

Coastal Bend Regional Water Planning Group

Attachment B

602 N. Staples Street Suite 280, Corpus Christi, Texas 78401
Phone: 361-653-2110; Fax: 361-653-2115

EXECUTIVE COMMITTEE

Water Districts

Mr. Scott Bledsoe, III, Co-Chair

Water Utilities

Ms. Carola Serrato, Co-Chair

GMA 13

Mr. Lonnie Stewart, *Secretary*

River Authorities

Mr. Tom Reding, Jr.

Small Business

Dr. Pancho Hubert,

VOTING MEMBERS:

Agriculture

Mr. Chuck Burns

Mr. Charles Ring

Counties

Mr. Lavoyger Durham

Mr. Bill Stockton

Electric Utilities

Mr. Gary Eddins

Environmental

Ms. Teresa Carrillo

Mr. Jace Tunnell

Industries

Mr. Joe Almaraz

Mr. Robert Kunkel

Municipalities

Ms. Barbara Reaves

Mr. Mark Scott

Public

Mr. Lindsey Koenig

Mr. Martin Ornelas

Other

Mr. John Burris

Mr. Carl Crull

Small Business

Mr. Bill Dove

GMA 15

Mr. Mark Sugarek

GMA 16

Mr. Andy Garza

NON-VOTING MEMBERS:

TWDB

Ms. Connie Townsend

NRCS

Mr. Tomas Dominguez

TPWD

Dr. Jim Tolan

TDA

Ms. Nelda Barrera

Liaison Region M

Judge Humberto Gonzalez

Liaison Region L

Mr. Con Mims

STAFF:

Nueces River Authority

Ms. Rocky Freund

September 22, 2017

Jeff Walker

Executive Administrator

Texas Water Development Board

Stephen F. Austin Bldg.

P.O. Box 13231

Austin, Texas 78711-3231

RE: Request for Hydrologic Variance to Use the Corpus Christi Water Supply Model to Evaluate Water Availability for the Choke Canyon Reservoir/ Lake Corpus Christi/ Lake Texana/Colorado River (CCR/LCC/Lake Texana/MRP Phase II) System **AND** Request for Approval to Report Water Availability for this Multi-Basin Regional Supply as a System rather than Individual Reservoirs

Dear Mr. Walker:

The City of Corpus Christi and other regional wholesale water providers supply nearly 90% of the Coastal Bend Regional water needs with supplies from the Choke Canyon Reservoir/ Lake Corpus Christi/ Lake Texana/Colorado River (CCR/LCC/Lake Texana/MRP Phase II) System. The multi-basin system presents a unique situation for managing reservoir operations and determining available supply based on permitting and contract relationships in conjunction with variable hydrology by basin. This complex system and the TCEQ Agreed Order (2001) that governs the passage of inflow through the system to the Nueces Bay and Estuary led to development of the Corpus Christi Water Supply Model, originally developed as the Nueces Bay and Estuary Model in 1991.

According to TWDB Guidelines¹ for 2021 Regional Plan Development, "planning groups are required to use TCEQ's unmodified WAM Run #3 to estimate surface water availability unless the TWDB Executive Administrator has approved use of other models." On August 10, 2017, the Coastal Bend Regional Water Planning Group (CBRWPG) approved that a request be sent to the TWDB for approval to use the Corpus Christi Water Supply Model to estimate surface water availability for the CCR/LCC/Lake Texana/MRP Phase II System for the 2021 Coastal Bend Regional Water Plan. For all other water rights except the CCR/LCC/Lake Texana/MRP Phase II System, the unmodified WAM Run #3 would be used.

¹ Texas Water Development Board, First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, April 2017.

At the same meeting, on August 10th, the CBRWPG approved that a request be sent to the TWDB for approval to allow the CCR/LCC/Lake Texana/MRP Phase II System to be evaluated and reported as a reservoir *system*² for the 2021 Coastal Bend Regional Water Plan. Reporting by individual reservoirs is problematic and misleading, since it does not appropriately reflect the City's reservoir operation policy nor account for system gains.

