

Item 4 – Discussion on MAG Peak Factor use by Region G Water Planning Group

Future groundwater projects proposed within the District must be vetted by the Region G Water Planning Group (RGWPG) in order to be placed in the State Water Plan and be eligible for SWIFT funding. Proposed projects cannot exceed the Modeled Available Groundwater (MAG) estimate established for the county in which the pumping will occur.

To that end, if the estimated pumping will exceed the MAG over the planned pumping horizon, the Texas Water Development Board (TWDB) has new rules to allow consideration of the project using a MAG Peak Factor rather than summarily dismissing the project as ineligible.

I have included several slides detailing how groundwater availability is determined and how the MAG Peak Factor can be utilized. As you will note, inherent in this process is the approval of the affected groundwater district and the Groundwater Management Area representatives.

The MAG Peak Factor is a needed step forward to allow consideration of projects that would otherwise be determined as ineligible. Before the MAG Peak Factor, BGRWG was required by statute to use the MAG as a hard cap. BVGCD does not use the MAG as a hard cap on permitting, but instead uses the desired future condition to manage the aquifer of origin. MAG Peak Factor will allow the District to partner with BGRWG and the entity proposing the project to adequately vet the pumping over the anticipated project horizon.

I am asking the Board to be proactive and develop a MAG Peak Factor percentage for each of the aquifers. In order to make this happen, I propose to:

- Solicit from each of the public water suppliers in the District plans for future water projects
- Compile the projects and send them to LBG-Guyton for review
- LBG-Guyton would recommend a MAG Peak Factor for each of the aquifers following model run simulations
- Recommendations for MAG Peak Factors would be brought to the Board for consideration/approval at the May 11th Board meeting

It is the recommendation by the General Manager to gather the information necessary, compile and present the information to LBG-Guyton for development of MAG Peak Factors for use by the Region G Water Planning Group for projects associated with the Brazos Valley Groundwater Conservation District.

Groundwater Availability Analysis - §357.32(d)

- Clearly stipulates that for an RWP to be consistent with a desired future condition, the groundwater availability in the RWP must not exceed the modeled available groundwater (MAG)*
- If there is no groundwater conservation district within the RWPA, then the RWPG will determine the availability of groundwater for regional planning purposes (in response to SB 1101)

*Or as adjusted by the MAG Peak Factor



MAG Peak Factor - §357.32(d)(3) and §357.10(20)

MAG Peak Factor = a percentage (e.g., greater than 100%) that is applied to a MAG value reflecting the annual groundwater availability that, for planning purposes, shall be considered temporarily available for pumping consistent with DFCs.

- Developed in response to stakeholder input
- Provides temporary accommodation of increased groundwater demands by accommodating anticipated fluctuations in pumping
- Does not limit permitting or guarantee approval of any future permit applications.
- Requires review and approval by relevant groundwater conservation districts, groundwater management areas, and the TWDB Executive Administrator



3.5.1 Availability for Relevant Aquifers

For RWPA's with at least one groundwater conservation district (GCD), MAGs shall be the basis for groundwater availability in all locations that have a DFC. Every available MAG must be used for all geographic areas in the RWPA regardless of whether there is a GCD in a particular location. The MAG(s) for each relevant aquifer will be provided by TWDB through the DB22 interface, split into discrete geographic-aquifer units by: Aquifer/Region/County/ Basin.

The groundwater availability (and the associated existing and future groundwater supplies based on the availability) for any given discrete geographic-aquifer unit in the RWPA's shall not exceed the annual MAG volume as provided in DB22 unless authorized by the EA approval prior to the IPP through the hydrologic variance request process to apply a MAG peak factor. Any reallocation of annual MAG volumes between discrete geographic-aquifer units must be consistent with the relevant aquifer's MAG. See Section 3.6 for more information on the hydrologic variance process.

3.5.4 Groundwater Availability and Related WMSs

Below are examples of scenarios that would not be eligible to use as future groundwater management strategies:

Overallocation: 15 TWDB staff will review IPPs and final adopted RWPs to ensure that annual groundwater availability is not exceeded or “overdrafted” during any decade or for any discrete geographic-aquifer unit by existing supplies and/or future WMS supplies. WMSs that would require temporarily pumping groundwater in excess of a MAG shall not be included in an RWP, unless a written hydrologic variance request for a MAG Peak Factor that would accommodate temporary increases in existing annual availability for planning purposes is approved in writing by the EA. See Section 3.6 for more information on the hydrologic variance process.



3.6.1 Potential Groundwater Hydrologic Variance Assumptions MAG Reallocation:

A hydrologic variance request to shift portions of annual MAG volumes between discrete geographic-aquifer units shall be in writing from the RWPG and must be consistent with the relevant aquifer's MAG. This proposed hydrologic variance request must include a table with the proposed changes for each discrete geographic-aquifer unit, for each decade, along with an explanation of:

1. the basis for the reallocation request;
2. how DFCs at that location as well as the DFCs in any surrounding areas shall be achieved under the reallocation;
3. how the reallocation is consistent with the relevant MAG and GCD management plan(s); and,
4. the long-term impact that pumping based on the reallocation would have on the DFC at that location. If approved by the EA, the reallocation of annual MAG volumes between discrete geographic-aquifer units shall be performed by TWDB staff only within DB22. Note that the unmodified, discrete geographic-aquifer annual MAG volume(s) shall also be reported in the hydrologic variance technical documentation.



MAG Peak Factor:

With approval of the relevant GCD (where applicable) and GMA an RWPG may submit a written request for the use of a MAG peak factor to accommodate temporary increases in annual availability volumes, for planning purposes, above the MAG. The MAG peak factor is a percentage (e.g., greater than 100 percent) that is applied to an annual MAG volume reflecting a groundwater availability that, for planning purposes, shall be considered temporarily available for pumping consistent with a DFC(s). This is a regional water planning accommodation to reflect anticipated pumping fluctuations between wet and dry years or may account for other shifts in the timing of pumping while remaining consistent with DFCs while maintaining the integrity of the planning process. This proposed MAG peak factor request must include:

1. written approval by affected GCD(s), if one exists in the discrete geographic-aquifer unit, and from representatives of the applicable GMA;
2. provide the technical basis for the request; and,
3. document the basis for how the temporary increase will not prevent the GCD from managing groundwater resources to achieve DFCs.



The TWDB will review documentation provided by the GCD submitted in support of the proposal to implement a MAG Peak Factor. This review may, depending on the area to be affected by the MAG Peak Factor, involve evaluation of the relevant hydrostratigraphic and geologic features, groundwater levels and groundwater flow, groundwater pumping, spring flow, interaquifer flow, and discharge to surface waters. Districts will need to provide adjusted model well files or detailed georeferenced maps of pumping assumptions (pumping location, pumping amounts, and model layer) to support the TWDB's evaluation.

The effect of the MAG Peak Factor on the adjacent or hydrologically connected groundwater resources outside of the district will be evaluated to understand the possible effect of the MAG Peak Factor on the ability of neighboring districts to achieve their relevant desired future conditions. This evaluation may include reviewing existing GAM runs and/or performing additional modeling runs, as required. If approved by the EA, the MAG Peak Factor would be applied by TWDB staff only to the associated annual MAG volume in DB22 to calculate the modified groundwater availability volume that would be used by an RWPG in order to determine existing supplies and future water management strategies. Note that the unmodified, discrete geographic-aquifer annual MAG volume(s) shall also be reported in the MAG peak factor request technical documentation.