

**SOAH DOCKET NO. 952-19-0705**

<b>APPLICATION OF LOWER COLORADO</b>	<b>§</b>	
<b>RIVER AUTHORITY FOR OPERATING</b>	<b>§</b>	<b>BEFORE THE LOST PINES</b>
<b>AND TRANSPORT PERMITS FOR</b>	<b>§</b>	
<b>EIGHT WELLS IN BASTROP COUNTY,</b>	<b>§</b>	<b>GROUNDWATER</b>
<b>TEXAS</b>	<b>§</b>	
	<b>§</b>	<b>CONSERVATION DISTRICT</b>
	<b>§</b>	

**FINAL DECISION**

**May 18, 2022**

APPLICATION OF LOWER COLORADO § BEFORE THE LOST PINES  
 RIVER AUTHORITY FOR OPERATING §  
 AND TRANSPORT PERMITS FOR § GROUNDWATER  
 EIGHT WELLS IN BASTROP COUNTY, §  
 TEXAS § CONSERVATION DISTRICT

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**APPLICATION OF LOWER COLORADO RIVER AUTHORITY FOR OPERATING AND TRANSPORT PERMITS FOR EIGHT WELLS IN BASTROP COUNTY, TEXAS**

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**BEFORE THE LOST PINES  
GROUNDWATER  
CONSERVATION DISTRICT**

## **FINAL DECISION**

### **I. INTRODUCTION**

The Lower Colorado River Authority (LCRA) submitted eight applications (Applications) to the Lost Pines Groundwater Conservation District (District) seeking authorization to withdraw 25,000 acre-feet of water per year from eight wells in the Simsboro Formation in Bastrop County, Texas, and to transport that water throughout its 35-county water service area. The District's General Manager (GM) issued Draft Operating Permits and Draft Transport Permits; LCRA and various other parties objected to certain provisions in the Draft Operating Permits and Draft Transport Permits. LCRA amended the applications to change the proposed place of use to Bastrop, Travis, and Lee Counties. At the close of briefing, the GM proposed additional changes to the Draft Operating Permits (Revised Draft Operating Permits). The Administrative Law Judges (ALJs) recommended that the Board issue Revised Draft Operating Permits and the Draft Transport Permits with the following changes: (1) changes to the requirements to enter a well monitoring agreement, including the deadline to enter into the agreement and removal of the requirement that violation of the agreement is a permit violation; (2) an amendment to the definition of "monitoring well system" to require monitoring the effects on surface water; (3) removal of the requirement that LCRA present end-user contracts or binding commitments; (4) an amendment to Revised Draft Operating Permit Special Condition 5 to clarify that affected landowners may participate in the permit renewal process, including the determination of whether an amendment is necessary; and

(5) removal from the Draft Transport Permits of the Special Provision prohibiting discharge into a surface watercourse.

The Board of Directors considered the Draft Operating Permits and Draft Transport Permits along with the ALJs' recommendations and voted to approve the permit applications as recommended with the following changes: (1) limit the production permits to 8,000 acre-feet per year for the five-year permit term; and (2) remove all references to "waste."

## II. BACKGROUND AND PROCEDURAL HISTORY

### A. The Applications

LCRA is a conservation and reclamation district established by the Texas Legislature in 1934 that serves as a regional water supplier within its 35-county service area.<sup>1</sup> Although LCRA primarily manages and supplies surface water, its Executive Vice President for Water, John Hofmann, testified that LCRA's responsibility is not limited to surface water.<sup>2</sup> As part of a goal to diversify its water supply to "drought-proof" supply, LCRA began a groundwater project in the aquifer regulated by the District.<sup>3</sup>

As part of that project, on February 1, 2018, LCRA filed the Applications for operating and transport permits with the District. The applications for operating permits sought authorization to withdraw a total of 25,000 acre-feet per year of groundwater from the Simsboro Formation based on groundwater rights LCRA acquired in 2015. These groundwater rights were beneath the Griffith League Ranch, an approximately 4,847-acre property owned by the Capitol Area Council, Inc. of the Boy Scouts of America. The proposed Purpose of Use for the permits was for all

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<sup>1</sup> LCRA Ex. 1 (Hofmann direct) at 7.

<sup>2</sup> LCRA Ex. 1 (Hofmann direct) at 8.

<sup>3</sup> LCRA Ex. 1 (Hofmann direct) at 9.

beneficial uses authorized in chapter 36 of the Texas Water Code. On February 21, 2018, LCRA resubmitted the Applications on different forms.

On August 20, 2018, the District's GM, James Totten, notified LCRA by letter that its Applications were administratively complete and scheduled a public hearing. The letter also provided LCRA with the GM's Draft Operating Permits and Draft Transport Permits (collectively, Draft Permits.).

Following notice, the District held a public hearing on the Applications on September 26, 2018, and several Protestants disagreed with the issuance of the Draft Permits. LCRA also challenged some of the Draft Transport Permits' provisions. Following the public hearing, the Board voted to contract with the State Office of Administrative Hearings (SOAH) to conduct a preliminary hearing to determine party status and, if necessary, conduct an evidentiary hearing on the Applications.

On December 18, 2018, SOAH ALJs Michael O'Malley and Laura Valdez held a prehearing conference in Bastrop, Texas. At the prehearing conference, the ALJs admitted the following as parties: LCRA, the District, Aqua Water Supply Corporation (Aqua), Environmental Stewardship, City of Elgin (Elgin), and Recharge Water, LP (Recharge). The ALJs also admitted a group of landowners represented by a single attorney (the "Brown Landowners"). The ALJs admitted several self-represented litigants as parties. Following a challenge to party status, many of the self-represented litigants and some of the Brown Landowners were determined not to have a justiciable interest and were struck as parties.<sup>4</sup> The remaining self-represented litigants were Peggy Jo and Marshall Hilburn, Walter Winslett, JC Jensen, Elvis and Roxanne Hernandez, Verna L. Dement, Catherine and Charles L. White, and Richard Martinez. Mr. Jensen and Mr.

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<sup>4</sup> SOAH Order No. 5.

Martinez withdrew their protests, as did several of the Brown Landowners.

The hearing on the merits was held October 15-22, 2019, before ALJs Ross Henderson and Rebecca S. Smith. The first four days of the hearing were held in Bastrop, Texas, and the last two took place at SOAH's hearing facility in Austin, Texas. Mr. and Mrs. Hernandez were the only self-represented litigants who prefiled testimony and participated in the hearing on the merits. The record closed on January 31, 2020, with the filing of reply briefs.

