

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

CONCERNING THE APPLICATION	§	BEFORE THE
BY THE BRAZOS RIVER	§	
AUTHORITY FOR WATER USE	§	TEXAS COMMISSION ON
PERMIT NO. 5851 AND RELATED	§	
FILINGS	§	ENVIRONMENTAL QUALITY

**THE DOW CHEMICAL COMPANY'S REPLY TO
EXCEPTIONS TO THE PROPOSAL FOR DECISION ON REMAND**

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TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

COMES NOW The Dow Chemical Company (“Dow”), and files this Reply to Exceptions filed by the parties to the Administrative Law Judges’ (“ALJs”) Proposal for Decision on Remand (“PFD”)¹ with the Texas Commission on Environmental Quality (“TCEQ” or “Commission”) regarding the above-referenced application (“Application”) and associated Water Management Plan (“WMP”) and Technical Report and Appendices (“Technical Report”) by Brazos River Authority (“BRA” or “Applicant”) for Water Use Permit No. 5851 (the “SysOps Permit”). For clarity and organizational purposes, Dow has separated its replies to exceptions and related arguments into sections corresponding to the outline put forth by the ALJs in the PFD. Accordingly, Dow replies as follows:

I. INTRODUCTION

¹ As detailed by the ALJs, there have been two proposals for decision issued by the ALJs associated with this case. *See* PFD at 3-5. The first was after the first hearing on the merits (“first evidentiary hearing”), issued on October 17, 2011. The second proposal for decision was recently issued on July 17, 2015, after the second hearing on the merits (“second evidentiary hearing”) associated with BRA’s Water Management Plan. Any references to the proposal for decision (“PFD”) refer to the second proposal for decision on remand issued after the second evidentiary hearing unless otherwise specified.

The Brazos River Authority's proposed water use permit no. 5851, seeking issuance of a new System Operation water right, is unprecedented and is by far the most complicated application for a water right that has ever been filed at the TCEQ. Throughout this case that has lasted more than a decade, every party has acknowledged the complexity of this application.² Yet, illogically, the ALJs and the ED continually grant the permit a remarkable degree of leniency in terms of adherence to the TCEQ's water appropriation rules and compliance with the Texas Water Code. In fact, if granted in its current form, Dow believes BRA's Application is being treated with the most leniency of any water right in the history of Texas water law subsequent to the adoption of The Irrigation Act of 1913³ as far as complying with the rules and statutes governing applications for appropriation of state surface water. This is particularly the case in two areas: (1) proving that there is sufficient unappropriated water for the application, and (2) following the TCEQ requirements for an application to appropriate state water.

As the moving party in this matter, BRA has the burden of proof.⁴ Therefore, it was BRA's burden to prove that there is sufficient unappropriated water available in the

² In the PFD, the ALJs acknowledge that, "[t]he Application is very complex." PFD at 1. BRA states that its "System Operation Permit application is probably the most complex water right application ever dealt with by the agency." BRA's Exceptions to the Proposal for Decision on Remand ("Exceptions") at 1. The Executive Director ("ED") of the TCEQ points out the "application is complex, seeking the right to appropriate run-of-river flows and return flows to augment BRA's existing water rights." ED's Closing Argument at 1. The Office of Public Interest Counsel ("OPIC") recommends utilizing a downstream and upstream measurement point "[g]iven the sheer complexity, the enormity of the appropriation." OPIC's Exceptions at 4. The Friends of the Brazos River ("FBR") notes that, "this application is so broad and complex, it makes a difficult case for the Commission to set precedent that will apply to simple one-diversion water rights and to water rights for reservoirs, in addition to permits for systems operations." FBR's Exceptions at 46. Lake Granbury Coalition ("LGC") states, "[t]he problem with this permit is not merely that it is vague and complex (although it is). The problem is that it does not comply with Texas water permitting law." LGC's Post-Hearing Brief at 68. The National Wildlife Federation ("NWF") correctly notes that, "[t]he underlying application and proposed permit are unprecedented in scale and complexity, governing diversions, at an unlimited number of diversion locations, many of which are to be identified later, within diversion reaches covering over 1,200 miles of rivers and major streams." NWF's Exceptions at 1.

³ See Act of March 29, 1913, 33rd Leg., R.S., ch 171, 1913 Tex. Gen. Laws 358.

⁴ See 30 Tex. Admin. Code § 80.17 (Tex. Comm'n on Env'tl. Quality, Burden of Proof).

source of supply for its Application.⁵ Dow, as a protestant, is not required to put forth evidence proving how much unappropriated water is actually available for BRA's Application; Dow only has to show that BRA did not meet its burden for the Application to be denied. Dow provided evidence on three individual components proving that BRA did not meet its burden, showing that BRA overstated the amount of unappropriated water available in the source of supply because: (1) the storage available for use by the system operation permit is less than what BRA utilized in its water availability analysis due to sedimentation and a mistake in the top of the conservation pool in Possum Kingdom Reservoir; (2) not taking into account the reduction in water availability for appropriation due to the recently ended new drought of record for Possum Kingdom Reservoir; and (3) the model used to determine water availability did not always prevent storage emptied under junior priority water rights from being refilled with senior priority water.

