, obtaining future authorizations to satisfy the requirements of TWC § 11.042, which approval may be granted by Commission approval of the Water Management Plan.

5) The use of additional points of diversion within the reaches specified in Special Condition 5.B.2 above is subject to Permittee obtaining authorization to use those diversion points. The points of diversion may also be identified and included in Permittee's proposed Water Management Plan which is subject to Commission approval.

C. SPECIAL CONDITIONS RELATIVE TO NEW APPROPRIATION

1) Prior to diversion or storage of the water authorized by this permit, Permittee shall provide to and have approved by the Executive Director, a daily accounting/delivery plan that includes, at a minimum, the following:

a. The accounting/delivery plan shall address reservoir storage and withdrawal plans for each system reservoir and account by

priority date and amounts for any inflows, evaporation, water in storage and diversions from the reservoirs under all of Permittee's priority dates and authorizations including reuse;

b. A method to account for inflows to system reservoirs for purposes of compliance with special conditions requiring passage of pulse flows and estimation of those inflows;

c. An accounting of instream flow and pulse requirements to include total system storage, gage flows at the measurement points, high flow pulse volume impounded and the release schedule for the impounded high flow pulse, and timing, magnitude and duration of pulse flows;

d. The accounting/delivery plan must detail how measurements will be taken to determine if impoundment or diversions under either Permittee's senior or junior rights can be made;

e. The accounting/delivery plan must identify, account for, and distinguish between firm and non-firm water supplied or delivered from Permittee's system of reservoirs. In addition, the accounting/delivery plan must specify diversion points for this water if those diversion points are not specifically identified in this permit. Any additional diversion points must be within the reaches where use of the bed and banks is authorized. Any diversion points outside those reaches will require an amendment to this permit;

f. Permittee shall maintain the approved daily accounting/delivery plan in electronic format and make it available to the general public during normal business hours and to the Executive Director upon request. Modifications or changes to the plan must be approved by the Executive Director.

2) Permittee may not exercise a priority call on water rights in the Brazos River Basin with priority dates senior to October 15, 2004 for purposes of increasing storage in and/or diversion from Permittee's system reservoirs where drawdown of Permittee's system reservoirs is caused by compliance with the terms and conditions of this permit.

3) The request for operational flexibility to use any source of water available to Permittee to satisfy the diversion requirements of senior water rights to the same extent that those water rights would have been satisfied by passing inflows through the Permittee's system reservoirs on a priority basis is granted, but limited as follows:

a) To water previously stored in Permittee's reservoirs as documented in the accounting/delivery plan required in Special Condition 5.C.1 above;

b) Use of this option shall not cause Permittee to be out of compliance with Special Condition 5.C.1. and Special Condition 5.C.2.

4) Permittee may divert water from storage in its permitted reservoirs and store that water in Permittee's other reservoirs for use within the Permittee's service area so long as all diversions and storage are included

in and comply with the provisions of the accounting/delivery plan required by Special Condition 5.C.1. above.

5) The total amount of water diverted and released from Permittee's system reservoirs pursuant to the authority of Permittee's existing water rights in any year for each authorized purpose of use may not exceed the cumulative authorized total for each purpose until Permittee applies for and is granted amendments to the underlying authorizations.

6) Permittee is required to comply with the existing System Operation Order and certificates of adjudication requiring Permittee to exclude tributary reservoirs from operation of the system during any period of time in which Permittee's permitted storage space in that reservoir is less than 30% full (until all system reservoirs are below 30% capacity, at which time the reservoir can resume system operation), until such time as Permittee submits, and the Commission approves, a Water Management Plan for the Brazos River Basin which details how such limitations will be altered. Any alterations to the limitations must be in compliance with the accounting provisions required in Special Condition 5.C.1 above.

7) Permittee is required to comply with the existing limitations on diversion from the Brazos River in Permit No. 2925A until such time as Permittee submits, and the Commission approves, a Water Management Plan for the Brazos River Basin which details how such limitations will be altered. Any alterations to the limitations must be in compliance with the accounting provisions required in Special Condition 5.C.1.

