



October 27, 2023

Mr. Lann Bookout
Region J Project Manager
Texas Water Development Board
P.O. Box 12321
Austin Texas

Subject: Hydrologic Variance Request for the Determination of Water Availability and Water Supplies for the 2026 Plateau Regional Water Plan (Region J)

Dear Mr. Bookout:

The Plateau Regional Water Planning Group (Region J) met on October 26, 2023, to discuss the process for determining the amount of surface water available from existing surface water sources and future water management strategies using the guidance provided by the Texas Water Development Board (TWDB) in the scope of work for the present cycle of Regional Water Planning. During this meeting, the RWPG discussed the approach for determining water availability within the region, noting where specific variances from the standard TWDB guidance will be employed towards development of the 2026 Plateau Regional Water Plan.

The RWPG approved submittal of this letter and the accompanying attachments, requesting that the TWDB allow the RWPG to use the approaches detailed herein throughout the regional planning process for analyses that determine surface water availability to existing rights and for analyses to determine the potential supplies available from new water management strategies and water management strategy projects.

[Surface Water Supplies](#)

In its guidelines for regional water planning, the TWDB requires that water availability be based on results derived from the official Texas Commission on Environmental Quality (TCEQ) Water Availability Models (WAMs). The TCEQ WAMs, which have been developed for all river basins in Texas, simulate the management and use of streamflow and reservoirs over a historical period of record, adhering to the prior appropriation doctrine, which governs the State of Texas water right priority system. The TCEQ WAMs are the fundamental tools used to determine surface water availability for water rights permitting and contain information about water rights in each respective river basin.

The Region J planning area includes the Rio Grande, Nueces, San Antonio, Colorado, and Guadalupe River Basins. For planning purposes, adjustments to these official WAMs are allowable to better reflect current and future surface water conditions in the Region. Such adjustments, as proposed herein, require the approval of the TWDB in order to be incorporated into the official TCEQ Rio Grande River Basin, Nueces River Basin, Colorado River Basin, and Guadalupe/San Antonio River Basin WAMs.

The TCEQ WAMs for these Plateau Region river basins contain information on all water rights in these basins. Embedded within the models are certain assumptions that the TCEQ specifies when analyzing water right reliabilities. Water supply availability under drought-of-record conditions is considered in the planning process to ensure that water demands can be met under critical conditions. For surface water supplies, drought-of-record





conditions relate to the quantity of water available to meet existing permits from the Rio Grande, Nueces, Colorado, Guadalupe, and San Antonio rivers and their tributaries as estimated by Run 3 of the official TCEQ WAMs.

There are several versions of each of these WAMs. TWDB guidance stipulates that regional water planning groups use the Full Authorization version that TCEQ employs to analyze applications for perpetual water rights. This scenario is often referred to as WAM “Run 3.” The assumptions in the TCEQ WAM Run 3 are conservatively modeled for permitting purposes, allowing for consideration of water supply availability under drought-of-record conditions to ensure water demands can be met under critical circumstances.

For the purposes of the development of the 2026 Plateau Regional Water Plan, the “Run 3” WAMs for each of the aforementioned river basins will be updated to determine surface water availabilities in the region. To reflect the current and future conditions of the region, the following hydrologic variances are summarized below. Hydrologic variance request forms provided by the TWDB have been completed for each river basin, and are included in Attachment A. The methodology for estimating and modeling impacts of sedimentation on the surface water reservoirs are detailed in Attachment B.

Firm Yield

“Firm Yield” is defined in the Texas Administrative Code 31 TAC §357.10 (14) as the:

“maximum amount of water that is physically and legally accessible from existing sources for immediate use by a Water User Group under a repeat of Drought of Record conditions.”

In accordance with regional water planning rules and guidance, firm yields for existing reservoirs and water management strategies contemplating a reservoir within Region J will be reported within the 2026 Plateau Regional Water Plan based on the modeled results from the applicable WAM for the basin in which the reservoir is located.