One course of action would be to deny the application. Dow also suggested an alternative path. The naturalized flows could be updated in the Brazos River basin Water Availability Model ("WAM") to the date of the end of the new drought of record.^{6,7} Once the naturalized flows are updated, the WAM could be rerun, taking into account the storage that has been rendered unavailable by sedimentation and correcting the elevation of the top of the conservation pool in Possum Kingdom Reservoir.⁸ The results would

⁵ The Texas Water Code specifically requires that an applicant prove that there is sufficient unappropriated water for the requested appropriation available in the source of supply. *See* Tex. Water Code § 11.134(b)(2).

⁶ The ALJs have recommended that BRA perform the work to update the Brazos WAM. *See* PFD at 75. This work could also be done by TCEQ or a contractor of BRA and/or TCEQ.

⁷ The ALJs' proposed a similar task, but required it to be done within 9 months. *See* PFD at 75. Dow believes that a longer time would be required to do the job adequately. *See* Section X.I.F, *infra*.

⁸ During the time that the naturalized flows are being updated, BRA could review the information in the post-processor spreadsheets to address the issue of junior refills. BRA could then take the steps necessary to prevent junior refills when the WAM is executed with the new naturalized flows.

provide an accurate amount of unappropriated water available in the source of supply and could be used to adjust the amount of appropriation for the SysOps Permit.

Dow did not endeavor to extend the naturalized flow records to calculate the adjustment to the yield associated with the new drought of record. Nor did Dow reprogram the Brazos River basin WAM to address the junior refill problem or reconfigure the WAM to take into account the loss of storage available for the proposed appropriation due to sedimentation. Dow was not trying to calculate the exact amount of water available for the SysOps Permit, but rather its purpose was to do analyses that showed the problems with the modeling used by BRA and the ED for the amount of appropriation in the application. In short, Dow's analyses were not designed to help BRA meet its burden of proof, but instead were to prove BRA's evidence failed to meet its burden.

This dynamic is the reason that many of the critiques by BRA and the ED to Dow's evidence must fail. For example, BRA critiques Dr. Brandes' reductions of the SysOps Permit's maximum annual authorized appropriation on the basis of them being "an inappropriate 'apples to oranges' comparison."⁹ BRA argues that you cannot simply subtract the reductions from BRA's maximum annual appropriation values for each demand level, because "[t]he firm annual supply under a given demand scenario is very different from the maximum annual appropriation under that scenario, which occurs only during a single year of the WAM's simulation."¹⁰ The flaw in BRA's argument is that Dow provided these reductions to show that BRA's appropriation should be reduced, not to show exactly how much it should be reduced. BRA provided its information in an

⁹ BRA's Exceptions at 2.

¹⁰ *Id.*

unconventional fashion, as a maximum annual appropriation, when appropriation values are normally stated in firm supply. Simply put, permit applicants normally state their appropriation in terms of apples, but BRA (not Dow) gave us oranges. Dow had no choice but to compare apples and oranges. When one examines the firm supply of the SysOps Permit for each WMP scenario, Dow's reductions prove that the maximum annual appropriation should be reduced for each scenario, but no one will know exactly how much until the simulations are rerun using correct assumptions. Because BRA failed to do this exercise, which was its burden, its permit application should be denied.

Like BRA, the ED also unexplainably shifts the burden of proof to Dow on this issue. The ED argues that, “[c]alculating water availability the way Dow and the ALJs suggest would reallocate BRA’s water to junior water rights or future permit applicants.”¹¹ Even assuming that the ED’s argument is correct, which Dow is not conceding, Dow’s alternative modeling (utilizing the actual capacity of BRA’s reservoirs on the second loop of the dual simulation) still proves that BRA’s proposed appropriation (based solely on permitted capacity that is no longer available) is overstated. Is it Dow’s burden to construct a model that both protects BRA’s existing authorizations, and produces an accurate value of unappropriated water available in the source of supply for BRA’s Application? Just because the ED does not agree with Dow’s modeling does not mean that it has to support BRA’s flawed modeling and recommend BRA’s Application be granted. BRA had the burden to construct a model that both protected its existing authorizations and provided an accurate value for the amount of unappropriated water available in the source of supply for its Application as required by Section 11.134(b)(2) of the Texas Water Code. Because BRA failed to do so, its Application should be denied.

¹¹ ED’s Exceptions at 12.

Similarly to BRA's and the ED's arguments on the issue of unappropriated water, the ALJs' acceptance of BRA's proposal to deem the requirements of 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7 as directory rather than mandatory is counter intuitive. The burden of proof was on BRA to prove that it complied with the TCEQ rules with respect to its Application. Instead, BRA argues the TCEQ rules are only directory. The result is that less precise information is being required for an application that the parties, including the applicant, all recognize as being the most complex water appropriation application ever filed. Logic would tell one that increased complexity of the application should require increased stringency of the information provided for the application, not less.