In its original Applications, LCRA stated that the water would be used throughout its 35-county water service area. In its testimony and at hearing, LCRA amended its request to only seek to use the water in Bastrop, Lee, and Travis Counties.

As an attachment to his reply brief, the GM made several changes to the Draft Operating Permits. Some of these changes were substantive; some were not. No party objected to these changes or asked to file briefing in response to the changes. The ALJs Proposal for Decision addressed the changes and referred to the GM's January 31, 2020 version of the permits as the Revised Draft Operating Permits.<sup>5</sup>

## **B. Permits in the District**

The groundwater regulated by the District is in the Simsboro Formation, part of the larger Carrizo-Wilcox aquifer.<sup>6</sup> Overlaying the Simsboro is the Calvert Bluff, and the Hooper Formation underlies the Simsboro Formation.<sup>7</sup> The Simsboro Formation "is often used for large-scale public water supply production."<sup>8</sup> However, there is no history of large-volume pumping within the District.<sup>9</sup>

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<sup>5</sup> The Revised Draft Permits reflect the second amendment the GM made to the Draft Operating Permits.

<sup>6</sup> Recharge Ex. B (Thornhill direct) at 3.

<sup>7</sup> Aqua Ex. 4 (Keester direct) at 7.

<sup>8</sup> Aqua Ex. 4 (Keester direct) at 7.

<sup>9</sup> GM Ex. 11 (Hutchison direct) at 16.

The Simsboro Formation and the other aquifer units dip toward the Gulf of Mexico and thus are deeper toward the east and southeast in Bastrop County.<sup>10</sup> The deeper portion of the Simsboro is referred to as the downdip. There are also shallower outcrop areas.

The parties challenging the Draft Permits either have wells or permits to produce water from the area. Aqua, a retail public utility with a service area in Bastrop, Caldwell, Fayette, Lee, Travis, and Williamson Counties, has a permit from the District authorizing the production of 23,627 acre-feet per year from 15 wells in the Simsboro Formation.<sup>11</sup> Twelve of those wells are in two well fields near the shallow outcrop of the Simsboro. Aqua's three other wells are located on the south side of Highway 290, in the deeper downdip portion of the aquifer.<sup>12</sup>

Elgin has a retail public utility that provides retail water utility service within its certificated service area.<sup>13</sup> The city, which is located in the greater Austin area, expects continued and rapid growth.<sup>14</sup> Elgin has four wells that are all partially or wholly completed within the Simsboro Formation.<sup>15</sup> Two of Elgin's wells are in the outcrop area of the Simsboro Formation, with the wells screened partially in both the Simsboro and Hooper Formations.<sup>16</sup> Its other two wells are located in the downdip and are entirely screened within the Simsboro Formation.<sup>17</sup>

Recharge, formerly known as End Op, L.P., has permits authorizing the production of 46,000 acre-feet from 14 wells, with production to be phased in over several years. Recharge acquired its permits following years of contested hearings and an agreed settlement.<sup>18</sup> Seven of the

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<sup>10</sup> Aqua Ex. 4 (Keester direct) at 7.

<sup>11</sup> Aqua Ex. 1 (McMurry direct) at 2; Aqua Ex. 4 (Keester direct) at 8.

<sup>12</sup> Aqua Ex. 4 (Keester direct) at 8.

<sup>13</sup> Elgin Ex. 1 (Prinz direct) at 2.

<sup>14</sup> Elgin Ex. 1 (Prinz direct) at 2.

<sup>15</sup> Elgin Ex. 2 (Perry direct) at 3.

<sup>16</sup> Elgin Ex. 6 (Keester direct) at 7.

<sup>17</sup> Elgin Ex. 6 (Keester direct) at 8.

<sup>18</sup> Recharge Ex. 1.



permitted wells are to be located in Bastrop County, and seven are to be located in Lee County.<sup>19</sup> Some of Recharge's proposed wells in Bastrop County are the closest wells to LCRA's proposed pumping. Many of the parties currently opposed to LCRA's permit application also opposed Recharge's application. As part of its settlement of the underlying contested case about its application, Recharge agreed to create a mitigation fund to pay well owners for any damages caused by production from Recharge's wells. Recharge has not yet drilled any wells, but its permit requires it to complete four wells in Lee County before drilling any wells in Bastrop County. Recharge did not appeal the inclusion of this term. Under the permit (and settlement terms), Recharge's mitigation obligations start once it begins pumping in Lee County.<sup>20</sup>

The other large permits in the District belong to Forestar USA Real Estate Group, Inc. (Forestar), which is authorized to pump 28,500 acre-feet per year in Lee County, subject to phasing,<sup>21</sup> and the City of Bastrop (Bastrop), which is authorized to pump 2,000 acre-feet per year.<sup>22</sup> Bastrop's application was the subject of a contested case hearing. The Proposal for Decision (PFD) in that contested case was officially noticed in this case.<sup>23</sup> The Brown Landowners' and the Hernandezes' wells are exempt from District regulation. The Hernandezes' well is in the Calvert Bluff Formation, which overlays the Simsboro. The Brown Landowners' wells are scattered around the area.<sup>24</sup>

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<sup>19</sup> Recharge Ex. B (Thornhill direct) at 19.

<sup>20</sup> Recharge Ex. B (Thornhill direct) at 56.

<sup>21</sup> Recharge Ex. 6.

<sup>22</sup> Recharge Ex. 8.

<sup>23</sup> *Application of City of Bastrop for an Operating Permit for Well No. 1 in Bastrop County, Texas*, SOAH Docket No. 952-15-3851 (July 26, 2016).

<sup>24</sup> Environmental Stewardship's standing was based on the wells of some of its members.

### C. The Revised Draft Operating Permits

The GM's Draft Operating Permits contain sixteen special conditions, several of which are at the heart of this dispute. These special conditions first require that LCRA enter into a monitoring well agreement within a certain time. The Draft Operating Permits provided a 90-day deadline to enter into this agreement, but in response to LCRA's arguments, the Revised Draft Operating Permits extended the deadline to 180 days.<sup>25</sup>

The special conditions in both the Draft Operating Permits and Revised Draft Operating Permits also divide the withdrawal of groundwater into four phases, three of which involve pumping. Withdrawals are not allowed during Phase I, which requires LCRA to add new monitoring wells and comply with the monitoring well agreement required in another special condition.

