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July 19, 2010

Ms. LaDonna Castañuela  
Office of the Chief Clerk  
Texas Commission on Environmental Quality  
P.O. Box 13087, MC-105  
Austin, Texas 78711-3087

VIA E-FILE & REGULAR MAIL

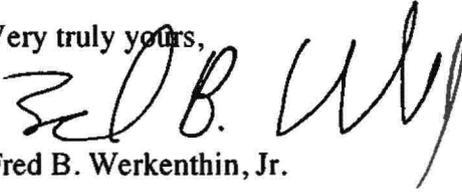
**Re: TCEQ Docket No. 2009-0356-WR;  
Gulf Coast Water Authority's Application No. 12-5322E**

Dear Ms. Castañuela:

Enclosed for filing please find The Dow Chemical Company's Reply to the Gulf Coast Water Authority's Response to Hearing Requests regarding the above-referenced matter. Please file-stamp the enclosed copy and return to us in the self-addressed stamped envelope at your earliest convenience.

Please do not hesitate to contact me should you have any questions.

Very truly yours,

  
Fred B. Werkenthin, Jr.

FBW/cd  
Enclosures

cc: Mr. Paul Bork  
Ms. Gena Leathers  
Mr. Tim Finley

VIA E-MAIL  
VIA E-MAIL  
VIA E-MAIL

**TCEQ DOCKET NO. 2009-0356-WR**

<b>APPLICATION BY GULF COAST</b>	<b>§</b>	<b>BEFORE THE TEXAS</b>
<b>WATER AUTHORITY FOR</b>	<b>§</b>	
<b>AMENDMENT TO CERTIFICATE</b>	<b>§</b>	<b>COMMISSION ON</b>
<b>OF ADJUDICATION NO.</b>	<b>§</b>	
<b>12-5322E</b>	<b>§</b>	<b>ENVIRONMENTAL QUALITY</b>

**THE DOW CHEMICAL COMPANY'S REPLY TO THE GULF COAST WATER  
AUTHORITY'S RESPONSE TO HEARING REQUESTS**

**COMES NOW**, The Dow Chemical Company ("Dow") and files this, its Reply to the Response of the Gulf Coast Water Authority ("GCWA") to Hearing Requests regarding the amendment filed by GCWA to its Certificate of Adjudication No. 12-5322.

**FACTUAL BACKGROUND**

Dow owns Certificate of Adjudication No. 12-5328. Dow's priority dates under Certificate of Adjudication No. 12-5328 range from February 28, 1929 to March 8, 1976. Dow's priority dates are both junior and senior to the priority dates of GCWA. Dow's water right is one of the most senior water rights on the Brazos River. Dow has two diversion points; both are downstream of all other water rights on the Brazos River. The current diversion point for GCWA's water right is just a few miles upstream from Dow's upper diversion point.

Even though Dow has one of the most senior water rights on the Brazos River, Dow has historically experienced problems in diverting the water it is entitled to divert during low-flow conditions. Upstream diversions of water rights junior to Dow under low-flow conditions reduce the flow in the Brazos River at Dow's diversion point to the extent that the incoming tides push a saltwater wedge up to and above Dow's lower diversion point. Any change in water rights above Dow that could have the effect of reducing the streamflow in the Brazos River at Dow's

diversion points has the potential to adversely impact Dow's ability to divert the water it is entitled to under Certificate of Adjudication No. 12-5328.

GCWA owns Certificate of Adjudication No. 12-5322. Certificate of Adjudication No. 12-5322 has priority dates ranging from February 8, 1929 to July 25, 1983. GCWA has applied to amend Certificate of Adjudication No. 12-5322 by adding new diversion point, an interbasin transfer and expanding the place of use of Certificate of Adjudication No. 12-5322 by adding Galveston County. Because GCWA's proposed amendment could have the effect of further reducing the flow at Dow's diversion points, Dow filed a hearing request on GCWA's Application to Amend Certificate of Adjudication No. 12-5322.

