

PANHANDLE WATER PLANNING GROUP

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December 15, 2017

Jeff Walker
Texas Water Development Board
1700 North Congress
Austin, Texas 78711-3231

RE: Hydrologic Variance Requests for Water Availability Determination of Current Surface Water Supplies in the Panhandle Region (Region A)

Dear Mr. Walker,

Surface water supplies in the Panhandle Water Planning Area (Region A) are obtained from the upper Red River Basin and the Canadian River Basin. The major surface water supplies in Region A are Lake Meredith and Palo Duro Reservoir in the Canadian River Basin and Greenbelt Reservoir in the Red River Basin.

In accordance with regional planning rules and guidelines, surface water supplies must be determined using the latest version of the TCEQ Water Availability Models (WAMs) with full authorization unless a hydrologic variance is granted by the TWDB. Regional planning rules also require the use and reporting of the firm yield for all surface water reservoirs.

The TCEQ-approved WAMs for the Canadian and Red River Basins, with modifications, have been used for determining the available surface water supplies for the region for previously developed water plans. The period of record for the hydrology for both the TCEQ-approved Red and Canadian WAMs is 1948 to 1998. Previous modifications have included updated storage capacities of regional reservoirs and the extension of hydrology for the Canadian River Basin from 1998 to 2004. However, these modifications alone do not capture the on-going drought conditions and the record low inflows experienced over the last decade throughout the region.

Considering the limited hydrologic record for the Canadian and Red River WAMs, the Panhandle Region Planning Group (PWPG) respectfully requests the following hydrologic variance requests. As intended by Senate Bill 1, the assessment of surface water availability in Region A will be conducted to accurately reflect water supplies that are available for use.

Safe Yield

Region A requests the use of safe yield or other defined reliable supply (risk assessment) for the allocation and distribution of surface water supplies from reservoirs within the region. Safe yield is the amount of water that can be used during the critical drought while leaving a minimum one-year supply in reserve. Safe yield is consistent with the current operations of surface water in the region and previous regional water planning. In accordance with the TWDB planning rules, firm yields will also be determined and reported in the plan.

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Canadian River Basin

During the 2016 round of planning, a yield analysis was conducted for Lake Meredith using a reservoir operation model with hydrology from the Canadian WAM through 2004 and calculated inflows to the lake from October 2004 to March 2012. Record low inflows to Lake Meredith continued through 2016. To capture the impact of the continued low inflow, it is proposed to extend the hydrology for Lake Meredith through 2017. This data is collected by the Canadian River Municipal Water Authority. This analysis will be used to assess the firm and safe yields of the reservoir.

Water supplies from the Palo Duro Reservoir and run-of-river water rights will be assessed using the Canadian WAM with the extended hydrology through 2004.

Red River Basin

As previously discussed, the hydrologic record for the TCEQ-approved Red River WAM extends from 1948 to 1998. It does not include the on-going drought (2010 to present). Analyses of the firm yield of Lake Greenbelt using the TCEQ-approved Red River WAM would overestimate its yield. To provide a more accurate yield estimate, it is proposed to use a reservoir operation model with hydrology from the Red WAM through 1998 and calculated inflows to the lake from 1999 to 2016. This analysis will be used to assess the firm and safe yields of the reservoir. A risk assessment (conditional reliability) may also be employed to determine the reliable supply from Lake Greenbelt, if the data indicate such analysis is necessary.

Run of the river water rights will be evaluated using the TCEQ-approved Red River WAM.

Please contact Simone Kiel of Freese and Nichols at 817-735-7446 if you have any questions regarding our request.

Sincerely,



C.E. Williams
Chairman, Panhandle Area Planning Area