Once the monitoring wells are in place, LCRA may move to Phase II. Phase II authorizes withdrawals from two wells (Wells 7 and 8) of an aggregated annual amount of up to 8,000 acre-feet of water, with an aggregated maximum rate of withdrawal of 6,000 gallons per minute. LCRA would not be authorized to withdraw more water per year than the amount LCRA has a binding commitment to provide at an authorized place of use.

Three years after permit issuance, LCRA may then request to move to Phase III, under which the aggregated annual withdrawal amount could be increased to 15,000 acre-feet of water per year from four wells with an aggregated maximum rate of withdrawal of 10,000 gallons per minute. To move to Phase III, LCRA must show it has withdrawn an aggregate amount of acre-feet per year from a combination of one or more of the aggregated wells during two consecutive twelve-month periods. In the Draft Operating Permits, this amount was 8,000 acre-feet per year; in the

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<sup>25</sup> Revised Draft Operating Permit, Special Condition No. 1.

Revised Draft Operating Permits, it is 4,000 acre-feet. Once again, LCRA must show binding contracts or commitments. The utility and clarity of the formula the GM proposed to use in advancing LCRA from one phase to another was disputed. Discussion of the phasing formula is set out in Section G, below.

Finally, LCRA may request to move to Phase IV, under which the aggregated annual withdrawal may be increased to an amount not to exceed 25,000 acre-feet per year from all eight wells, with an aggregated maximum rate of withdrawal of 18,000 gallons per minute. To reach this phase, under the Revised Draft Operating Permits, LCRA must show binding contracts or commitments. LCRA must also show it has withdrawn at least an aggregate amount of at least 11,250 acre-feet<sup>26</sup> per year from a combination of one or more of the aggregated wells during three consecutive twelve-month periods. As with Phase III, the GM's proposed formula is in dispute.

Additionally, the special conditions in the Revised Draft Operating Permits require LCRA to provide written contracts or commitments within five years of beginning to pump under Phase II; to submit drought contingency and water conservation plans for certain end-users; to be subject to future production limits the District imposes; to pay production fees; and to conduct 36-hour pump tests for each well.

The Revised Draft Operating Permits' special condition 14 requires a pump test for each new well.<sup>27</sup> This special condition requires that “[p]rior to the operation of any of the Aggregated Wells, [LCRA] shall, for each new well, complete a 36-hour pump test that complies with District Rule 5.1.B(5) and report the results of the test to the District.

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<sup>26</sup> The 11,250 amount is contained in the Revised Draft Operating Permits. The Draft Operating Permits required a withdrawal of at least 15,000 acre-feet per year.

<sup>27</sup> The Draft Operating Permits were ambiguous about whether a pump test was required before the operation of each well or before the operation of the first well. The change in the Revised Draft Operating Permits appears to be an uncontroversial clarification of the earlier special condition.

Under the Revised Draft Operating Permits, wells must be sited within 100 feet of the location identified in the Application, and LCRA is granted a variance for the time limits for completion of permitted wells. The Revised Draft Operating Permits required LCRA to provide the GM with the well-design specifications for his approval.

**D. The Draft Transport Permits**

The Draft Transport Permits authorize LCRA to transport the water it pumps in the District outside the District. Following LCRA's Application amendment, Travis County is the only county where LCRA seeks to transport water. The change in the Place of Use made the special condition in the Revised Draft Transport Permits prohibiting transporting groundwater via the bed and banks of a river moot.

**III. APPLICABLE LAW**

In Texas, a landowner owns the groundwater below the surface of his or her land as real property and is entitled to drill for and produce that groundwater, subject to a groundwater conservation district's well-spacing and production restrictions, so long as the drilling and production does not cause waste or malicious drainage of other property, or negligently cause subsidence.<sup>28</sup> Groundwater conservation districts, which are described as the state's preferred method of groundwater management, have the following obligations:

to protect property rights, balance the conservation and development of groundwater to meet the needs of this state, and use the best available science in the conservation and development of groundwater through rules developed, adopted, and promulgated by a district in accordance with [chapter 36].<sup>29</sup>

Chapter 36 of the Texas Water Code (Code) outlines the process by which landowners obtain the right to produce their groundwater within groundwater conservation districts. Under

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<sup>28</sup> Tex. Water Code § 36.002(a), (b), (d).

<sup>29</sup> Tex. Water Code § 36.0015(b).

chapter 36, a groundwater conservation district, such as the District, “shall require a permit for the drilling, equipping, operating, or completing of wells,”<sup>30</sup> except for groundwater produced pursuant to an exemption.<sup>31</sup>

Before granting or denying an operating permit, a groundwater conservation district must consider whether:

- (1) the application conforms to the requirements prescribed by [Texas Water Code chapter 36] and is accompanied by the prescribed fees;
- (2) the proposed use of water unreasonably affects existing groundwater and surface water resources or existing permit holders;
- (3) the proposed use of water is dedicated to any beneficial use;
- (4) the proposed use of water is consistent with the district’s approved management plan;
- (5) if the well will be located in the Hill Country Priority Groundwater Management Area, the proposed use of water from the well is wholly or partly to provide water to a pond, lake, or reservoir to enhance the appearance of the landscape;
- (6) the applicant has agreed to avoid waste and achieve water conservation; and
- (7) the applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the applicant will follow well plugging guidelines at the time of well closure.<sup>32</sup>

The District has adopted similar rules for permit applications.<sup>33</sup> In deciding whether to grant an application, approve an application with terms other than those requested, or deny the

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<sup>30</sup> Tex. Water Code § 36.113(a).

<sup>31</sup> Groundwater produced solely for domestic use or for providing water for livestock or poultry and that are located on a tract of land larger than 10 acres and produced from a well that cannot produce more than 25,000 gallons of groundwater a day, is exempt from the drilling and production permit requirements. Tex. Water Code § 36.117(b)(1). Water wells related to supply water for oil and gas rigs or for mining operations are exempt from the drilling permit requirement. Tex. Water Code § 36.117(b)(2),(3).

<sup>32</sup> Tex. Water Code § 36.113(d). Identical provisions are found in Rule 5.2.D of the District’s rules.