This same application previously went to TCEQ agenda regarding hearing requests. At that time, the TCEQ sent the question of Dow's hearing requests to the State Office of Administrative Hearings ("SOAH") for determination. Dow was admitted as a party in the SOAH hearing. The application was remanded to the Executive Director, modified, and is now back before the TCEQ for evaluating hearing requests. Dow previously became a party in this matter based on the same hearing request that is before the TCEQ again. Dow should again be a party in this matter.

#### **I. REPLY TO RESPONSE**

GCWA contends that the amendment could not adversely affect Dow. Dow disagrees. The proposed application will impact Dow in the following ways:

1. It will result in increased daily diversions during certain periods of the year; and
2. It will further complicate the operation water rights on the lower Brazos River in a manner that will exacerbate the current water rights enforcement problem.

As previously described, during low-flow conditions, Dow has experienced problems in diverting the amount of water it is entitled to under Certificate of Adjudication No. 12-5328. Under low-flow conditions, the flow in the Brazos River at Dow's diversion points is further reduced to the extent that incoming tides push a saltwater wedge upstream to the vicinity of Dow's lower diversion point. The presence of this saltwater wedge reflects that the Brazos River is, in fact, "dry." Moreover, because increased salinity in its diverted water renders the water unsuitable for Dow's purposes, when this saltwater wedge condition occurs, Dow must cease diverting at its lower diversion point. For these two reasons, Dow does not obtain the water it is entitled to under Certificate of Adjudication No. 12-5328 under low-flow conditions.

From a water rights management perspective, the lower Brazos River is exceedingly complex. There are three major water right holders in the lower Brazos River – NRG, GCWA, and Dow. The water rights of these major lower Brazos River water right holders are run-of-the-river water rights. That means that the dependability of these water rights are based on streamflow in the amounts needed by these water rights being available at the diversion points of these water rights on a daily basis.<sup>1</sup> Both Dow and GCWA have multiple water rights having different priority dates. GCWA now has three diversion points; Dow has two diversion points. The lower diversion point of GCWA is associated with a water right that was previously owned by the Chocolate Bayou Water Company ("Chocolate Bayou"), which primarily served agricultural customers. Flows in the lower Brazos River are also affected by the Brazos River Authority's reservoir system, which based on water rights that are for the most part junior to the major water rights in the lower Brazos River.

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<sup>1</sup> Dow does have two relatively small, off- channel reservoirs that combined can store about a month of Dow's daily water needs.

The purpose of GCWA's amendment is to allow it to use the former Chocolate Bayou water right, for irrigation to meet the demands of GCWA's municipal customers. Changing the type of use<sup>2</sup> under Certificate of Adjudication No. 12-5322 from mainly irrigation to mainly municipal will change the amount of water available to Dow during certain months because irrigation and municipal use have different annual patterns.

The purpose of GCWA obtaining the upstream diversion point is to allow GCWA to sell its water for municipal use. Such a change of use will eliminate any return flows from GCWA's current use. This will also have an adverse impact on Dow as a downstream water rights holder.

Because of the complexity of water rights management in the lower Brazos River, adding an upstream diversion point will likely result in less water being available to Dow during low flow conditions. Previously, water diverted from the proposed upstream diversion point to be added to Certificate of Adjudication No. 12-5322 was allocated between two water rights with two priority dates. If the proposed amendment is granted, diversions at the new diversion point proposed for Certificate of Adjudication No. 12-5322 it will then be allocated among five water rights with five priority dates. Two of those water rights are allocated between two diversion points. Three of those water rights are allocated between the proposed diversion point and the diversion point formally use by Chocolate Bayou.