Drought Worse than the Drought of Record

Per TWDB guidance, regional water plans must address water supply needs during a repeat of the drought of record. The generated values of supplies, demands, and population all have associated ranges of uncertainty. Although the limited regional planning resources may not support evaluating a range of or multiple scenarios and although assessments of the likelihood of droughts potentially worse than the drought of record (DWDOR) are not required, RWPGs may choose to consider scenarios and/or qualitatively address uncertainty and DWDOR in their region. Such assessments can be used to more explicitly recognize or acknowledge the relative uncertainties in the planning process and the potential risks without necessarily modifying the plan to mitigate those risks.

If evaluations performed by water providers within Region J include considerations of potential impacts of a DWDOR, these evaluations will be documented within Chapter 8 of the 2026 Plateau Regional Water Plan and considered for informing upon legislative and regional policy recommendations of the RWPG within that chapter.





General Hydrologic Assumptions

The Region J RWPG will assess surface water availability in a manner that accurately reflects water supplies that are available for use. The RWPG requests that the TWDB approve the following assumptions for use in representing existing supplies and potential future surface water supplies in the 2026 Plateau Regional Water Plan. The WAMs containing the necessary modifications to the TCEQ WAM that incorporate these assumptions will be referred to as the “Region J WAMs.” A general summary of the models and assumptions to be employed for the evaluation of existing water supply and water management strategies (WMS’s) is provided below.

Assumption	Use for Existing Supplies	Use for Water Management Strategies
General		
Use most recent available versions of the TCEQ WAMs.	X	X
WAM Run 3 - full consumption of existing water rights with no (zero) return flows).	X	X
Modeling of reuse to include consideration of minimum and permitted return flows associated with WUG, including identified return flows from TCEQ WAM Run 8.	X	X
Channel losses based on factors employed within official TCEQ WAMs.	X	X
ASR evaluations will consider surface water availability as determined by the WAM compared to demand, with the firm supply being the maximum demand that could be met assuming a repetition of the period of record drought.		X
Adopted environmental flow standards will be used as incorporated into the applicable official TCEQ WAMs	X	X
For those basins lacking TCEQ adopted environmental flow standards, TWDB consensus planning criteria will be employed in a manner consistent with TWDB guidelines.		X





Assumption	Use for Existing Supplies	Use for Water Management Strategies
Subordination of water rights will be modeled in a manner consistent with modeled subordination within the official TCEQ WAMs.	X	X
<p>For municipal and industrial users:</p> <p>Run of the river rights will be determined in accordance with TWDB guidelines which state that the use-appropriate monthly percentage of the annual firm diversion must be satisfied in each and every month of the simulation period for all surface water diversions.</p> <p>Reservoirs will use firm yield unless a change is specifically requested by a reservoir owner and approved by the RWPG and TWDB, as appropriate per TWDB guidelines.</p> <p>The calculated source availabilities will be compared against existing legal and infrastructure constraints (water treatment plants, pipelines, intakes, etc.) and will be constrained if the existing infrastructure or legal capability is not sufficient to facilitate full utilization of the source. The most constrained amount will be used as the firm supply.</p>	X	X
For irrigation users, water supply will be determined using firm reliability (100%). In the absence of any supply information or justification of reliable supplies available in a drought of record, supply values will be set equal to zero.	X	X
For livestock, in the absence of any supply information or justification of reliable supplies available in a drought of record, supply values will be set to zero.	X	X
Sedimentation		





Assumption	Use for Existing Supplies	Use for Water Management Strategies
For reservoirs with available volumetric survey information, an annual sediment rate will be calculated, and loadings calculated for Year 2030 and Year 2080. Sediment distribution will be calculated using the Empirical Area-Reduction method and resultant 2030 and 2080 area-capacity curves developed and employed within WAM. Intervening decadal yields will be linearly interpolated.	X	X
The most recent volumetric survey information will be utilized. For reservoirs lacking volumetric surveys, original area-capacity relations within TCEQ WAM Run 3 will be assumed constant.	X	X

Rio Grande River Basin (including the Pecos and Devils River)

Portions of the Rio Grande River Basin, including its tributaries, are located in Val Verde, Edwards, and Kinney Counties in the Plateau Region. The Pecos River forms a portion of the boundary between Terrell County in the Far West Texas Region and Crockett County in Region F before reaching Langtry in Val Verde County in the Plateau Region. The Devils River originates in Sutton County and proceeds generally southward through Val Verde County before reaching Amistad International Reservoir. There are no surface water rights on the Pecos and Devils Rivers within the Plateau Region. Amistad International Reservoir is located in the Rio Grande River Basin on the border between the United States and Mexico near the City of Del Rio, and was constructed jointly by the two nations. It was completed in 1968, with a maximum capacity of 5.25 million acre-feet, with approximately 3.5 million acre-feet of storage used for conservation. Lake Amistad is not a present source of supply for the Plateau Region, as the City of Del Rio and downstream irrigators in Val Verde County obtain their supply primarily from San Felipe Springs and Creek.

For the Rio Grande River Basin, the most recently available official TCEQ WAM Run 3 (ver. Oct. 1, 2023) will be employed for all availability analyses in the basin using the modeled hydrologic period of 1940-2018.

Nueces River Basin

Portions of the Nueces River Basin, including its tributaries, are located within Edwards, Kinney, Real, Kerr, and Bandera Counties within the Plateau Region, with the main stem Nueces forming a portion of the border between Real and Edwards Counties. Headwater tributaries of the Nueces River located in the Plateau Region include the Sabinal River and Hondo Creek in Bandera County, the West Nueces River in Edwards and Kinney Counties, and the Frio, East Frio, and Dry Frio Rivers in Real County.





For the Nueces River Basin, the most recently available official TCEQ WAM Run 3 (ver. Oct. 1, 2023) will be employed for all availability analyses in the basin using the modeled hydrologic period of 1934-1996.

Colorado River Basin

The headwaters of the South Llano River, a tributary of the Colorado River, lie within Edwards County, while other tributaries are within Kerr County and Real County. For the Colorado River Basin, the most recently available official TCEQ WAM Run 3 (ver. Oct. 1, 2023) will be employed for all availability analyses in the basin using the modeled hydrologic period of 1940-2016.

San Antonio River Basin

The headwaters of the San Antonio River are within Bandera County. Medina Lake, located within the San Antonio River Basin, was constructed in 1911 to provide irrigation water for farmers to the southwest of San Antonio. Although commonly referred to as Medina Lake, the lake is actually a system consisting of Medina Lake and Diversion Lake (the latter being where diversions from this dual-lake system are authorized). Diversion Lake was impounded in 1913, and is located approximately 4 miles downstream of Medina Lake.

For the San Antonio River Basin, the most recently available official TCEQ Guadalupe/San Antonio WAM Run 3 (ver. Oct. 1, 2023) will be employed for all availability analyses in the basin using the modeled hydrologic period of 1934-1989.

Guadalupe River Basin

The portion of the Guadalupe River Basin within the Plateau Region lies almost entirely within Kerr County. Three tributaries (Johnson Creek, North Fork, and South Fork) converge west of the City of Kerrville, forming the Guadalupe River course. Three recreational reservoirs permitted for non-consumptive, recreational uses are located in the basin near Kerrville. As noted in the 2021 Plateau Regional Water Plan, "Pursuant to a Memorandum of Understanding (MOU) between the Guadalupe-Blanco River Authority (GBRA) and the Commissioner's Court of Kerr County, the South Central Texas Water Planning Group (Region L) recognizes a potential commitment of approximately 2,000 acre-feet/year from the firm yield of Canyon Reservoir for the calendar years 2021 through 2050. GBRA's hydrology studies indicate that a commitment of about 2,000 acre-feet/year would be necessary to allow permits for 6,000 acre-feet/year to be issued by TCEQ for diversions in Kerr County."

For the Guadalupe River Basin, the most recently available official TCEQ Guadalupe/San Antonio WAM Run 3 (ver. Oct. 1, 2023) will be employed for all availability analyses in the basin using the modeled hydrologic period of 1934-1989.





Simulation of Reservoir Conditions (Sedimentation)

As mentioned previously, the two reservoirs located within the Plateau Region are Amistad Reservoir (located in the Rio Grande River Basin) and Medina Lake (San Antonio River Basin). Canyon Reservoir (located in the Guadalupe River Basin) is located within Region L, and as mentioned above has been recognized in previous planning as a potential supply for Kerr County in the Plateau Region. Although these reservoirs do not presently provide supply to the region, each could do so in the future pending availability of firm supplies.

In the consideration of available firm supplies under existing and future conditions, reservoir sedimentation can reduce the storage capacity of a reservoir, impacting the beneficial uses of reservoirs such as water supply, flood control, hydropower, navigation, and recreation. Surveys of volumetric storage in a reservoir allow for the derivation of rates and loadings of sediment to the reservoir. The annual loading can then be distributed to determine a revised elevation-area-capacity curve which models the distribution of the total volume of sediment accumulated at the end of an analysis period. The resultant area-capacity relationship is then incorporated into the applicable WAM for the given reservoir.

For those reservoirs lacking volumetric surveys, original area-capacity relations employed within WAM Run 3 will be assumed constant. If a reservoir (or system) is calculated to have no firm yield, that result will be assumed for all decades in the 2030-2080 planning horizon. For reservoirs with available volumetric survey information, an annual sediment rate will be calculated, and loadings calculated for Year 2030 and Year 2080. Sediment distribution within the reservoir will be calculated using the USACE Empirical Area Reduction Method (EARM) and employed within the applicable WAM to calculate 2030 and 2080 area/capacity relations and accordant firm yields. The intervening decadal firm yields will then be linearly interpolated.

For the evaluation of water management strategies, sedimentation effects will be implemented for the reservoir under consideration, whereas other reservoirs will be assumed at their original area/capacities. This assumption represents the more conservative representation of availability in a manner consistent with planning rules and TWDB guidelines.

Interregional Coordination

Major downstream water rights include those in Region L supplied by the GBRA out of Canyon Lake and by the Bexar-Medina-Atascosa WCID #1 out of the Medina/Diversion system. The firm yields of Canyon and Medina can limit the amount of water available for appropriation in both the Plateau Region and Region L. Major downstream water rights in Region M (i.e., cities and irrigators on the Rio Grande downstream from Amistad Reservoir) do not limit the amount of water available for appropriation in the Plateau Region because currently the Plateau Region does not depend on the Falcon-Amistad system. TCEQ's Lower Rio Grande Watermaster allocates water rights on the Rio Grande according to the supply in the Amistad Reservoir and in accordance with the 1944 International Treaty with Mexico.

For those instances where modeled surface water supply results can inform upon or impact determinations of surface water availability in the Plateau Region or other regions, modeled results and approaches will be shared and coordinated to ensure consistency between regions, in a manner consistent with TWDB guidelines and the assumptions described herein.



Plateau Region Water Plan – Hydrologic Variance Request



Conclusion

These assumptions are recommended to be used throughout the regional planning process for analyses that determine water availability for existing supplies, and also for analyses to determine the potential supplies available for new water management strategies. Specifics regarding surface water availability modeling of each river basin are presented by basin in the completed hydrologic variance forms provided in Attachment A. The assumptions described herein require the approval of the TWDB in order to be incorporated into the Plateau RWPG's analyses.

If you have any questions regarding this request, please contact me at your convenience. We appreciate the TWDB's consideration of this request.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jonathan Letz'. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Jonathan Letz
Chair, Plateau Regional Water Planning Group

Enclosures: Attachment A

cc: Tara Busnhnoe, UGRA General Manager
Jennifer Herrera, WSP Technical Consultant
Tony Smith, P.E., Carollo Engineers, Technical Consultant



Surface Water Hydrologic Variance Request Checklist

Texas Water Development Board (TWDB) rules¹ require that regional water planning groups (RWPG) use most current Water Availability Models (WAM) from the Texas Commission on Environmental Quality (TCEQ) and assume full utilization of existing water rights and no return flows for surface water supply analysis. Additionally, evaluation of existing stored surface water available during Drought of Record conditions must be based on Firm Yield using anticipated sedimentation rates. However, the TWDB rules also allow, and **we encourage**, RWPGs to use more representative, water availability modeling assumptions; better site-specific information; or justified operational procedures other than Firm Yield with written approval (via a Hydrologic Variance) from the Executive Administrator in order to better represent and therefore prepare for expected drought conditions.

RWPGs must use this checklist, which is intended to save time and reduce effort, to request a Hydrologic Variance for estimating the availability of surface water sources. For Questions 4 – 10, please indicate whether the requested variance is for determining Existing Supply, Strategy Supply, or both. Please complete a separate checklist for each river basin in which variances are being requested.

Water Planning Region: J

1. Which major river basin does the request apply to? Please specify if the request only applies part of the basin or only to certain reservoirs.

Rio Grande

2. Please give a brief, bulleted, description of the requested hydrologic variances including how the alternative availability assumptions vary from rule requirements, how the modifications will affect the associated annual availability volume(s) in the regional water plan, and why the variance is necessary or provides a better basis for planning. You must provide more-detailed descriptions in the subsequent checklist questions. Attach any available documentation supporting the request.

- Request inclusion of return flows for evaluation of strategy supplies.

3. Was this request submitted in a previous planning cycle? If yes, please indicate which cycle and note how it is different, if at all, from the previous request?

Yes

The above requests were submitted in the 2021 and 2016 planning cycles and are unchanged from the previous planning cycle request.

¹ 31 Texas Administrative Code (TAC) §§ 357.10(14) and 357.32(c)

4. Are you requesting to extend the period of record beyond the current applicable WAM hydrologic period? If yes, please describe the proposed methodology. Indicate whether you believe there is a new drought of record in the basin.

No

Choose an item.

Click or tap here to enter text.

5. Are you requesting to use a reservoir safe yield? If yes, please describe in detail how the safe yield would be calculated and defined, which reservoir(s) it would apply to, and why the modification is needed or preferable for drought planning purposes.

No

Choose an item.

Click or tap here to enter text.

6. Are you requesting to use a reservoir yield other than firm yield or safe yield? If yes, please describe, in a bulleted list, each modification requested including how the alternative yield was calculated, which reservoir(s) it applies to, and why the modification is needed or preferable for drought planning purposes. Examples of alternative reservoir yield analyses may include using an alternative reservoir level, conditional reliability, or other special reservoir operations.

No

Choose an item.

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7. Are you requesting to use a different model (such as a RiverWare or Excel-based models) than RUN 3 of the applicable TCEQ WAM? If yes, please describe the model being considered including how it incorporates water rights and prior appropriation and how it is more conservative than RUN 3 of the applicable TCEQ WAM.

No

Choose an item.

Click or tap here to enter text.

8. Are you requesting to use a modified TCEQ WAM? If yes, please describe in a bulleted list all modifications in detail including all specific changes to the WAM and whether the modified WAM is more conservative than the TCEQ WAM RUN 3. Examples of WAM modifications may

include adding subordination agreements, contracts, updated water rights, modified spring flows, updated lake evaporation, updated sedimentation², system or reservoir operations, or special operational procedures into the WAM.

No

Choose an item.

Click or tap here to enter text.

9. Are you requesting to include return flows in the modeling? If yes, are you doing so to model an indirect reuse water management strategy (WMS)? Please provide complete details regarding the proposed methodology for determining reuse WMS availability.

Yes

Strategy Supply

Evaluations of reuse strategies will use the return flows from TCEQ WAM Run 8. This approach is consistent with the methods employed by TCEQ in their evaluations of reuse during their permitting process where the permitted, minimum historical, and present discharges relevant to a particular WUG are all considered in the evaluation of a reuse permit.

10. Are any of the requested Hydrologic Variances also planned to be used by another region for the same basin? If yes, please indicate the other Region. Please indicate if unknown.

No

Click or tap here to enter text.

11. Please describe any other variance requests not captured on this checklist or add any other information regarding the variance requests on this checklist.

Not Applicable

² Updating anticipated sedimentation rates does not require a hydrologic variance under 31 TAC § 357.10(14). The Technical Memorandum will require providing details regarding the sedimentation methodology utilized. Please consider providing that information with this request.

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Water Planning Region: J

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Nueces

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Colorado

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San Antonio

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Yes

The above requests were submitted in the 2021 and 2016 planning cycles and are unchanged from the previous planning cycle request.

¹ 31 Texas Administrative Code (TAC) §§ 357.10(14) and 357.32(c)

4. Are you requesting to extend the period of record beyond the current applicable WAM hydrologic period? If yes, please describe the proposed methodology. Indicate whether you believe there is a new drought of record in the basin.

No

Choose an item.

Click or tap here to enter text.

5. Are you requesting to use a reservoir safe yield? If yes, please describe in detail how the safe yield would be calculated and defined, which reservoir(s) it would apply to, and why the modification is needed or preferable for drought planning purposes.

No

Choose an item.

Click or tap here to enter text.

6. Are you requesting to use a reservoir yield other than firm yield or safe yield? If yes, please describe, in a bulleted list, each modification requested including how the alternative yield was calculated, which reservoir(s) it applies to, and why the modification is needed or preferable for drought planning purposes. Examples of alternative reservoir yield analyses may include using an alternative reservoir level, conditional reliability, or other special reservoir operations.

No

Choose an item.

Click or tap here to enter text.

7. Are you requesting to use a different model (such as a RiverWare or Excel-based models) than RUN 3 of the applicable TCEQ WAM? If yes, please describe the model being considered including how it incorporates water rights and prior appropriation and how it is more conservative than RUN 3 of the applicable TCEQ WAM.

No

Choose an item.

Click or tap here to enter text.

8. Are you requesting to use a modified TCEQ WAM? If yes, please describe in a bulleted list all modifications in detail including all specific changes to the WAM and whether the modified WAM is more conservative than the TCEQ WAM RUN 3. Examples of WAM modifications may

include adding subordination agreements, contracts, updated water rights, modified spring flows, updated lake evaporation, updated sedimentation², system or reservoir operations, or special operational procedures into the WAM.

No

Choose an item.

[Click or tap here to enter text.](#)

9. Are you requesting to include return flows in the modeling? If yes, are you doing so to model an indirect reuse water management strategy (WMS)? Please provide complete details regarding the proposed methodology for determining reuse WMS availability.

Yes

Strategy Supply

Evaluations of reuse strategies will use the return flows from TCEQ WAM Run 8. This approach is consistent with the methods employed by TCEQ in their evaluations of reuse during their permitting process where the permitted, minimum historical, and present discharges relevant to a particular WUG are all considered in the evaluation of a reuse permit.

10. Are any of the requested Hydrologic Variances also planned to be used by another region for the same basin? If yes, please indicate the other Region. Please indicate if unknown.

Unknown

[Click or tap here to enter text.](#)

11. Please describe any other variance requests not captured on this checklist or add any other information regarding the variance requests on this checklist.

Not Applicable

² Updating anticipated sedimentation rates does not require a hydrologic variance under 31 TAC § 357.10(14). The Technical Memorandum will require providing details regarding the sedimentation methodology utilized. Please consider providing that information with this request.

Surface Water Hydrologic Variance Request Checklist

Texas Water Development Board (TWDB) rules¹ require that regional water planning groups (RWPG) use most current Water Availability Models (WAM) from the Texas Commission on Environmental Quality (TCEQ) and assume full utilization of existing water rights and no return flows for surface water supply analysis. Additionally, evaluation of existing stored surface water available during Drought of Record conditions must be based on Firm Yield using anticipated sedimentation rates. However, the TWDB rules also allow, and **we encourage**, RWPGs to use more representative, water availability modeling assumptions; better site-specific information; or justified operational procedures other than Firm Yield with written approval (via a Hydrologic Variance) from the Executive Administrator in order to better represent and therefore prepare for expected drought conditions.