8) Until such time as the ports are closed on the dam impounding Allens Creek Reservoir, authorized by Water Use Permit No. 2925, Permittee may impound and divert additional unappropriated water as specified in Paragraph 1.A.2 subject to Special Conditions 5.C.1 through 8 above.

9) Prior to diversion of water authorized by this permit below USGS Gage 08114000, Brazos River at Richmond, Permittee shall submit to the Executive Director, for review and approval, a method to extend the requirements of 5.E.5 and 5.E.7 to or below this point.

D. WATER MANAGEMENT PLAN SPECIAL CONDITIONS

1) Permittee shall prepare and submit to the Commission, a Water Management Plan (WMP) which shall include, in addition to the specific requirements listed below in Special Condition 5.D.4., such studies and other information as may be required by the Commission to demonstrate Permittee's compliance with and its ability to comply with all of the Special Conditions included in this permit.

2) The initial proceedings to consider the adoption of the WMP, and any major amendment thereof, shall be pursuant to contested case procedures. Any proceeding to consider the adoption or major amendment of the WMP shall be preceded by notice and opportunity to request a hearing, in accordance with the Commission's regulations applicable to water rights permitting proceedings. The WMP shall

provide an adaptive management strategy for instream flow requirements and water supply and thus may be amended from time to time upon the request of Permittee, in accordance with the schedule set out in Special Condition 5.D.3. below, or on the Commission's own motion. The initial accounting/delivery plan shall be submitted for approval as part of the initial WMP. If the approved WMP describes the specific methodologies to be utilized, subsequent addition of diversion points within the authorization of this permit, modifications of volumes of return flows to account for amendments or modifications of discharge permits or new discharge authorizations, modification of the accounting/delivery plan approved by the Executive Director, and similar modifications specifically provided for in the WMP are considered minor revisions of the WMP.

3) An initial application for approval of the WMP shall be submitted to the Executive Director not later than three years after the date that this permit becomes final and non-appealable. Permittee shall take the necessary steps to ensure that the application for the WMP is administratively and technically complete within one year after the initial submission of the application to the Executive Director. Deadlines established in this provision may be extended by the Executive Director. At minimum, every ten years after approval of the initial WMP, Permittee shall submit to the Executive Director an application for reconsideration or amendment of the approved WMP.

4) The issues addressed in the initial application for approval of the WMP shall include, but not be limited to, the following:

   a. Accounting/delivery plans (including return flow accounting plans);

   b. Consideration of adding, deleting, or modifying the measurement points and flow levels described in 5.E.5 and 5.E.7.;

   c. Consideration of establishing diversion rate trigger levels for high flow pulse (HFP) requirements, included in 5.E.7, below which the requirements of 5.E.7 would not apply;

   d. Establishment of a Brazos River Basin environmental flow study program identifying environmental flow studies to be conducted on specified reaches and the estimated time for completion of the studies. The program shall include such studies necessary to comply with Special Conditions 5.E.1 and 5.E.16. Permittee shall use the program studies to evaluate the need for instream flow protection for the mainstem Brazos River and tributaries impacted by the diversion and storage of water authorized by this permit;

   e. Development of operating guidelines to manage the frequency and magnitude of reservoir level fluctuations to avoid or

minimize impacts on fisheries. The operating guidelines may be subject to temporary suspension if necessary for water supply purposes;

f. Consideration of establishing maximum diversion rates for diversions of water authorized in this permit;

g. Development of operational and accounting criteria, in addition to that specified in 5.A.1, 5.B.3, and 5.C.1, to address uncertainty in forecasting and accounting for HFPs in a manner that balances the risks and benefits between water supply and environmental flow protection;

h. Consideration of revised storage triggers provided for in 5.E.3 and 5.E.4, and the process for recalculating those triggers;

i. Consideration of alteration of 5.C.6 relating to capacity limitations on tributary reservoirs. Should the existing 30% limitation be modified for any of Permittee's system reservoirs, Permittee shall apply to amend the water right authorizing that reservoir;

j. Establishment of a mechanism to determine the amount of firm and non-firm water available at specific locations, taking into account available return flows;

k. Development and implementation of a specific adaptive management strategy for meeting instream flow requirements consistent with providing water supplies. The adaptive management strategy shall include a monitoring program for assessing impacts on instream uses and address short and long term impacts to economically and ecologically important stream fisheries, unique aquatic communities and species, and water quality.

l. Development of a method to determine the amounts of firm and interruptible water used by Permittee directly or through Permittee's contracts for such water. Because the amounts of firm and non-firm water available are interrelated and may depend on locations and the extent to which discharged return flows are considered in this determination, the Water Management Plan shall control the amounts of firm and non-firm water available at any location.

m. Development of a method to determine reductions in the amount of the new appropriation authorized by this permit should return flows under TPDES permits become unavailable for diversion and use by Permittee.