<sup>33</sup> The District’s Rules were admitted into evidence as GM Ex. 9, and are also available at <https://www.lostpineswater.org/DocumentCenter/View/127/LPGCD-Rules---Adopted-10-16-19> (last visited March 23, 2020).

application, the District's rules require it to consider, in addition to the seven factors set out above, the following:

- (8) whether granting the application is consistent with the District's duty to manage total groundwater production on a long-term basis to achieve an applicable Desired Future Condition, considering:
  - (a) the Modeled Available Groundwater determined by the [Texas Water Development Board (TWDB)] executive administrator;
  - (b) the TWDB executive administrator's estimate of the current and projected amount of groundwater produced under exemptions granted by District Rules and Texas Water Code § 36.117;
  - (c) the amount of groundwater authorized under permits previously issued by the District;
  - (d) a reasonable estimate of the amount of groundwater that is actually produced under permits issued by the District; and
  - (e) yearly precipitation and production patterns.
- (9) whether the conditions and limitations in the Operating Permit prevent [w]aste, achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, or lessen interference between wells; [and]
- (10) whether the applicant has a history of non-compliance with District Rules and chapter 36 of the Texas Water Code, including any record of enforcement actions against the applicant for violation of District Rules or chapter 36.<sup>34</sup>

Groundwater conservation districts may adopt rules regulating the spacing of wells and the production of groundwater.<sup>35</sup> When promulgating rules that limit groundwater production, a groundwater conservation district "may preserve historic or existing use before the effective date of the rules," subject to the district's management plan.<sup>36</sup>

Under chapter 36, groundwater conservation districts are not required to adopt rules that

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<sup>34</sup> District Rule 5.2.D.

<sup>35</sup> Tex. Water Code § 36.116(a).

<sup>36</sup> Tex. Water Code § 36.116(b).

provide for correlative rights—in other words, allocating to each landowner a proportionate share of available groundwater for production from the aquifer based on the number of acres the landowner owns.<sup>37</sup>

#### IV. ISSUES REGARDING OPERATING PERMITS

Of the Protestants, Elgin, Environmental Stewardship, and Brown Landowners argued that the Applications should be denied. Recharge, Aqua, and Environmental Stewardship argued that the operating permits should be limited to 8,000 acre-feet per year, which is also the limit in the first phase of pumping (Phase II) under the Draft Permits. Elgin suggests the limit, if the permits are issued, should be 7,000 acre-feet per year; for Brown Landowners, that total is 6,000 acre-feet. The Hernandezes argued that the permit limit should be 10,000 acre-feet per year. Recharge, Elgin, and Hernandezes want the limits to be expressly tied to other factors.

In making their arguments, the parties focus on the following factors set out in Texas Water Code chapter 36 and the District's rules:

- Whether the proposed use of water unreasonably affects existing groundwater water resources or existing permit holders;
- Whether the proposed use of water unreasonably affects existing surface water resources or existing permit holders;
- Whether the conditions and limitations in the Operating Permit minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, or lessen interference between wells; and
- Whether granting the application is consistent with the District's duty to manage total groundwater production on a long-term basis to achieve an applicable Desired Future Condition.

The parties generally did not address the remaining factors, which are set out in the findings

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<sup>37</sup> Tex. Water Code § 36.002(d)(3).

of fact and conclusions of law.

**A. Unreasonable Effects on Existing Groundwater Resources or Permit Holders**

In deciding whether to issue an operating permit, the District must consider whether “the proposed use of water unreasonably affects existing groundwater . . . resources or existing permit holders.”<sup>38</sup>

Many of the parties argued that the GM improperly determined that LCRA’s proposed pumping would not cause an unreasonable effect on groundwater resources or existing permits. LCRA and the GM disagreed. In arguing about unreasonable effects, the parties focus on four aspects. First, Elgin and Aqua disagreed with LCRA and the GM about whose use—LCRA’s or all permit holders’—should be considered in making this determination. Second, the parties disagreed about what “unreasonably affects” means. Third, they disagreed about which model should be used in determining whether the effects of pumping are unreasonable. Finally, the parties disagreed about whether LCRA sufficiently modeled local effects.

After reviewing the four issues, the ALJs concluded: (1) that the District should look at LCRA’s use, not the full permitted use; (2) that the definition of “unreasonably affects” provided by LCRA’s expert is too narrow; (3) that the new Groundwater Availability Model (GAM) approved by the Texas Water Development Board—and not the previous model that it superseded—should be used in modeling effects; and (4) that LCRA’s modeling sufficiently showed that LCRA’s pumping should not cause unreasonable effects on groundwater.

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<sup>38</sup> Tex. Water Code § 36.113(d)(2), District Rule 5.2.D(2).



## 1. Whose Use Should Be Considered

Before determining whether “a proposed use” would cause unreasonable impacts, the ALJs first decided whose use—LCRA’s proposed use or all permitted use—should be considered.

### a. Parties’ Arguments

LCRA and the GM contended that in determining the effect of the use, the District must examine the use proposed in the Applications, not the use proposed in the Applications combined with all other permitted use in the District. Aqua and Elgin strongly disagree. Elgin pointed to another factor, which requires looking at District-wide pumping, arguing that this factor envisions looking at District-wide pumping, as well.<sup>39</sup>

### b. ALJs’ Analysis

The ALJs decided this issue by looking at both precedent and the language of the statute and rule. In an earlier contested case hearing for Bastrop’s application with the District for an operating permit, the ALJ concluded that only the applicant’s use should be examined when determining whether the proposed use would lead to unreasonable effects. That ALJ concluded, “District Rule 5.2.D(2) only requires the Board to consider whether the [applicant’s] proposed use of water unreasonably affects existing groundwater, not cumulative pumping under the [applicant’s] permit and other existing users at a 100% pumping capacity.” He noted that “Rule 5.2.D. and Texas Water Code § 36.113(d)(2), on which it is based, focus on the impact of the specific application, not cumulative pumping under the requested permit and other existing users.”

The ALJs agreed with this conclusion. The language of the statute and the rule requires an examination of “the proposed use of water,” which suggests a concern with the use represented by the application. The language of “proposed use” is the same language used in other factors that

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<sup>39</sup> See Closing Arguments of City of Elgin (Elgin’s Closing) at 20.

only refer to an applicant's use, such as whether "the proposed use of water is dedicated to any beneficial use" and, for proposed wells in the Hill Country Priority Groundwater Management Area, whether "the proposed use of water from the well is wholly or partly to provide water to a pond, lake or reservoir to enhance the appearance of the landscape."<sup>40</sup>

When the District intended to look at use beyond that proposed in an application, it made that clear. For example, the District must consider "the amount of groundwater authorized *under permits previously issued* by the District," when analyzing whether the application is consistent with the District's duty to manage total groundwater production on a long-term basis to achieve an applicable desired future condition (DFC).<sup>41</sup>

Accordingly, the ALJs concluded that the analysis of whether the proposed use unreasonably affects groundwater or existing permits must focus on LCRA's proposed pumping, not District-wide permitted pumping.