At some point, the Commission must decide whether all these concessions should be made for this Application, or whether BRA's Application simply does not comply with the law. Dow believes that the complexity of BRA's Application supports the Commission being less lenient, and instead making strict compliance with the TCEQ rules and Texas law paramount in this case. If BRA's Application is evaluated under this standard, BRA clearly did not satisfy its burden of proof and the Application must be denied.

X. GENERAL REQUIREMENTS OF TEXAS WATER CODE CHAPTER 11 AND TCEQ RULES

In the PFD, "the ALJs conclude that 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7 are directory, rather than mandatory."¹² While Dow took exception to

¹² PFD at 28.

this conclusion, it was not alone. Nearly all the parties agreed with Dow’s concerns, excluding only the argument’s author, BRA.

The most notable party to disagree with the ALJs’ decision to honor BRA’s directory rather than mandatory argument was the ED, who “is concerned about setting precedent,” and states “[a]n implication that these rules are directory rather than mandatory could be misused in future applications.”¹³ The ED is right to be “concerned.” As LGC correctly states, if these rules are “merely directory – and BRA’s ‘somewhere on the river’ approach is acceptable – then there can be no certainty in future permitting decisions in the Brazos Basin (or anywhere else this approach spreads).”¹⁴ Holding that Sections 295.5, 295.6, and 295.7 are directory also would make a more than 100-year-old requirement of Texas water rights permitting law obsolete. One of the most basic requirements BRA failed to comply with in Section 295.7 was to “state the location of point(s) of diversion ... with reference to a corner of an original land survey point of record, giving both course and distance.”¹⁵ Providing survey information as to the location of an applicant’s point(s) of diversion has been a requirement in Texas since the Irrigation Act of 1913, which states that an “Application to Appropriate Water” must include the following:

Such application shall be accompanied by a map or plat drawn on tracing linen on a scale not less than two inches to the mile, showing substantially the location and extent of the proposed works; the location of the headgate, intake, pumping plant or *point of diversion by course and distance from permanent natural objects or land marks*...¹⁶

¹³ ED’s Exceptions at 23.

¹⁴ LGC’s Exceptions at 8.

¹⁵ 30 Tex. Admin. Code § 295.7.

¹⁶ Act of March 29, 1913, 33rd Leg., R.S., ch 171, § 15, 1913 Tex. Gen. Laws 358, 362 (amended 1977) (current version at Tex. Water Code § 11.125) (emphasis added).

Despite the fact that this has been a mandatory requirement for a water right applicant since the Texas Legislature required it in the early 1900s, the ALJs and BRA now want to interpret it as directory.

Although the ED agrees with Dow and the other protestants that the rules in Chapter 295 should not be interpreted as being directory, the ED “does not believe that the Commission needs to base its decision on a determination that these rules are directory rather than mandatory because the BRA’s application meets the requirements of these rules.”¹⁷ Dow does not understand how the ED can reasonably believe that BRA complied with the rules in Chapter 295, if those requirements are interpreted as being mandatory. Returning to the previous example, Section 295.7 requires the applicant to “state the location of point(s) of diversion ... with reference to a corner of an original land survey point of record, giving both course and distance.”¹⁸ Nowhere in BRA’s Application, WMP, Technical Report, or associated documents does BRA provide any survey information for any of its diversion points, much less its proposed diversion reaches. Determining whether BRA complied with this requirement is not a subjective evaluation. Either BRA provided the information or it did not. Even the ALJs recognized that “[i]f §§ 295.5, 295.6, and 295.7 are construed to be mandatory, then the application would have to be denied.”¹⁹

The ALJs and ED both mistakenly determine that BRA’s Application complies with the requirements of Chapter 295, but for very different reasons. The ALJs misconstrue the law by holding that the TCEQ rules in Chapter 295 are directory, relying on BRA’s flawed legal argument on this issue. The ED actually does something much

¹⁷ ED’s Exceptions at 22.

¹⁸ 30 Tex. Admin. Code § 295.7.

¹⁹ PFD at 27.

more egregious, in Dow's opinion, which is to misconstrue the facts regarding BRA's Application. The ED contends that the information required by the TCEQ rules was provided in this case, despite the fact that the ALJs and all the other parties seem to accept that it was not, even the applicant BRA. The whole reason BRA even put forth this directory versus mandatory legal argument is because it realizes that its Application did not satisfy all the requirements in Sections 295.5, 295.6, and 295.7 if those provisions are read to be mandatory. The ED cannot have it both ways. It cannot hold future applicants to a standard (that has been practiced for over 100 years) requiring strict compliance with the provisions in Chapter 295 and also support BRA's clearly deficient Application.