TCEQ of evaluates the impact of new water rights and amendments to existing water rights using its Water Availability Model ("WAM"). The WAM assumes that water rights are exercised exactly according to priority. This is a far cry from what actually happens in the real world. In the WAM world, the only water available for diversion at the diversion point of a

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<sup>2</sup> "Type of use" here is speaking of the use that the water is actually used for rather than the purposes of use authorized in the water right.

water right is water that is not needed by upstream and downstream water rights senior to the water right making the diversion. In the real world, the water at diversion point of a particular water right consists of water needed for the authorized authorizes of downstream water rights and water in excess of water needed for authorized diversions by downstream water right holders with the water right holder that is proposing to make a diversion having no way of knowing how much of each type of water is at the diversion point.<sup>3,4</sup>

There is also another significant difference from the WAM world and the real world. The WAM models each water right at a diversion point independently even if all of the water rights at that diversion point are held by the same entity. It is unlikely that this happens in the real world. Some water right holders may allocate diversions during high flow periods to that holder's most junior priority date, saving its most senior water right for low flow conditions.

In the Water Availability Analysis memo attached to the draft permit, the executive director recommends that a special condition be added to the draft permit that requires the applicant prior to converting water at the upstream diversion point proposed be added to Certificate of Adjudication No. 12-5322, to have been approved accounting plan. Although Dow agrees that an accounting plan is necessary, it disagrees with the executive director's proposal on two points. Dow believes that the development of an accounting plan for the proposed diversion points should be done as part of the hearing process for this water right amendment. Dow, being the only entity that can be affected by faulty accounting believes it should have a seat at the table in the development of the accounting plan for this amendment. Also, Dow believes that the

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<sup>3</sup> In WAM lingo, this mode of operation in which the upstream water right holder makes diversions "authorized" by the upstream water right holder's water right without taking into account the rights of downstream water right holders is called "natural priority."

<sup>4</sup> Dow believes that it is the common practice of a water right holder to assume that all of the flow at that water right holder's diversion point is available for diversion and use by that water right holder.

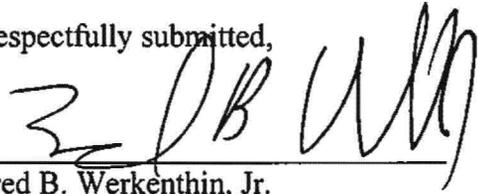
scope of the accounting plan proposed by the Executive Director is inadequate. With the added complexity to management of the lower Brazos River presented by this amendment application Dow believes that the accounting plan needs to have some mechanism to account, on a daily basis, the proportion of the flows at the GCWA's diversion points that is available for GCWA to divert and the proportion that must be passed to honor downstream water rights. This could be accomplished through the watermaster process or some kind of online process that makes information available on a daily basis that allows a water right holder to operate according to the priority system.

GCWA's proposed amendment has the potential to reduce the flow at Dow's diversion point in a manner that violates Dow's water rights. Such reduced flow will cause Dow to have even more frequent problems with diverting the water it is entitled to divert under Dow's water rights. The fact that GCWA will not be authorized to divert more water does not mean that the flow at Dow's diversion point will not be reduced. Thus, Dow is potentially adversely affected by GCWA's amendment.

### **III. CONCLUSION**

Dow is a senior water right holder on the Brazos River that currently has problems in diverting the water it is entitled to during dry weather conditions. Dow filed a hearing request regarding GCWA's permit amendment. Dow has shown that, even though GCWA will not be authorized to divert more water under the amendment, the movement of the diversion point could reduce the flow at Dow's diversion point and, thus, adversely impact Dow's water rights. Dow's hearing request, therefore, should be granted.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'F B W', written over a horizontal line.

Fred B. Werkenthin, Jr.

State Bar No. 21182015

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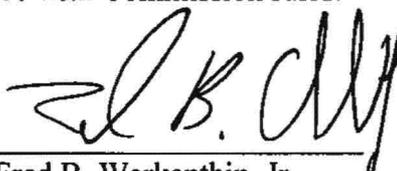
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**ATTORNEY FOR THE DOW  
CHEMICAL COMPANY**

**CERTIFICATE OF SERVICE**

This is to certify that all parties on the attached Mailing List have been sent a copy on July 19, 2010 of the foregoing document in accordance with Commission rules.

  
Fred B. Werkenthin, Jr.

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