## **2. The Definition of "Unreasonably Affect"**

### **a. Parties' Evidence and Arguments**

Only LCRA provided a definition of the term "unreasonably affect," which is not defined in either the Water Code or the District Rules. LCRA's hydrogeology expert, Dr. Young, provided a definition in his testimony. According to Dr. Young, only the following, when resulting from drawdown solely from the pumping well, would constitute unreasonable impacts:

- Drawdown that produces land subsidence that (a) threatens the structural integrity of existing pipelines, building, or other infrastructure; (b) causes land from being used for its intended use; or (c) creates a drainage problem;
- Intrusion of surface water or groundwater from another aquifer into the pumped aquifer that degrades groundwater quality in the pumped aquifer so it would not be suitable for its intended use or its potential use;

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<sup>40</sup> Tex. Water Code § 36.113(d)(3), (5).

<sup>41</sup> District Rule 5.2.D(8)(c) (emphasis added).

- Sufficient reduction (or depletion) of the saturated thickness of an aquifer that prevents the intended use of the aquifer;
- Drawdowns in an aquifer that causes the groundwater conservation district to exceed a DFC for the aquifer; or
- Drawdown from a permitted well that does not meet the District's well spacing or property boundary set-back requirements.<sup>42</sup>

Elgin's and Aqua's expert witness, Michael Keester, declined to offer an opinion on whether certain effects would be unreasonable. The other parties do not define the term in their arguments.

**b. ALJs' Analysis**

The ALJs found Dr. Young's definition to be too narrow. While the ALJs agreed that all five of Dr. Young's instances of unreasonable impacts would, indeed, be unreasonable, they concluded that impacts short of preventing the intended use of the aquifer or causing a DFC to be exceeded by one's own pumping could still be unreasonable. An unreasonableness determination is necessarily fact-specific. With that, the ALJs turned to the evidence relating to effects of LCRA's proposed pumping on the parties' wells, which requires first looking at the modeling, or the GAM.

**3. Which Groundwater Availability Model Should Be Used**

**a. Parties' Evidence and Arguments**

What effects are predicted from LCRA's pumping depends on which model is used. Much of the testimony at hearing involved issues relating to the GAM, which is "a computer-based, three-dimensional numerical groundwater flow model that is designed to simulate the dynamics of the groundwater flow for a specific area in Texas."<sup>43</sup> GAMs for all major and most minor aquifers were developed by the Texas Water Development Board (TWDB) as part of state water planning.

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<sup>42</sup> LCRA Ex. 28 (Young direct) at 36.

<sup>43</sup> GM Ex. 11 (Hutchison direct) at 10.

In 2004, the Central Queen City-Sparta GAM (hereinafter “Old GAM”) was developed and then used by the District. In 2018, the TWDB updated the model, which is now called the Central Carrizo-Wilcox GAM (hereinafter “New GAM”).<sup>44</sup>

The GM’s expert witness, Dr. William Hutchison, described both GAMs as using a three-dimensional grid of cells with rows, columns, and layers to represent the structure of an aquifer. The rows and columns represent the area of the aquifers, such as would be seen on a map, and the layers represent the individual aquifers and intervening low-permeability units.

Dr. Hutchison described how the GAM works:

Boundaries of the aquifer and the thicknesses and depths of the layers are represented in the grid based on the best information available to the modelers. Properties of the aquifer—i.e., numerical values such as horizontal and vertical hydraulic conductivity—that control how water moves and how water levels change in response to stresses to the aquifer—e.g., pumping from wells—are applied to each model cell. Processes that add and subtract water to and from the model, including recharge to the various aquifers, movement in and out of the model from areas outside of the model boundaries, discharge to streams and springs, evaporation and transpiration (i.e., uptake of water from plants), and pumping from wells is also included in a separate set of text files with one text file representing each process, e.g., a wel file (or “welfile”) for the well pumping, a .rch file for the recharge, etc. In model terminology, the processes that add and subtract water from the model domain are called “stresses.” The GAMS are “transient” models, in that they simulate changes throughout time, e.g., through an historical period and throughout the multi-decadal planning period. Time in the model is simulated by a set of stress periods. In the case of the Old GAM and New GAM, each stress period represents a single year.

The actual functions of the aquifer—i.e., the movement of water through the aquifer, changes in water stored within the aquifer layers, and changes in water levels throughout time — are simulated by a set of equations that basically calculate the hydraulic head, i.e. water level, in each model cell in each stress period. Calculating hydraulic head is specifically what the GAMs do, and the changes in hydraulic head from one cell to the next, and from one stress period to the next, can then be used to determine fluxes of water throughout the model and changes in hydraulic head, i.e., drawdown, throughout time.<sup>45</sup>

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<sup>44</sup> GM Ex. 11 (Hutchison direct) at 10.

<sup>45</sup> GM Ex. 11 (Hutchison direct) at 11.

Several changes were made between the Old GAM and the New GAM. Among those changes is the grid cell. In the Old GAM, the grid cells are consistently spaced at one square mile. In contrast, the New GAM has a variable grid that reduces the cell size in the area of selected surface water features. The largest cell size in the New GAM is one square mile (the same as the Old GAM), whereas the smallest size is 40 acres.<sup>46</sup> Although these changes were made to the grid cell sizes, the grid cell size for the area around LCRA's proposed production area remains one square mile.

GM witness Dr. Hutchison testified that the calibration of the New GAM is better than the Old GAM in Bastrop County and that impacts from production in Bastrop County may occur in Lee County.<sup>47</sup> LCRA's expert witnesses Van Kelly and Dr. Steven Young, along with Recharge expert witness Michael Thornhill, also agreed that the New GAM was an improvement over the Old GAM.<sup>48</sup> These witnesses all agreed that the Old GAM did not accurately predict drawdown within the District. When LCRA filed its application, the Old GAM was in place, and it was the model the GM used in analyzing the Application. Since that time, both the GM's and LCRA's experts have analyzed the application using the New GAM.