5) Upon notification to Permittee, TPWD may petition the Commission to amend any WMP provisions related to environmental flow protection.

E. INTERIM SPECIAL CONDITIONS RELATIVE TO ENVIRONMENTAL FLOWS

1) The following interim conditions are preliminary and are based upon historic flow analyses, without direct relationships to the biological and environmental benefits intended to be protected; therefore, Permittee shall conduct Instream Flow Studies (Studies) on the Brazos River and on segments of major tributaries upstream of their confluence with the Brazos River consistent with and in cooperation with the Texas Instream Flow Program (TIFP). Upon completion of the Studies, Permittee shall use the results to develop environmental flow conditions to replace the interim conditions in this permit for the measurement points identified in 5.E.5. Depending upon the time of completion of the Studies, replacement of these interim conditions shall be approved in the initial WMP or through the amendment of an approved WMP. The Studies are not limited to the geographic scope of the studies currently defined for the TIFP.

2) Seasons are defined as Spring (March–May), Summer (June-August), Fall (September-November), and Winter (December-February). The number of seasons and the months representing each season are subject to revision in the WMP based on best available science and information at the time of such revision.

3) Total storage in Permittee's system reservoirs is a trigger for determining instream flow requirements and is subject to revision in future Water Management Plans. Subsistence flows are to be implemented when total storage in Permittee's system reservoirs is below 60% of total capacity. "Dry" means times when the total storage in Permittee's system reservoirs is below 74%, but more than 60% of total capacity. "Average" means times when the total storage in Permittee's system reservoirs is at least 74%, but less than 96% of total capacity. "Wet" means times when the total storage in Permittee's system reservoirs is at least 96% of total capacity.

4) Permittee shall recalculate the storage triggers specified in 5.E.3 every five years to ensure that Subsistence, Dry, Average, and Wet conditions occur at the desired frequencies. The desired frequencies are Subsistence equal to 2.5% of the time, Dry equal to 22.5% of the time, Average equal to 50% of the time and Wet equal to 25% of the time.

5) Until such time as the Studies are completed, the interim instream flows in the following tables apply at the following USGS gauging stations. Measurement points for instream flows are subject to change in the WMP with approval of the Executive Director. The instream flow criteria in the following tables are applicable at all times. Depending upon the hydrologic condition (Subsistence, Dry, Average, or Wet), storage of water authorized by this permit in Permittee's system reservoirs upstream from the following flow gauging stations and the diversion and use of water pursuant to this permit at locations upstream from the flow gauging locations shall be authorized when streamflows

at the next downstream gage exceed the instantaneous flow values established in the following tables:

Instream Flow (cfs)	BRAZOS RIVER NEAR GLEN ROSE – USGS #08091000			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	15.3	15.3	15.3	15.3
Dry	39.0	45.0	33.3	62.0
Average	92.0	138.0	101.5	150.0
Wet	234.0	292.8	249.5	332.0

Instream Flow (cfs)	YEGUA CREEK NEAR SOMERVILLE – USGS #08110000			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	0.1	0.1	0.1	0.1
Dry	5.6	3.9	0.4	0.3
Average	14.0	12.0	2.5	1.8
Wet	34.0	31.0	8.9	9.6

Instream Flow (cfs)	NAVASOTA RIVER NEAR EASTERLY USGS #08110500			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	7.6	7.6	7.6	7.6
Dry	7.6	10.0	7.6	7.6
Average	15.0	24.0	7.6	7.6
Wet	36.0	43.0	7.6	7.6