Granting BRA's Application would place future water rights applicants in limbo as it would redefine the applicability of the TCEQ rules and the reliability of sought water rights. As LGC states, "[f]or the Texas water permitting system to work, future water rights applicants – whether municipalities, industrial users, or others – must be able to accurately estimate the reliability of the water they seek."²⁰ LGC correctly notes that BRA's SysOps Permit allows BRA to add a diversion point directly upstream of junior diverters anytime in the future.²¹ BRA, the ED, and the ALJs have given almost no consideration to the rights of future applicants in this case. Assuming BRA's Application is granted in its current form, future water right applicants have no certainty as to whether the unappropriated water they apply for will realistically be available to them in the future. The locations of BRA's diversions, the number of diversions, and even the total amount of water BRA is authorized to divert will be a year-to-year mystery after BRA's Application is granted. Dow doubts the TCEQ staff would even consider supporting this

²⁰ LGC's Exceptions at 8.

²¹ *Id.* at 8-9.

Application if it was one of the first water rights applied for in the Brazos River basin instead of being one of the last. The uncertainty, complexity, and flexibility of BRA's current Application will make future applications impossible.

XI. WATER AVAILABILITY, DROUGHT OF RECORD AND IMPARIMENT OF EXISTING RIGHTS

D. The SysOps Permit Continues to Overstate the Amount of Water Available from BRA's Reservoirs because Storage Capacity in the Reservoirs has been lost to Sedimentation

Based on his exceptions on the issue of sedimentation,²² it appears that the ED cannot see the forest for the trees. The ED argues, "[w]ater availability for a new water right must be based on the full authorization in the water right, not on what might be the current situation."²³ To the contrary, the Texas Water Code demands a showing of the amount of unappropriated water currently available in the source of supply. "The commission shall grant the application only if...unappropriated water is available in the source of supply."²⁴ The purpose of determining unappropriated water is to ensure that full exercise of the water right being applied for does not reduce the amount of water existing water rights can divert and use. The ED is so focused on allowing BRA's reservoirs to be represented at their full permitted capacity in the WAM that he ignores the whole reason why we are here, which is to determine the current amount of unappropriated water available in the source of supply for BRA's Application.

²² ED's Exceptions at 11-15.

²³ ED's Exceptions at 12.

²⁴ Tex. Water Code § 11.134(b)(2).

The ED fails to understand the purpose of the two-pass simulation approach of the WAM²⁵ with regard to the SysOps Permit. The first pass, without the SysOps Permit included, is made to determine the monthly quantities of streamflow that are available for diversion and impoundment by BRA's existing water rights based on exercising the full permitted authorizations of all existing water rights in the basin at their respective priority dates, including BRA's existing reservoir water rights, with the benefit of return flows. So after the first pass of the WAM simulation, BRA's existing water rights have been fully satisfied in accordance with their permitted authorizations with return flows.²⁶ The monthly quantities of streamflow that are determined to be available for diversion and impoundment by BRA's existing water rights during the first pass of the WAM simulation then are preserved for use in the second pass of the WAM simulation. The purpose of the second pass of the WAM simulation is solely to quantify the monthly quantities of unappropriated water that are available for the SysOps Permit and that the SysOps Permit can beneficially use²⁷ under conditions that exist at the time the permit is granted or that are anticipated by BRA in the future. In this second pass of the WAM simulation, the monthly quantities of streamflow that were determined to be available for diversion and impoundment by BRA's existing water rights during the first pass of the WAM simulation are made available in their full amounts to BRA's existing water rights at their respective priority dates.²⁸ However, because of the conditions assumed in the second pass of the WAM simulation to reflect how the SysOps Permit is actually to be operated, BRA's existing water rights do not need to fully utilize all of the water they are

²⁵ Exhibit Dow-47 at P. 31, Lns. 6-22; Exhibit Dow-53.

²⁶ Exhibit Dow-57 at P. 6, Lns. 18-21.

²⁷ Tr. at P. 3610, Ln. 20 – P. 3611, Ln. 8.

²⁸ Exhibit Dow-57 at P. 6, Lns. 21 – P. 7, Ln. 4.

entitled to as determined under the fully permitted conditions of the first pass of the WAM simulation.²⁹ This occurs primarily because projected future water demands are used for BRA's water rights rather than the greater full-authorized diversions that are specified for BRA's existing water rights in the first pass simulation³⁰. To fully reflect conditions as they exist at the time the SysOps Permit is granted, it is Dow's position that the existing actual storage capacity of BRA's reservoirs also should be a special condition included in the second pass of the WAM simulation in order to properly reflect the actual conditions under which the SysOps Permit will be operated.

For the ED to say that using the existing actual storage capacity of BRA's reservoirs in the WAM for quantifying the amount of unappropriated water available for the SysOps Permit somehow violates the *Stacy Dam* decision is simply erroneous and misleading. Just like using return flows and BRA's projected future water demands in the WAM simulations for analyzing water availability for the SysOps Permit, the use of existing actual reservoir storage simply reflects the actual conditions that BRA proposes to operate the SysOps Permit under. Consequently, there can be no violation of the Stacy Dam decision with respect to BRA's authority under its existing water rights because BRA has elected to analyze the SysOps Permit in this manner.