In contrast, Aqua's and Elgin's joint expert, Michael Keester, relied on the Old GAM in his report and testimony.<sup>49</sup> Mr. Keester testified that while the New GAM was better calibrated for high-volume pumping near the Bryan-College Station area, he did not believe it was better calibrated for high-volume pumping near LCRA's proposed pumping.<sup>50</sup> He also testified that the New GAM has the potential to underestimate drawdown in the updip areas and stated that this

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<sup>46</sup> GM Ex. 11 (Hutchison direct) at 13.

<sup>47</sup> GM Ex. 11 (Hutchison direct) at 11. *See also* Tr. at 1489 ("given all those factors, [the New GAM] was a better model.").

<sup>48</sup> Recharge Ex. B (Thornhill direct) at 18.

<sup>49</sup> Mr. Keester testified that he redid his analysis using the new GAM, but did not provide the results of that redone analysis. Aqua Ex. 4 (Keester direct) at 12.

<sup>50</sup> Tr. at 747-48.

limitation was specifically noted in the New GAM report.<sup>51</sup> On cross-examination, it was brought out that, when testifying on behalf of End-Op (now Recharge), Mr. Keester had testified about problems with the Old GAM, specifically, that the Old GAM overstated drawdown in the outcrop.<sup>52</sup>

**b. ALJs' Analysis**

Based on the overwhelming consensus of the evidence, the ALJs found that the New GAM is the better model to predict the effect of LCRA's pumping. The question then becomes whether LCRA's modeling, using the New GAM, was sufficient to show that its use would not cause unreasonable effects on groundwater or existing wells.

**4. The Modeling Does Not Show Unreasonable Effects**

**a. Parties' Evidence and Arguments**

The parties opposed to the Applications argued that LCRA has failed to present sufficient evidence on the effects its pumping would have on existing groundwater resources and permit holders. LCRA and the GM disagree.

The parties and the witnesses agreed that the GAM is a regional planning tool that has limited use when it comes to looking at local effects.<sup>53</sup> Nevertheless, LCRA argued that the New GAM should still be used to evaluate the effect production from the proposed wells will have on groundwater levels and other permit holders. Its expert Dr. Young testified, "despite these limitations, the GAM is an appropriate tool to evaluate unreasonable impacts and represents the best available tool for such evaluation."<sup>54</sup>

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<sup>51</sup> Tr. at 747-48.

<sup>52</sup> Tr. at 753.

<sup>53</sup> LCRA Ex. 28 (Young direct) at 25.

<sup>54</sup> LCRA Ex. 28 (Young direct) at 25-26.

The GM also argued that modeling performed under the New GAM is sufficient to allow the District to issue a permit when that modeling is combined with permit terms that provide for monitoring and phasing.

When analyzing impacts using the New GAM, GM expert Dr. Hutchison predicted drawdowns in the Simsboro Formation from LCRA's wells of approximately 8 feet in 2022, 14 feet in 2025, and 30 feet in 2070.<sup>55</sup> For the Calvert Bluff, he predicted drawdowns of 2 feet in 2022, 4 feet in 2025, and 15 feet in 2070. In doing this analysis, he analyzed approximately 1,800 wells.<sup>56</sup> His analysis does not, however, specifically address any of the wells owned by any of the parties here.

Aqua's and Elgin's expert Mr. Keester testified that he used a multi-step analysis to determine the effect of the proposed pumping on Aqua's and Elgin's wells. His four steps were as follows. First, he modeled using the Old GAM. Second, he "used an analytic model to improve the estimate of the water level at the grid scale to the well scale." Third, he "applied another analytic model to simulate the effect [Aqua's or Elgin's] pumping would have on itself, that is, interference drawdown." Fourth, to "estimate the water level declines during peak production, [he] used a pumping rate that was 12 percent above the annual average pumping rate in the analytic model of interference drawdown."<sup>57</sup>

Mr. Keester performed his analysis for peak summer demands with four alternatives: the Baseline (which consisted of the Modeled Available Groundwater calculated by the TWDB); the Baseline plus LCRA pumping; the Baseline plus Recharge's pumping; and the Baseline plus LCRA's and Recharge's pumping.<sup>58</sup> As discussed above regarding whose use should be

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<sup>55</sup> GM Ex. 13 at 20.

<sup>56</sup> Tr. at 1278; GM Ex. 13 at 18.

<sup>57</sup> Aqua Ex. 4 (Keester direct) at 11.

<sup>58</sup> Aqua Ex. 8.

considered, Recharge's possible production amounts should not be included in this analysis of the effects of LCRA's permits.

Mr. Keester testified that he used the Old GAM and agreed that, using the New GAM, the drawdowns would be smaller than those he modeled. He added that he believed the level of uncertainty with the New GAM would be too high.<sup>59</sup>

On rebuttal, LCRA's expert Dr. Young testified about several problems he found with Mr. Keester's approach. Among these problems was that Mr. Keester (1) reported results as reflecting LCRA's impacts when those results included all of Recharge's pumping; (2) used the Old GAM instead of the New GAM; and (3) inadequately described the models he used as part of his four-step process.<sup>60</sup> Other problems Dr. Young noted were that, although Mr. Keester increased the levels for peak summer demands, he did not reduce the pumping amount he modeled. Dr. Young also criticized Mr. Keester's correction for local interference among Aqua's wells because he was "unaware of any proven best-method for making such a correction."<sup>61</sup>

In Dr. Young's rebuttal testimony, he testified that he performed several model runs with the New GAM.<sup>62</sup> He also testified that he updated his runs to improve the accuracy of the water level in Aqua's and Elgin's Simsboro wells.<sup>63</sup> He testified that his analysis factored in well-design factors, such as pump settings, well constrictions, and the location of the well screens for Aqua's and Elgin's wells.<sup>64</sup>

Dr. Young provided graphs that show simulated water levels following his analysis for a baseline, a baseline with LCRA, a baseline with Aqua pumping its permitted amounts and with

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<sup>59</sup> Aqua Ex. 4 (Keester direct) at 26.

<sup>60</sup> LCRA Ex. 55 (Young rebuttal) at 13.

<sup>61</sup> LCRA Ex. 55 (Young rebuttal) at 17.

<sup>62</sup> LCRA Ex. 55 (Young rebuttal) at 18.

<sup>63</sup> LCRA Ex. 55 (Young rebuttal) at 15.

<sup>64</sup> LCRA Ex. 55 (Young rebuttal) at 20.