Instream Flow (cfs)	LITTLE RIVER NEAR CAMERON – USGS #08106500			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	67.9	67.9	67.9	67.9
Dry	100.0	135.0	133.0	82.0
Average	200.0	365.0	260.5	152.0
Wet	475.0	730.0	500.0	342.0

Instream Flow (cfs)	BRAZOS RIVER NEAR HIGHBANK – USGS #08098290			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	167.1	167.1	167.1	167.1
Dry	167.1	167.1	167.1	167.1
Average	220.59	344.19	323.85	225.29
Wet	672.74	759.30	780.69	508.98

Instream Flow (cfs)	BRAZOS RIVER NEAR RICHMOND – USGS #08114000			
	Winter	Spring	Summer	Fall
Subsistence (7Q2)	743	743	743	743
Dry	885	1,170	930	760
Average	1,630	2,030	1,450	1,150
Wet	2,955	3,670	2,635	2,038

6) A High Flow Pulse (HFP) is initiated when flows are greater than the 10th percentile and increase by more than 50% from the previous day, or when flows exceed the 75th percentile, regardless of the rate of change. A HFP is terminated when the flow drops below the 10th percentile or when the flow decreases from one day to the next by less than 5%, or when a succeeding pulse occurs. An entire HFP is also classified as a small flood if the maximum rate exceeds the small flood threshold at the 1.5 year recurrence interval.

7) Permittee shall meet a seasonal schedule of individual high flow pulses. Qualifying HFPs are defined as follows:

Pulse Flows (ac-ft)	BRAZOS RIVER NEAR GLEN ROSE - USGS #08091000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	2,329.6	3,208.3	2,617.2	2,211.6
Average	7,325.0	14,915.7	7,265.5	7,565.0
Wet	31,220.8	36,144.8	33,064.5	28,682.0

Peak Flows (cfs)	BRAZOS RIVER NEAR GLEN ROSE - USGS #08091000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	403	466	394	347
Average	1,120	2,070	1,320	1,040
Wet	4,945	5,265	4,370	3,525

Pulse Flow Schedule (days/# of events) BRAZOS RIVER NEAR GLEN ROSE - USGS #08091000

Hydrologic Condition	Winter Dura*	Winter Freq**	Spring Dura	Spring Freq	Summer Dura	Summer Freq	Fall Dura	Fall Freq
Dry	6	2	4	3	4	2	4	2
Average	7	2	6	2	6	2	7	1
Wet	13	1	10	2	11	1	11	1

*Duration **Frequency

Pulse Flows (ac-ft) YEGUA CREEK NEAR SOMERVILLE – USGS #08110000

Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	416.6	275.7	52.4	59.2
Average	1,904.1	1,225.8	239.2	372.9
Wet	8,510.1	4,331.3	845.2	3,367.3

Peak Flows (cfs) YEGUA CREEK NEAR SOMERVILLE – USGS #08110000

Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	69	51	13	10
Average	294	176	53	64
Wet	978	620	140	490

Pulse Flow Schedule (days/# of events) YEGUA CREEK NEAR SOMERVILLE – USGS #08110000

Hydrologic Condition	Winter Dura*	Winter Freq**	Spring Dura	Spring Freq	Summer Dura	Summer Freq	Fall Dura	Fall Freq
Dry	5	2	5	2	4	2	5	1
Average	10	1	8	1	7	1	7	2
Wet	15	1	13	1	11	1	11	1

*Duration **Frequency

Pulse Flows (ac-ft) NAVASOTA RIVER NEAR EASTERLY-USGS #08110500

Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	439.3	748.3	195.9	77.1
Average	2,142.1	2,220.5	746.9	275.0
Wet	7,927.9	8,537.9	3,399.7	2,456.3

Peak Flows (cfs)	NAVASOTA RIVER NEAR EASTERLY – USGS #08110500			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	76	124	33	11
Average	298	344	142	43
Wet	1,060	1,160	592	371

Pulse Flow Schedule (days/# of events) NAVASOTA RIVER NEAR EASTERLY – USGS #08110500

	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	5	2	5	3	5	2	4	2
Average	8	2	9	2	8	2	7	2
Wet	12	1	12	1	13	1	11	1