It needs to be made clear that the two-pass WAM simulations that have been made for quantifying the amount of unappropriated water available for the SysOps Permit under various assumed BRA demand scenarios do not represent conditions corresponding

²⁹ See Exhibit Dow-56 (showing that BRA's existing water rights are not fully utilized every year with the SysOps Permit in operation).

³⁰ Exhibit Dow-47 at P. 29, Lns. 1-7 (demonstrating the significant reduction in the assumed demand on Possum Kingdom Reservoir from the authorized amount of 230,750 ac-ft/yr without the SysOps Permit included in the WAM simulation down to 61,000 ac-ft/yr with the SysOps Permit included in the WAM simulation).

to the Run 3 WAM simulations that TCEQ normally makes for determining water availability for existing or proposed water rights. The Run 3 WAM simulations do not include return flows and they have the authorized diversion and impoundment amounts specified for all water rights, not some projected future demand as BRA has assumed. The two-pass SysOps WAM simulations are made solely to quantify available unappropriated water for the SysOps Permit under a set of specific assumed conditions that are not intended to reflect the Run 3 conditions. In fact, for future applications in the Brazos River Basin if the SysOps Permit is granted, TCEQ appears to plan to use some hybrid representation of the SysOps Permit in the Run 3 WAM to determine water availability.

Setting aside the specifics of the WAM for a moment, common sense dictates that existing senior water rights are threatened from a junior water right being appropriated more water, not less, than is legally available. The ED claims that, “[c]alculating water availability the way Dow and the ALJs suggest would reallocate BRA’s water to junior water rights or future permit applicants, a violation of the holding of *Stacy Dam*.”³¹ However, the ED’s suggestions regarding storage would appropriate more water to BRA’s new Application under every WMP scenario. In the real world, the only way a senior water right holder’s water could be reallocated to junior water rights is to grant a junior water right a larger appropriation than is actually available, which results in double permitting in violation of the holding in *Stacy Dam*.

³¹ ED’s Exceptions at 12.

Dow also disagrees with the ED's proposed Special Condition 5.D.5.³² Such a special condition would essentially allow BRA to avoid having to meet its burden of proof under Tex. Water Code § 11.134(b)(2). Permits have been issued providing time to construct a defined project. However, Dow is unaware that TCEQ has ever issued a permit authorizing an appropriation reliant on storage based on an unidentified project.

Dow agrees with the ED³³ and BRA³⁴ that there is a better way to adjust the appropriation of the SysOps Permit to take into account the non-existent storage than using the proportional 14 percent reduction to all the WMP scenarios as proposed by the ALJs. As previously stated, Dr. Brandes' analyses were not intended to alleviate rerunning the WAM with corrections to account for unavailable storage. Instead, they were intended to provide some quantification of the overstatement of water availability in the modeling supporting BRA's Application. As Dow stated in its Exceptions,³⁵ the WAM will have to be rerun to determine the amount of water available for appropriation after the naturalized flows have been extended to include the recently concluded drought of record for Possum Kingdom Reservoir. The amount of water available for appropriation taking into account reduction in the storage due to sedimentation in BRA's reservoirs and the correction of the elevation of the top of the conservation pool in Possum Kingdom Reservoir can be determined by appropriately reducing storage amounts during the second pass of the modeling for the WAM at this time.

³² ED's Exceptions at 14-15.

³³ See ED's Exceptions at 12-13.

³⁴ See BRA's Exceptions at 1-3.

³⁵ See Dow's Exceptions at 24-26.

Dow disagrees with BRA³⁶ that the illegality of granting a permit with the appropriation amount exceeding the amount of water available for appropriation can be cured simply by adding a special condition prohibiting BRA from taking the water that is not available. Such a special condition would only be an admission of the illegality of the proposed appropriation.³⁷ The standard in Tex. Water Code Ann. § 11.131(b)(2) is that unappropriated water must be available for the proposed appropriation, not that it may be available sometime in the future.

F. Drought of Record

Dow believes that if BRA is given the opportunity to adjust its proposed appropriation to take into account the recently ended new drought of record for Possum Kingdom Reservoir the adjustment should be done subsequent to extending the naturalized flows in the WAM to the end of the recent drought. After further consideration, Dow does not believe that the nine-month time limit in the ALJs' proposed special condition 5.C.7³⁸ provides sufficient time for extending the naturalized flows and providing the public participation that would be appropriate. Dow now believes that one year is a more reasonable time to expect completion of the work necessary to calculate the effect of the recently ended drought of record for Possum Kingdom Reservoir on the water availability for the SysOps Permit. Also, in its exceptions,³⁹ Dow designated BRA as the entity to perform the extension of the naturalized flows. Upon further reflection, Dow believes that the ED or a contractor of the ED would be better suited for the task of

³⁶ See BRA's Exceptions at 3-4.

³⁷ As stated above, Dow contends the special condition recommended by the ED (Special Condition 5.D.5) does nothing to cure the problem associated with nonexistent storage.

³⁸ PFD at 24-25.