Elgin pumping its permitting amounts, a baseline with Aqua (or Elgin) plus LCRA, and finally for LCRA's pumping under the Old GAM.<sup>65</sup>

Dr. Young testified that, under his modeling using the baseline plus LCRA, the water level for all of Aqua's wells would remain above the pump setting.<sup>66</sup> For one well, the combination of the baseline pumping plus LCRA's and Aqua's full pumping would result in the water level dropping below the pump setting in approximately 2050, but remaining well above the constriction point.<sup>67</sup>

Dr. Young also predicted, as a result of his simulations, that LCRA's pumping along with the baseline pumping would not cause the water levels to drop below the elevation of the pump in any of Elgin's wells.<sup>68</sup> For Elgin's two wells in the outcrop, Dr. Young predicted that LCRA's pumping would cause less than one foot of drawdown.<sup>69</sup> For the two wells in the downdip, he predicted that, in 2070, LCRA's pumping would contribute 29% of the total drawdown for one well and 27% for the other.<sup>70</sup>

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<sup>65</sup> LCRA Ex. 58 (Aqua), LCRA Ex. 59 (Elgin).

<sup>66</sup> LCRA Ex. 55 (Young rebuttal) at 21.

<sup>67</sup> LCRA Ex. 55 (Young rebuttal) at 22.

<sup>68</sup> LCRA Ex. 55 (Young rebuttal) at 24.

<sup>69</sup> LCRA Ex. 55 (Young rebuttal) at 25.

<sup>70</sup> LCRA Ex. 55 (Young rebuttal) at 25.

**b. ALJs' Analysis**

The ALJs agreed with Dr. Young's criticism of Mr. Keester's approach. The Old GAM is less accurate, and an analysis based on that model will not suffice. However, it is not enough that LCRA merely criticize the other experts. As the party seeking a permit, it does have the burden of proof. The parties opposed to the Applications argued that LCRA failed to present sufficient evidence on how its pumping would affect existing groundwater resources and permit holders. The ALJs agreed that LCRA's direct case was light on detail about other parties' wells; however, LCRA presented a more targeted analysis in its rebuttal case.

The ALJs concluded that the analysis conducted by Dr. Young is sufficient to allow the District to determine whether LCRA's proposed use would unreasonably affect existing groundwater resources or permit holders. Given the modeling, the proposed pumping would not cause unreasonable effects on existing groundwater resources or permit holders. The fact that real-world effects can differ from predicted modeling is addressed by the monitoring aspects of the Revised Draft Operating Permits.

**c. Board Conclusion.**

Limiting the production permit to 8,000 acre-feet for the initial five-year permit term also provides real-world information to help decide any future permit amendment applications.

**B. Unreasonable Effects on Existing Surface Water Resources**

As part of its review of LCRA's permit requests, the District must consider whether the proposed Purpose of Use unreasonably affects surface water resources.<sup>71</sup> Three parties, LCRA, the GM, and Environmental Stewardship, provided evidence and testimony relating to the issue. All three found that LCRA's requested pumping may have some impact on surface water resources.

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<sup>71</sup> Tex. Water Code § 36.113(d)(2); District Rule 5.2.D(2).

Environmental Stewardship's and the GM's analysis both show potential loss of surface water to the groundwater formations in Bastrop County by around 2050. Environmental Stewardship argued that the impacts to surface water resources will be unreasonable after the first 8,000 acre-feet of pumping. However, LCRA countered that "unreasonable impacts" are not defined and that under LCRA expert's definition, the impacts would not be considered unreasonable. The GM maintains that the impacts cannot accurately be determined until high-volume pumping in the District has begun—after the first phase of pumping (Phase II) is reached—and that is the purpose of including phases of increased pumping amounts in the Revised Draft Operating Permit.

The ALJs found that LCRA's proposed pumping, standing alone, will not cause unreasonable impacts to surface water resources, but that certain changes to the Revised Draft Operating Permits are required for the District to monitor potential impacts to surface water resources.

### **1. Environmental Stewardship's Arguments**

Environmental Stewardship posited that the best available science for evaluating impacts to surface water resources is the GAM.<sup>72</sup> Environmental Stewardship elaborates that while impacts cannot be quantified with specificity due to limitations of the GAM, all three parties that submitted information regarding this factor found that modeling LCRA's proposed withdrawals using the GAM showed impacts to the surface water system.<sup>73</sup> Environmental Stewardship estimated that LCRA's pumping would result in a loss of 0.5% of average annual flows to the Colorado River and that during periods of low flows (Nov. 1963 and Mar. 1964), the amount lost would be around 8%.<sup>74</sup> Environmental Stewardship and the GM both used the GAM to analyze the cumulative

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<sup>72</sup> Environmental Stewardship's Closing Arguments (Environmental Stewardship's Closing) at 5.

<sup>73</sup> Environmental Stewardship's Closing at 5.

<sup>74</sup> Environmental Stewardship Ex. 100 (Rice direct) at 10.

impacts of LCRA's permits combined with all other users in Bastrop County (the Base Case), and both show that District-wide proposed pumping of groundwater may result in loss of surface water to the groundwater formations in Bastrop County by around 2050.<sup>75</sup>

Environmental Stewardship argued that LCRA's analysis improperly excludes the cumulative impacts and looks only at LCRA's impacts to surface water.<sup>76</sup> Environmental Stewardship argued that ignoring cumulative impacts ignores the reality of what the total impacts to the surface water resource will be, and that considering the cumulative impacts is the only way for the District to consider the application consistent with the District Management Plan as required by District Rule 5.2.D.(4).<sup>77</sup> Further, Environmental Stewardship disagreed with relying on the *City of Bastrop* PFD, which considered only Bastrop's impacts and not cumulative impacts, because that permit was for a much smaller quantity of water (2,000 acre-feet).<sup>78</sup> Environmental Stewardship also took issue with LCRA's decision not to use the "shallow flow zone" feature or the latest pumping file when running models using the New GAM.<sup>79</sup>

Environmental Stewardship's expert Joseph Trungale used the GAM projections of its other expert, George Rice,<sup>80</sup> which showed the loss of surface water to the groundwater formations in Bastrop County.<sup>81</sup> He used the surface water availability model (WAM) to examine the impacts of the estimated loss of surface water on the reliability of senior water rights and to instream flow conditions in the Colorado River.<sup>82</sup> Based on the WAM modeling, he concluded that LCRA's

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<sup>75</sup> Environmental Stewardship's Closing at 5.