*Duration **Frequency

LITTLE RIVER NEAR CAMERON – USGS #08106500

Pulse Flows (ac-ft) Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	4,194.4	5,641.5	3,563.3	3,511.2
Average	9,633.7	16,251.6	9,088.3	9,183.5
Wet	29,414.9	42,034.7	25,811.4	20,494.2

Peak Flows (cfs)	LITTLE RIVER NEAR CAMERON – USGS #08106500			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	604	958	577	568
Average	1,600	2,545	1,875	1,630
Wet	5,190	6,405	3,665	3,723

Pulse Flow Schedule (days/# of events) LITTLE RIVER NEAR CAMERON – USGS #08106500

	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	5	1	4	2	4	2	4	2
Average	6	1	6	2	6	1	6	1
Wet	10	1	9	1	9	1	9	1

*Duration **Frequency

Pulse Flows (ac-ft)	BRAZOS RIVER AT HIGHBANK – USGS #08098290			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	5,113.9	6,040.7	4,784.0	3,652.4
Average	11,647.1	14,346.9	15,135.1	11,398.8
Wet	38,514.1	38,127.3	49,810.6	39,416.6

Peak Flows (cfs)	BRAZOS RIVER AT HIGHBANK – USGS #08098290			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	1,471	1,429	1,116	714
Average	2,576	2,952	2,566	2,274
Wet	5,225	6,748	7,703	5,366

Pulse Flow Schedule (days/# of events) BRAZOS RIVER AT HIGHBANK – USGS #08098290

	Winter		Spring		Summer		Fall	
Hydrologic Condition	Dura*	Freq**	Dura	Freq	Dura	Freq	Dura	Freq
Dry	3	1	3	3	3	3	3	2
Average	4	1	4	3	5	2	5	2
Wet	7	1	7	1	8	1	9	1

*Duration **Frequency

Pulse Flows (ac-ft)	BRAZOS RIVER NEAR RICHMOND – USGS #08114000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	36,265.8	44,667.8	38,181.1	22,457.9
Average	90,287.6	101,405.0	77,176.9	56,162.0
Wet	297,550.4	270,153.7	166,115.7	146,866.1

Peak Flows (cfs)	BRAZOS RIVER NEAR RICHMOND – USGS #08114000			
Hydrologic Condition	Winter	Spring	Summer	Fall
Dry	3,748	5,640	4,880	2,500
Average	9,670	10,200	8,830	7,730
Wet	19,500	19,150	15,300	13,175

Pulse Flow Schedule (days/# of events)

BRAZOS RIVER NEAR RICHMOND – USGS #08114000

Hydrologic Condition	Winter Dura*	Winter Freq**	Spring Dura	Spring Freq	Summer Dura	Summer Freq	Fall Dura	Fall Freq
Dry	5	1	5	1	4	1	4	1
Average	8	1	7	1	7	1	7	1
Wet	16	1	13	1	12	1	11	1

*Duration **Frequency

8) Except under Subsistence conditions, diversion or storage of water upstream from defined measurement points under the authority of this permit shall be authorized during a pulse when the volume or duration following peak flow of the individual pulse exceeds the individual pulse criteria, or when the number of pulse events in that season exceeds the pulse frequency criteria. When a Qualifying HFP is passed or provided for at one of the six defined measurement points it may be used as credit for meeting one seasonal HFP frequency requirement.

9) For streamflow events that meet the requirements of Special Condition 5.E.5, Permittee may temporarily impound all flows in excess of the instream flow requirement. If the streamflow event provided a Qualifying HFP, flow may need to be passed downstream for environmental needs, subject to seasonal requirements in Special Condition 5.E.7 above. If it did not, then Permittee may retain the impounded water for water supply purposes. Once the required number of HFPs is met, Permittee may divert or impound all subsequent HFPs for use as water supply as long as instream flow requirements specified in Special Condition 5.E.5 are met.

10) For streamflow events that meet the requirements of Special Condition 5.E.6, but do not meet the minimum requirements of a Qualifying HFP, Permittee may impound flows in excess of instream flow requirements and shall record the impounded volume in its accounting/delivery plan. At such time as the cumulative volume of streamflow events exceeds the volume of a Qualifying HFP, Permittee may release such a pulse to the environment. Such a release will result in a credit for a Qualifying HFP.