³⁹ See Dow's Exceptions at 28-31.

extending the naturalized flows through the end of the recent drought. Accordingly, Dow proposes the following changes to the ALJs' Special Condition 5.C.7:

In recognition of current drought conditions, BRA shall perform a detailed evaluation of whether the recently-ended drought: (1) represents a drought worse than the drought of record of the 1950s in the Brazos River Basin; and (2) decreases the amount of water available for appropriation under this permit. Prior to performing this detailed evaluation, BRA shall develop a Work Plan that includes descriptions of specific tasks and assumptions for: (1) calculating monthly naturalized flows using industry-standard procedures for each primary control point included in the TCEQ's water availability model for the Brazos River Basin for the period 1998 through 2015; (2) re-calculating the firm annual yield of all BRA system reservoirs using the complete 1940-2015 hydrologic period of record; (3) modifying the versions of BRA's Firm Appropriation water availability models corresponding to the four appropriation amounts and demand scenarios identified in Paragraph 1.A of this permit to include the 1998-2015 monthly naturalized flows and to reflect current usable storage conditions in all BRA system reservoirs for the second pass of the dual simulation process; and (4) operating the modified Firm Appropriation models as structured above to determine revised values for the appropriation amounts specified in Paragraph 1.A of this permit. The Work Plan shall be subject to public notice and review and shall be approved by the TCEQ prior to initiation of the detailed evaluation. BRA shall provide a report to the TCEQ documenting its findings from the detailed evaluation within ~~nine~~ twelve months after issuance of this permit. If the report concludes that the recently-ended drought decreases the amount of water available for appropriation under this permit, then the appropriation amounts specified in Paragraph 1.A of this permit shall be correspondingly reduced. In addition, all WMP documents and related accounting plans and spreadsheet programs supporting this permit shall be revised to reflect the results from analyses based on the complete 1940-2015 hydrologic period of record.

G. Junior Refills

As discussed in Dow's Exceptions,⁴⁰ the ALJs' erred in disregarding the evidence presented by Dow that the SysOps Permit model allows storage emptied by use of the SysOps Permit and the System Order to be refilled by senior priority water. This error is

⁴⁰ See Dow's Exceptions at 31-38.

best reflected in Finding of Fact 85. The TCEQ should strike Finding of Fact 85 and deny the permit because BRA failed to prove there was sufficient unappropriated water available for Draft Permit No. 5851.

On the other hand, if the TCEQ follows the ALJs' proposal to issue the permit and allow the water availability errors related to non-existent storage and loss of yield associated with the recently ended new drought of record for Possum Kingdom Reservoir to be subsequently corrected, the SysOps WAM will have to be rerun to update the amount of appropriation. In the intervening time, BRA can review the storage accounting information developed by Dr. Brandes that was based on the WAM post-processor tables and accordingly modify the WAM to correctly track the emptying and filling of storage by priority date such that the model does not overestimate water availability.

XIX. RETURN FLOWS

After reading the briefs and exceptions filed in response to the PFD by all the parties regarding return flows, Dow feels it must offer its own comments as to the correct interpretation of those provisions and the scope of BRA's right to transport and/or appropriate return flows under the SysOps Permit Application. Like the ED, Dow believes that the ALJs and BRA misconstrue the applicability of Sections 11.042, 11.046, and 11.121 of the Texas Water Code.

BRA Can "Transport" its Own Return Flows Under Section 11.042

Dow agrees with the ALJs that Section 11.042(c) of the Texas Water Code applies to a “wide array”⁴¹ of water types. Section 11.042(b) applies to a specific type of water: existing return flows derived from privately owned groundwater. Like the ALJs and the ED, Dow believes that Section 11.042(c) includes more than just “developed” water, as BRA earlier claimed. Section 11.042(c) is a catchall for allowing one to attain authorization to transport other types of water,⁴² whether the water is someone’s own groundwater, surface water, surface water based effluent, collected diffused surface water, developed water, etc. In other words, Section 11.042(c) does not create an independent right to “appropriate” water; it authorizes a person to “convey and subsequently divert” water for which the person already holds a right. Therefore, Dow agrees that Section 11.042 of the Texas Water Code gives BRA the right to obtain a “bed and banks” authorization as part of the SysOps Permit to transport its own return flows, which originate from BRA’s water rights, from wastewater treatment facilities owned or operated by BRA or through contracts with third parties. BRA can transport its own return flows derived from privately owned groundwater pursuant to 11.042(b) and it can transport its own surface water based return flows pursuant to 11.042(c).

BRA Can “Appropriate” Other Water Returned to the Watercourse Under Section 11.121

Dow also believes that the Texas Water Code allows BRA to appropriate return flows discharged to the watercourse by others. However, Dow agrees with the ED that

⁴¹ PFD at 225.