RWPGs must use this checklist, which is intended to save time and reduce effort, to request a Hydrologic Variance for estimating the availability of surface water sources. For Questions 4 – 10, please indicate whether the requested variance is for determining Existing Supply, Strategy Supply, or both. Please complete a separate checklist for each river basin in which variances are being requested.

Water Planning Region: J

1. Which major river basin does the request apply to? Please specify if the request only applies part of the basin or only to certain reservoirs.

Guadalupe

2. Please give a brief, bulleted, description of the requested hydrologic variances including how the alternative availability assumptions vary from rule requirements, how the modifications will affect the associated annual availability volume(s) in the regional water plan, and why the variance is necessary or provides a better basis for planning. You must provide more-detailed descriptions in the subsequent checklist questions. Attach any available documentation supporting the request.

- Request inclusion of return flows for evaluation of strategy supplies.

3. Was this request submitted in a previous planning cycle? If yes, please indicate which cycle and note how it is different, if at all, from the previous request?

Yes

The above requests were submitted in the 2021 and 2016 planning cycles and are unchanged from the previous planning cycle request.

¹ 31 Texas Administrative Code (TAC) §§ 357.10(14) and 357.32(c)

4. Are you requesting to extend the period of record beyond the current applicable WAM hydrologic period? If yes, please describe the proposed methodology. Indicate whether you believe there is a new drought of record in the basin.

No

Choose an item.

Click or tap here to enter text.

5. Are you requesting to use a reservoir safe yield? If yes, please describe in detail how the safe yield would be calculated and defined, which reservoir(s) it would apply to, and why the modification is needed or preferable for drought planning purposes.

No

Choose an item.

Click or tap here to enter text.

6. Are you requesting to use a reservoir yield other than firm yield or safe yield? If yes, please describe, in a bulleted list, each modification requested including how the alternative yield was calculated, which reservoir(s) it applies to, and why the modification is needed or preferable for drought planning purposes. Examples of alternative reservoir yield analyses may include using an alternative reservoir level, conditional reliability, or other special reservoir operations.

No

Choose an item.

Click or tap here to enter text.

7. Are you requesting to use a different model (such as a RiverWare or Excel-based models) than RUN 3 of the applicable TCEQ WAM? If yes, please describe the model being considered including how it incorporates water rights and prior appropriation and how it is more conservative than RUN 3 of the applicable TCEQ WAM.

No

Choose an item.

Click or tap here to enter text.

8. Are you requesting to use a modified TCEQ WAM? If yes, please describe in a bulleted list all modifications in detail including all specific changes to the WAM and whether the modified WAM is more conservative than the TCEQ WAM RUN 3. Examples of WAM modifications may

include adding subordination agreements, contracts, updated water rights, modified spring flows, updated lake evaporation, updated sedimentation², system or reservoir operations, or special operational procedures into the WAM.

No

Choose an item.

Click or tap here to enter text.

9. Are you requesting to include return flows in the modeling? If yes, are you doing so to model an indirect reuse water management strategy (WMS)? Please provide complete details regarding the proposed methodology for determining reuse WMS availability.

Yes

Strategy Supply

Evaluations of reuse strategies will use the return flows from TCEQ WAM Run 8. This approach is consistent with the methods employed by TCEQ in their evaluations of reuse during their permitting process where the permitted, minimum historical, and present discharges relevant to a particular WUG are all considered in the evaluation of a reuse permit.

10. Are any of the requested Hydrologic Variances also planned to be used by another region for the same basin? If yes, please indicate the other Region. Please indicate if unknown.

No

Click or tap here to enter text.

11. Please describe any other variance requests not captured on this checklist or add any other information regarding the variance requests on this checklist.

Not Applicable

² Updating anticipated sedimentation rates does not require a hydrologic variance under 31 TAC § 357.10(14). The Technical Memorandum will require providing details regarding the sedimentation methodology utilized. Please consider providing that information with this request.