The Corpus Christi Water Supply Model incorporates data from the Nueces WAM, however it also includes and operates the Lavaca, and portions of the Colorado in a conjunctive manner and includes extended hydrology through 2015. **The use of the Corpus Christi Water Supply Model is important to the Region since it includes the most recent drought and enables the reservoirs to be operated as a system according to permit and contract allowances to calculate supplies made available by both firm and interruptible water from Lake Texana and supplies from the Lower Colorado River.**

All previous Region N Plans have used the Corpus Christi Water Supply Model to determine water availability for the multi-basin regional water supply system. The TWDB, City of Corpus Christi, and other stakeholders have continued to invest in the Corpus Christi Water Supply Model since inception of the model in 1991, including a recent update by the City of Corpus Christi to include:

- Hydrology through 2015 to include the most recent drought of record for a total model period of 82 years (1934 to 2015)
- New TWDB volumetric survey data for Lake Corpus Christi and Choke Canyon Reservoir with updated sedimentation rates
- Recent hydrology for Lake Texana and Colorado River (MRP Phase II)

The TCEQ Nueces River Basin WAM simulates hydrologic conditions from 1934 to 1996 and does not include the most recent drought of record. Furthermore, the TCEQ Nueces Basin WAM Run # 3 does not accurately simulate the City's reservoir operating system because it does not include existing water supplies from the east (i.e. Lake Texana and Colorado River).

The Coastal Bend Regional Water Planning Group requests (1) approval to use the Corpus Christi Water Supply Model for developing the 2021 Plan to estimate the yield of the CCR/LCC/Lake Texana/MRP Phase II System and (2) approval to report its supply as a *reservoir system* rather than individual reservoirs.

The TWDB formula-based funding allocation for Task 3 included in the Regional Water Planning Grant Application published in the Texas Register provides suitable funds to use the Corpus Christi Water Supply Model to evaluate water supplies and water management strategies. If not approved, the surface water supply evaluation effort to use and adapt the WAM(s) for 2021 Coastal Bend Regional Water Plan development will require substantial cost revisions beyond the TWDB's allocated budget.

Thank you for your consideration of this important request. Please contact me at 361-653-2110 with any questions or comments.

² As specified in Attachment 1- Exhibit A TWDB- Fifth Cycle of Regional Water Planning First Amended Scope of Work, "Reservoir systems must be approved by TWDB."

Sincerely,

A handwritten signature in black ink that reads "Rocky Freund". The signature is written in a cursive style with a large, prominent "R" and "F".

Rocky Freund
Deputy Executive Director
Nueces River Authority

CC: Carola Serrato, Co-Chair CBRWPG
Scott Bledsoe, Co-Chair CBRWPG
Temple McKinnon, TWDB
Connie Townsend, TWDB
Kristi Shaw, HDR Engineering

Coastal Bend Regional Water Planning Group

602 N. Staples Street Suite 280, Corpus Christi, Texas 78401

Phone: 361-653-2110; Fax: 361-653-2115

EXECUTIVE COMMITTEE

Water Districts

Mr. Scott Bledsoe, III, Co-Chair

Water Utilities

Ms. Carola Serrato, Co-Chair

GMA 13

Mr. Lonnie Stewart, *Secretary*

River Authorities

Mr. Tom Reding, Jr.

Small Business

Dr. Pancho Hubert,

VOTING MEMBERS:

Agriculture

Mr. Chuck Burns

Mr. Charles Ring

Counties

Mr. Lavoyger Durham

Mr. Bill Stockton

Electric Utilities

Mr. Gary Eddins

Environmental

Ms. Teresa Carrillo

Mr. Jace Tunnell

Industries

Mr. Joe Almaraz

Mr. Robert Kunkel

Municipalities

Ms. Barbara Reaves

Mr. Mark Scott

Public

Mr. Lindsey Koenig

Mr. Martin Ornelas

Other

Mr. John Burriss

Mr. Carl Crull

Small Business

Mr. Bill Dove

GMA 15

Mr. Mark Sugarek

GMA 16

Mr. Andy Garza

NON-VOTING MEMBERS:

TWDB

Ms. Connie Townsend

NRCS

Mr. Tomas Dominguez

TPWD

Dr. Jim Tolan

TDA

Ms. Nelda Barrera

Liaison Region M

Judge Humberto Gonzalez

Liaison Region L

Mr. Con Mims

STAFF:

Nueces River Authority

Ms. Rocky Freund

September 22, 2017

Jeff Walker

Executive Administrator

Texas Water Development Board

Stephen F. Austin Bldg.

P.O. Box 13231

Austin, Texas 78711-3231

RE: Request for Approval to Use Safe Yield as the Basis for Determining Available Surface Water Supplies from the Choke Canyon Reservoir/ Lake Corpus Christi/ Lake Texana/Colorado River (CCR/LCC/Lake Texana/MRP Phase II) System for the 2021 Coastal Bend Regional Water Plan

Dear Mr. Walker:

The Coastal Bend Regional Water Planning Group (CBRWPG) requests TWDB approval of a hydrologic variance to grant the use of safe yield for planning and determining surface water availability from the Choke Canyon Reservoir/ Lake Corpus Christi/ Lake Texana/Colorado River (CCR/LCC/Lake Texana/MRP Phase II) System. The CBRWPG approved submittal of this request at its regularly scheduled, public meeting on August 10, 2017.

According to TWDB Guidelines¹ for 2021 Regional Plan Development, “planning groups should analyze existing available surface water supplies based on firm yield for reservoirs and run of river diversions, unless otherwise approved by the TWDB’s Executive Administrator.” In accordance with TWDB guidance, firm yield will be reported in the technical memorandum, Initially Prepared Plan, and 2021 Regional Water Plan. However, if the hydrologic variance requested by this letter is granted, then safe yield will be used to evaluate existing water supply availability from the CCR/LCC/Lake Texana/MRP Phase II System for development of the Coastal Bend Regional Water Plan. All other surface water supplies will be reported based on firm yield.

Choke Canyon Reservoir and Lake Corpus Christi in the Nueces Basin operate together in a system to provide water supplies to the City of Corpus Christi (City) and their customers. Together with Lake Texana and Colorado River supplies, the CCR/LCC/Lake Texana/MRP Phase II system provides surface water supplies to meet nearly 90% of the overall water demands in the Coastal Bend Region. The Nueces Basin portion of the regional water supply system is prone to severe drought. Average annual inflows to the Lake Corpus Christi and Choke Canyon System in the Nueces Basin is lower with each successive

¹ Texas Water Development Board, “First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, April 2017.

drought. The single lowest inflow year was 2011, however based on calendar year the most recent average three year inflow was comparable to the 1990s, as shown in the Attachment. When the minimum 3 year inflow periods (not constrained by calendar) are considered, less inflow is observed during more recent times. If we look at two year inflow minimums, there are two, two-year events during the most recent decade where inflows were less than 50% of the historical minimum two year average (from 1934-2013).

A recent hydrology update to the Corpus Christi Water Supply Model (through 2015) shows that the current drought is a new drought of record for the region. Choke Canyon Reservoir and Lake Corpus Christi have not been full (i.e. 100% conservation pool) since September 2007. For this reason, safe yield is more reasonable than firm yield for drought planning purposes as a provision for climate uncertainty. Safe yield planning reduces the annual availability volume from the CCR/LCC/Lake Texana/MRP Phase II System as compared to the firm yield availability estimate, and will consequently move up any identified water needs to earlier decades than with use of firm yield.

The Coastal Bend Regional Water Planning Group requests that the TWDB approve the use of safe yield analyses for the CCR/LCC/Lake Texana/MRP Phase II System for developing the 2021 Coastal Bend Regional Water Plan. The previous Coastal Bend Regional Water Plans (2006, 2011, and 2016) have all used safe yield for water supply planning for the multi-basin regional water supply system.