⁴² Section 11.042(a) allows certain entities or persons the ability to transport “stored or conserved” water. Section 11.042(a-1) allows certain entities or persons the ability to transport water “imported from a source located wholly outside the boundaries of this state, except water imported from a source located in the United Mexican States.” Section 11.042(b) deals specifically with transport of “existing return flows derived from privately owned groundwater.” Section 11.042(c) provides authorization for a person or entity to use the state’s watercourse to transport other types of water.

this water must be appropriated under Section 11.121 of the Texas Water Code, as a normal appropriation of state water.

Section 11.046(c) states that, “[o]nce 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.”⁴³ Water that has been diverted under a “permit, certified filing, or certificate of adjudication” means water that has been diverted pursuant to an existing surface water right. Therefore, as the ED correctly states, this “does not include groundwater or groundwater-based return flows.”⁴⁴

Dow also agrees with the ED that Section 11.046 of the Texas Water Code is not an authorization statute. Section 11.046, titled “Return Surplus Water,” was originally titled “Return Unused Water” before Senate Bill 1 changed it.⁴⁵ “Surplus water” is defined by statute as “water in excess of the initial or continued beneficial use of the appropriator.”⁴⁶ This provision deals specifically with “unused” water (as it was previously termed), or water that is diverted by an appropriator pursuant to a valid surface water right. This water is not beneficially used or continued to be beneficially used and thus is returned to the watercourse. Ironically, Section 11.046 of the Texas Water Code deals with the opposite situation as BRA claimed, as it addresses unused water instead of water that has been used.

⁴³ Tex. Water Code § 11.046(c).

⁴⁴ ED’s Exceptions at 8.

⁴⁵ Act of June 1, 1997, 75th Leg., R.S., ch 1010, § 2.07, 1997 Tex. Gen. Laws 3610, 3620.

⁴⁶ Tex. Water Code § 11.002(10).

BRA can appropriate another person or entity's return flows, whether they be groundwater or surface water based. However, those return flows must be returned to a watercourse, which changes the character of the water to become surface water. As the Texas Supreme Court explained in *Edwards Aquifer Auth. v. Day*:

Groundwater can be transported through a natural watercourse without becoming state water. The Code specifically allows the Water Commission to authorize a person to discharge privately owned groundwater into a natural watercourse and withdraw it downstream. But this exception proves the rule. The necessary implication is that when the water owner has not obtained the required authorization for such transportation, the water in the natural watercourse becomes state water.⁴⁷

The court in the *Day* case stated this rule as it pertains to groundwater, but it follows that it is also true of groundwater-based return flows and surface water based return flows. When these flows are returned to the watercourse without the discharger obtaining bed and banks authorization under Section 11.042 of the Texas Water Code, they change character and become surface water that is subject to appropriation under Section 11.121 of the Texas Water Code.

BRA Must Revise Its Modeling and Accounting Based on the ED's Recommendations

In summary, under the SysOps Permit BRA can: (1) transport its own groundwater-based return flows pursuant to a Section 11.042(b) authorization; (2) transport its own surface water-based return flows pursuant to a Section 11.042(c) authorization; and (3) appropriate surface water pursuant to Section 11.121 that was previously categorized as groundwater and/or surface water-based return flows but is being returned to the watercourse by a discharger who failed or chose not to obtain his or her own bed and banks authorization pursuant to Section 11.042. Although BRA could have transported and/or appropriated the water in this manner, due to its own

⁴⁷ *Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 822-23 (Tex. 2012).

misinterpretation of the Texas Water Code provisions, it failed to model the SysOps Permit correctly. As the ED explained:

BRA cannot obtain these specific groundwater-based return flows pursuant to Texas Water Code § 11.121 because they did not model those return flows as a new appropriation. In order for BRA to have modeled these return flows as a new appropriation, BRA should have recalculated the natural streamflows by adding return flows to that calculation. If these flows are just water in the river, they should be considered no different than any other water in the river. BRA did not do this. BRA specifically included all groundwater-based return flows from all TPDES permits in the Brazos Basin below its system of reservoirs in the appropriation model and modeled the use of those return flows under § 11.042(b). BRA added these return flows as constant inflows based on calculated recent return flows. BRA Ex. 113 Technical Appendix G2 p. 4. Simply adding the amount of return flows to the available water treats these return flows differently than any other flow in the stream, i.e. just like those return flows would be treated under § 11.042(b).⁴⁸

BRA must also account for its own groundwater-based return flows pursuant to 11.042(b), and track individual return flows taking into account any losses in the stream.

As the ED stated:

[T]he ALJs did not require that BRA account for those return flows under § 11.042(b), which states that the authorization may allow for the diversion and reuse of existing return flows, less carriage losses. BRA's accounting would treat these return flows just like any water in the stream and there would be no way to determine the losses between discharge and diversion. The ED's recommended permit, based on BRA Ex. 132A, requires this accounting, by tracking individual return flows by source, availability, and diversion location, taking into account any losses in the stream.⁴⁹

BRA's Appropriation Does Not Include Existing Section 11.042 Authorizations

Dow believes that its interpretation of Sections 11.042, 11.046, and 11.121 of the Texas Water Code also protects existing indirect reuse projects authorized under Section 11.042. Dow shares the concerns and supports the positions voiced by the City of

⁴⁸ ED's Exceptions at 5.