11) If the streamflow event is designated an HFP but ultimately does not meet the minimum requirements of a Qualifying HFP, the volume passed shall be recorded in the accounting/delivery plan. At such time as the cumulative volume of such pulses exceeds the volume of a Qualifying HFP, Permittee will be credited with one Qualifying HFP (even if the duration, peak flow, etc. characteristics were not met).

12) For purposes of determining satisfaction of Qualifying HFP criteria, each season is accounted for independently. There is no carry-over from season to season, either in regard to exceeding or not meeting HFP requirements. In the event there are seasons where the requisite number or volume of HFPs do not occur naturally, the Permittee is not obligated to meet the seasonal HFP requirements. In the event that a pulse extends across seasonal boundaries, it will be accounted in the season in which it ends.

13) Seasonal HFP requirements are to be met using streamflow events with peak flows less than the 1.5-year return interval; however, streamflow events with both peak flows that exceed the 1.5-year return interval and satisfy the requirements of a Qualifying HFP may be classified as both overbanking flows and an HFP.

14) Special Conditions 5.E.6 - 5.E.13, relating to High Flow Pulses are subject to Special Condition 5.D.4, relating to the contents of the initial application for approval of the WMP.

15) In addition to the measurement points and requirements specified in Special Conditions 5.E.5 and 5.E.7 above, Permittee is prohibited from diverting and storing water authorized by this permit upstream of the following gages unless streamflow at the following gages meets or exceeds the values as follows:

Gage Name	Gage #	7Q2 Value (cfs)
Brazos River near Palo Pinto	08089000	32.0
Aquilla Creek above Aquilla	08093360	0.1
Brazos River near Aquilla	08093100	26.0
Leon River near Belton	08102500	4.7
Leon River near Gatesville	08100500	4.7
Lampasas River near Belton	08104100	4.8
N Fork San Gabriel River near Georgetown	08104700	1.1
San Gabriel River at Laneport	08105700	3.6

16) Permittee, in cooperation with TPWD and the Commission, shall conduct Monitoring Studies to assess instream flow protection at the water quality protection measurement points identified in 5.E.15. These Monitoring Studies shall collect baseline data on the biology, habitat, water quality, hydrology, ecosystem health and other environmental factors of the stream segment between the water quality protection point and the immediate downstream measurement point. If baseline data is sufficient to determine instream flow protection needs, and such criteria are determined to be necessary, the data shall be used to develop criteria to replace the values in 5.E.15. If the results of the Monitoring Studies indicate that additional study is needed, Instream Flow Studies shall be conducted to determine appropriate instream flow protection criteria for the water quality protection points and the results of such Instream Flow Studies shall be used to develop criteria to replace the values in 5.E.15. Depending upon the time of completion of the Monitoring Studies or applicable Instream Flow Studies, modification of the values in 5.E.15 shall be approved in the initial WMP or through the amendment of an approved WMP. As part of the study and analysis required in this provision, Permittee shall perform and complete a Little River watershed study (including all points identified in 5.E.15 within the Little River watershed) prior to filing its application for approval of the initial WMP. If Permittee does not complete the Little River watershed study prior to filing its application for approval of the initial WMP, Permittee shall not divert or impound water authorized by this permit from the Little River watershed until that study is completed and results considered in an application to amend the WMP.

17) Permittee shall consult with the U.S. Army Corps of Engineers on federal projects to determine whether overbanking flows can be safely managed to maintain a sound ecological environment.

18) The requirements of these Special Conditions apply only to diversion and storage under the authority of this permit and do not address or limit diversion and storage of water authorized by other water rights held by Permittee.

19) These special conditions are subject to adjustment by the Commission if the Commission determines, through an expedited public review process, that such adjustment is appropriate to achieve compliance with applicable environmental flow standards adopted pursuant to Texas Water Code § 11.1471. Any adjustment shall be made in accordance with the provisions of Texas Water Code § 11.147(e-1).

This permit is issued subject to all superior and senior water rights in the Brazos River Basin.

Permittee agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This permit is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of state water resources exercised by the Commission.

For the Commission

ISSUED: