

December 12, 2023

Jeff Walker  
Executive Administrator  
Texas Water Development Board  
PO Box 13231  
Austin, TX 78711

The Llano Estacado Regional Water Planning Group (LERWPG) met on November 30, 2023, and discussed the process to determine the amount of surface water available from existing water rights and future water management strategies. During this meeting, the LERWPG discussed specific deviations from the standard Texas Water Development Board (TWDB) guidance that will be employed to develop the 2026 Llano Estacado Regional Water Plan.

As you know, the guidance provided by the TWDB in the base scope of work for the Sixth Cycle of Regional Water Planning requires the use of the Run 3 (full authorization) version of Water Availability Models (WAMs) maintained by the Texas Commission on Environmental Quality (TCEQ). These river-basin-scale models are used by the TCEQ for evaluating legal water available to applications for new or amended water rights, and as such, include some aspects that are not appropriate for water planning.

The LERWPG requests that the TWDB allow specific variations from the base TCEQ WAMs for analyses that determine surface water available to existing rights.

1. Brazos WAM. The LERWPG requests permission to conduct analyses using the TCEQ Brazos River Basin WAM as modified by the Brazos G Regional Water Planning Group (Brazos G WAM) for determining surface water reliabilities for the sake of inter-regional consistency. This model includes limited return flows for its reliability evaluations.
2. Canadian WAM. Also, to promote inter-regional consistency, the LERWPG requests permission to use yield values developed by the Panhandle Regional Water Planning Group using the TCEQ Canadian River Basin WAM for determining firm yield in that basin for water supplies supporting LERWPG Water User Groups (WUGs), specifically Lake Meredith.
3. Colorado WAM. The LERWPG requests permission to use surface water reliability values developed by the Region F Regional Water Planning Group using the TCEQ Colorado River Basin WAM for determining reliability and yield in that basin for water supplies supporting LERWPG Water User Groups (WUGs) to promote inter-regional consistency.
4. Red River WAM. The LERWPG requests permission to use surface water reliability values developed by the Panhandle Regional Water Planning Group using the TCEQ Red River Basin WAM for determining reliability and yield in that basin for water supplies supporting Region O Water User Groups (WUGs), specifically Mackenzie Reservoir.

5. Utilize the same water supply model for strategy evaluations as is used to determine supplies available to existing water rights.

TWDB guidance requires that evaluations of new water management strategies utilize a strict application of the TCEQ Run 3 WAM. The rationale for this guidance is to ensure that the supply from a water management strategy is consistent with what might be permitted by the TCEQ. However, TCEQ considers more information than a simple application of the WAM when making water right permitting decisions. Additionally, many water management strategies utilize or are intended to supplement existing supplies, and therefore should be evaluated consistent with the existing supplies they are intended to supplement. The existing supply and the supplementing water management strategy need to be evaluated consistently. Furthermore, the same aspects of the Run 3 WAM that limit its usefulness for determining supplies available to existing rights also limit its ability to determine supplies to new water management strategies. The TCEQ Run 3 WAM is a legal permitting tool that has only limited utility for water supply planning. The LERWPG requests that the Brazos G WAM be utilized to evaluate water management strategies instead of the base TCEQ Run 3 WAM.

The benefit to this methodology is that it will provide a consistent basis of evaluation between existing supplies and new water management strategies.

6. Lake Alan Henry Analysis. The LERWPG requests permission to conduct analyses using the Brazos G WAM with a 2-year safe yield operation of Lake Alan Henry. The City of Lubbock currently operates the reservoir using a 2-year safe yield. Using this Lake Alan Henry yield would best reflect actual operations in water management strategy evaluations for the City of Lubbock.

The LERWPG thanks the TWDB for considering these alternative technical approaches for determining surface water supplies to existing water rights and new water management strategies. We welcome any questions you may have regarding this hydrologic variance request for surface water supplies.

Please direct any questions to the LERWPG technical consultant, Paula Jo Lemonds, HDR, at [paula.lemonds@hdrinc.com](mailto:paula.lemonds@hdrinc.com) or (512) 912-5127.

Sincerely,



Mark Kirkpatrick, Vice Chairman  
Llano Estacado Regional Water Planning Group – Region O

## Surface Water Hydrologic Variance Request Checklist

Texas Water Development Board (TWDB) rules<sup>1</sup> 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:** 0

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.

Brazos River Basin  
Entire and Lake Alan Henry

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.

Brazos WAM. The LERWPG requests permission to conduct analyses using the TCEQ Brazos River Basin WAM as modified by the Brazos G Regional Water Planning Group (Brazos G WAM) for determining surface water reliabilities for the sake of inter-regional consistency. This model includes limited return flows for its reliability evaluations.

Utilize the same water supply model for strategy evaluations as is used to determine supplies available to existing water rights. TWDB guidance requires that evaluations of new water management strategies utilize a strict application of the TCEQ Run 3 WAM. The rationale for this guidance is to ensure that the supply from a water management strategy is consistent with what might be permitted by the TCEQ. However, TCEQ considers more information than a simple application of the WAM when making water right permitting decisions. Additionally,

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<sup>1</sup> 31 Texas Administrative Code (TAC) §§ 357.10(14) and 357.32(c)

many water management strategies utilize or are intended to supplement existing supplies, and therefore should be evaluated consistent with the existing supplies they are intended to supplement. The existing supply and the supplementing water management strategy need to be evaluated consistently. Furthermore, the same aspects of the Run 3 WAM that limit its usefulness for determining supplies available to existing rights also limit its ability to determine supplies to new water management strategies. The TCEQ Run 3 WAM is a legal permitting tool that has only limited utility for water supply planning. The LERWPG requests that the Brazos G WAM be utilized to evaluate water management strategies instead of the base TCEQ Run 3 WAM.

Lake Alan Henry Analysis. The LERWPG requests permission to conduct analyses using the Brazos G WAM with a 2-year safe yield operation of Lake Alan Henry. The City of Lubbock currently operates the reservoir using a 2-year safe yield. Using this Lake Alan Henry yield would best reflect actual operations in water management strategy evaluations for the City of Lubbock.

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

Previous cycle. Additional request to use for strategy evaluation and Lake Alan Henry analysis.

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.

Yes

Existing and Strategy Supply

The City of Lubbock currently operates the reservoir using a 2-year safe yield. Using this Lake Alan Henry yield would best reflect actual operations in water management strategy evaluations for the City of Lubbock.

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.

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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 sedimentation<sup>2</sup>, 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

Existing and Strategy Supply

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<sup>2</sup> 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.

The Brazos WAM includes limited return flows for its reliability evaluations.

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.

n/a

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**Water Planning Region:** 0

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.

Canadian River Basin.  
Entire and Lake Meredith

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.

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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

Previous cycle. No difference.

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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

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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

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Entire and Mackenzie Reservoir

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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?

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