⁴⁹ *Id.*

Lubbock, the City of College Station and the City of Bryan (together the “Cities”) regarding BRA’s Application and those Cities reuse authorizations. BRA should not be able to appropriate those Cities’ return flows because those return flows are associated with existing or pending bed and banks permits or applications pursuant to Section 11.042. As stated above, BRA cannot “appropriate” these Cities’ return flows. The only way BRA could have appropriated this water is if the Cities had failed to seek Section 11.042 authorization and allowed the water to be returned to the watercourse, which would have changed the character of the water to state-owned surface water subject to appropriation by BRA under Section 11.121.

If the TCEQ does not adhere completely to the ED’s interpretation of return flows, Dow believes that the TCEQ should at least follow and adopt the suggestions provided by the Cities to ensure that their existing Section 11.042 authorizations are protected from BRA’s Application. The City of Lubbock correctly points out that an inconsistency between the language of BRA’s Draft Permit and WMP “appears to leave open the possibility that BRA could divert unused portions of surface water and groundwater-based return flows discharged by other entities in the basin like the City [of Lubbock].”⁵⁰ The Draft Permit should be amended to ensure that “BRA has no right to divert return flows that are authorized for use by the discharger under a Section 11.042 bed and banks authorization.”⁵¹ The City of Lubbock also notes that the Draft Permit only limits BRA’s use of return flows to indirect reuse by the discharger within the discharger’s jurisdiction. Like the City of Lubbock, Dow knows of “no provision in Section 11.042, or the Commission’s rules, that mandates geographical restrictions on use of return flows by the

⁵⁰ Brief by the City of Lubbock on the Proposal for Decision on Remand at 3.

⁵¹ *Id.* at 6.

discharger.”⁵² This language should be removed from the Draft Permit.

Like the Cities, Dow objects to the language in the Draft Permit’s Special Condition 5.A.3 that could be interpreted to allow BRA to appropriate return flows that: (1) are subject to an existing Section 11.042 authorization but not actually indirectly reused; and (2) are not used within the discharging entity’s corporate limits, extraterritorial jurisdiction, or contiguous water certificate of convenience and necessity boundary.⁵³ Like B/CS, Dow believes that “[t]he most effective way to resolve the ambiguities created by the current wording of Special Conditions 5.A.1, 5.A.3, and 5.A.4, is to remove the ambiguities from the Draft Permit terms — not to rely on the flexible terms of the WMP and/or its supporting Technical Report and appendices.”⁵⁴

XXVII. ADDITIONAL PERMIT CHANGES PROPOSED BY PARTIES

G. Inclusion of Rosharon Streamflow Requirement

The ED excepts to the ALJs’ Finding of Fact No. 176.e, arguing against a stream flow restriction at the Rosharon Gage.⁵⁵ The proposed restriction in the ALJs’ Special Condition 5.C.6 would only apply in the absence of the watermaster. It prohibits the SysOps Permit from reducing the flow at the Rosharon Gage below the lesser of 630 cfs or Dow’s projected pumping rate. This has no effect on water availability because all of Dow’s water rights are senior to the SysOps Permit and that would be BRA’s legal obligation regardless of the streamflow restriction. In the first hearing, BRA’s witness, Mr. Gooch, admitted that this condition would not have an adverse impact on the water

⁵² *Id.* at 4.

⁵³ Brief by the City of College Station and the City of Bryan on the Proposal for Decision on Remand at 5-6.

⁵⁴ *Id.* at 8.

⁵⁵ ED’s Exceptions at 20.

available for the SysOps Permit.⁵⁶ Therefore, Finding of Fact No. 176.e and Ordering Provision No. 1.e should not be modified.

XXXI. CONCLUSION

In addition to the arguments made above, Dow hereby adopts the following exceptions made by the other parties and incorporates them into its exceptions by reference:

- a) FBR's Exceptions X and XI and associated arguments in FBR's Exceptions to the PFD;
- b) NWF's Exceptions A, B, C, D, F, G1, G2, and G3 and associated arguments in NWF's Exceptions to the PFD; and
- c) LGC's Exceptions in Parts II.A, B, D, and E and associated arguments in LGC's Exceptions to the PFD.

For these reasons, Dow contends that BRA's Application should be denied or, in the alternative, only granted after the adjustments to the appropriation amount are made to take into account the nonexistent storage, the recent drought of record, remove the overstatement associated with junior refills, and substitute the ED's treatment of return flow.

⁵⁶ Tr. at P. 2683, Ln. 23 - P. 2684, Ln. 3.

Respectfully submitted,

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**ATTORNEYS FOR THE DOW CHEMICAL
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CERTIFICATE OF SERVICE

I hereby certify, by my signature below, that a true and complete copy of The Dow Chemical Company's Motion to Take Official Notice was served on the following parties of record via e-mail or U.S. regular mail as outlined below on this the 31st day of August, 2015.



Fred B. Werkenthin, Jr.

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