Thank you for your consideration of this important request. Please contact me at 361-653-2110 with any questions or comments.

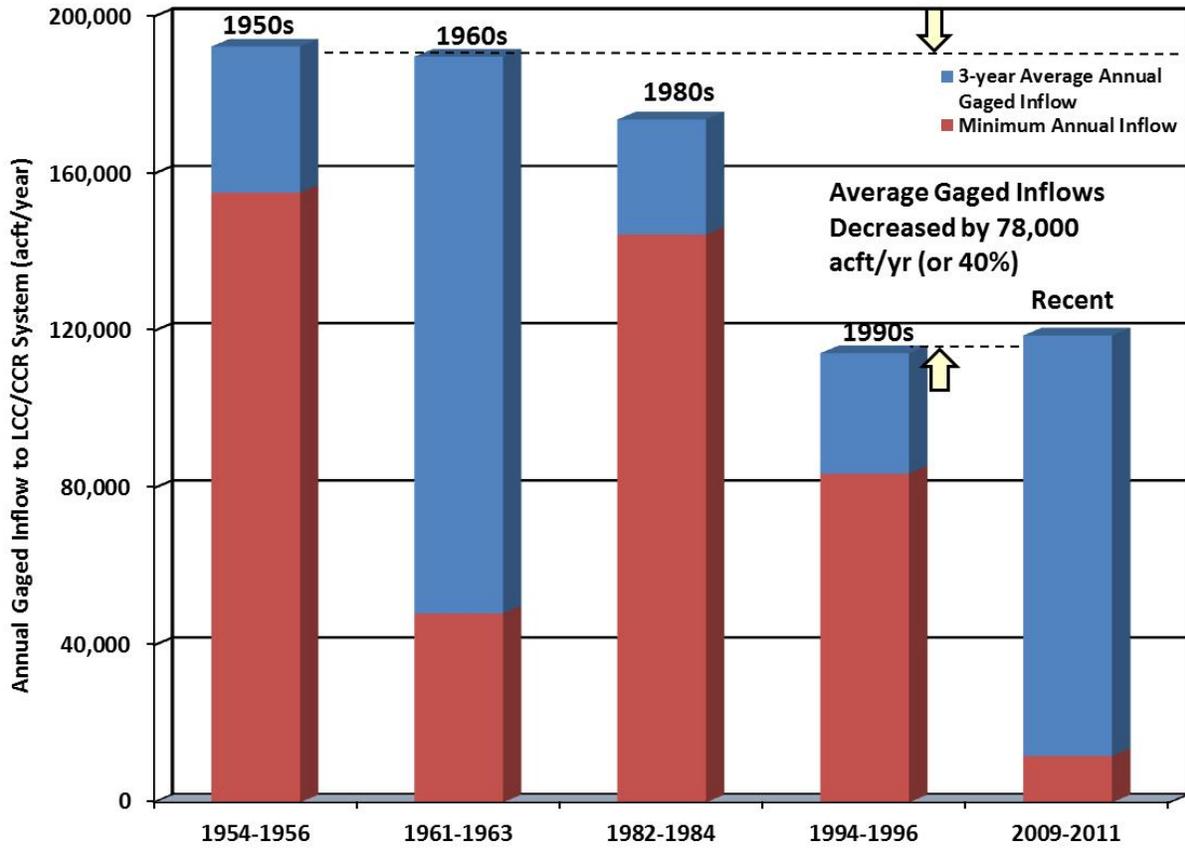
Sincerely,



Rocky Freund
Deputy Executive Director
Nueces River Authority

CC: Carola Serrato, Co-Chair CBRWPG
Scott Bledsoe, Co-Chair CBRWPG
Temple McKinnon, TWDB
Connie Townsend, TWDB
Kristi Shaw, HDR Engineering

ATTACHMENT



Historical 3 Year Reservoir Inflows

Source: 2016 Coastal Bend Regional Water Plan