<sup>76</sup> Environmental Stewardship's Closing at 5.

<sup>77</sup> Environmental Stewardship's Reply to Closing Arguments (Environmental Stewardship's Reply) at 3.

<sup>78</sup> Environmental Stewardship's Reply at 2-3.

<sup>79</sup> Environmental Stewardship's Reply at 6.

<sup>80</sup> Mr. Rice was also retained by the Brown Landowners.

<sup>81</sup> Environmental Stewardship's Reply at 8.

<sup>82</sup> Environmental Stewardship's Reply at 8.

pumping and the resultant reduction in surface water flows would unreasonably affect existing surface water rights holders and the environment.<sup>83</sup>

Environmental Stewardship urged denial of the permits, arguing that the GM's Draft Operating Permits ignored the best available science (the GM's GAM analysis), which shows that the permits will unreasonably affect surface water resources in around 2050.<sup>84</sup> Environmental Stewardship argued that LCRA should not receive permits for even a portion of the total amount requested because it must meet the burden to prove the full amount of groundwater requested in the application or receive none at all.<sup>85</sup> In the alternative, Environmental Stewardship requested the permits (which include phases) to require District Board approval of any GM recommendation for LCRA to proceed past the second phase, including provisions for notice and an opportunity for protestants to have a hearing.<sup>86</sup> Environmental Stewardship also requested that the Draft Operating Permits include requirements for LCRA to enter into a special surface/groundwater monitoring network agreement separate from the GM proposed Monitoring Well Agreement. The new surface/groundwater monitoring network agreement would provide data to the GM and the District in deciding whether to allow LCRA to proceed past Phase II.<sup>87</sup> Lastly, Environmental Stewardship suggests that LCRA's permits include requirements that LCRA implement a work plan LCRA witness Dr. Young previously developed for the area.<sup>88</sup>

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<sup>83</sup> Environmental Stewardship's Closing at 5.

<sup>84</sup> Environmental Stewardship's Closing at 5.

<sup>85</sup> Environmental Stewardship's Reply at 14.

<sup>86</sup> Environmental Stewardship's Reply at 13-14.

<sup>87</sup> Environmental Stewardship's Reply at 13-14.

<sup>88</sup> Environmental Stewardship's Reply; Environmental Stewardship Ex. 301.

## 2. GM's Arguments

Dr. Hutchison, the GM's expert, used the GAM to evaluate impacts to surface water resources.<sup>89</sup> The GM argued that the GAM is the best available science for conducting such evaluations and that the model runs made by Dr. Hutchison using the New GAM indicated that pumping with the Base Case for the District will potentially reduce groundwater discharge to surface water.<sup>90</sup> Further, adding LCRA's proposed withdrawals to the Base Case could result in a condition where the groundwater would be recharged by surface water in the Colorado River and its tributaries in Bastrop County.<sup>91</sup> The GM agrees with Environmental Stewardship's assessment that under Dr. Hutchison's and Environmental Stewardship expert Rice's modeling assumptions, the Colorado River could go from a gaining stream to a losing stream by 2050.<sup>92</sup> Dr. Hutchison's GAM model runs showed that surface water could be the source of half of LCRA's proposed pumping after 2050.<sup>93</sup>

However, the GM argued that the GAMs (both the Old and New GAM) are limited as a predictive tool by the lack of high volume pumping data in the District and should not be relied upon to make accurate quantifications of impacts.<sup>94</sup> The GM argued that the only conclusion to be made is that the GAM shows that surface water impacts from LCRA's and all other District users' potential pumping *are possible*. The GM is not opposed to including surface water monitoring in the well monitoring agreement with LCRA.<sup>95</sup> The GM concluded that the permits can be protective of surface water by including surface water monitoring in the well monitoring agreement with

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<sup>89</sup> GM Ex. 11 (Hutchison direct) at 18.

<sup>90</sup> GM Ex. 11 (Hutchison direct) at 18.

<sup>91</sup> GM Ex. 13.

<sup>92</sup> GM's Closing Brief (GM's Closing) at 30. A gaining stream is one that receives water from an aquifer. A losing stream is the reverse; in other words, where water from the stream flows into the aquifer. Environmental Stewardship Ex. 100 (Rice direct) at 8.

<sup>93</sup> GM Ex. 13.

<sup>94</sup> GM's Closing at 30.

<sup>95</sup> GM's Closing at 31.

LCRA and by using the phased approach to permitting.<sup>96</sup> Further, the GM stated that the Revised Draft Operating Permits' Special Condition 11 allows district-wide curtailment in the event of unreasonable impacts to surface water resources in the future.<sup>97</sup>

### 3. LCRA's Arguments

LCRA stated that neither State law nor District Rules provide specific guidance on how a groundwater district should determine whether proposed permits will unreasonably affect surface water resources.<sup>98</sup> Therefore, LCRA relies upon the conclusions of its witness, Dr. Young. Based upon his expertise as a hydrogeologist and environmental scientist, Dr. Young suggests impacts to surface water resources are only unreasonable if LCRA's pumping, standing alone without considering the contributing pumping of others, will cause (1) drawdown that results in the capture of underflow; or (2) cause a change in the hydraulic gradient between the water level in the stream and the water level in an adjacent shallow groundwater flow that causes a persistent and substantial flow from surface water to the groundwater system.<sup>99</sup> In its analysis using the GAM model, LCRA estimates the drawdown resulting solely from LCRA's pumping to be about 0.3% of the annual average flow of the Colorado River near Bastrop (with average annual flow of about 1.4 million acre-feet per year). With this predicted amount of drawdown being a relatively small portion of the total annual flow, Dr. Young concluded that neither of his identified unreasonable conditions are possible.<sup>100</sup>

LCRA is critical of Environmental Stewardship's approach and the validity of Environmental Stewardship witness Mr. Trungale's findings in particular.<sup>101</sup> LCRA argued that

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<sup>96</sup> GM's Closing at 30.

<sup>97</sup> GM's Closing at 30-31.

<sup>98</sup> LCRA's Post-Hearing Closing Arguments (LCRA's Closing) at 30.

<sup>99</sup> LCRA's Closing at 30-31.

<sup>100</sup> LCRA's Closing at 30-32.

<sup>101</sup> LCRA's Post-Hearing Reply to Closing Arguments (LCRA's Reply) at 32-44.

Environmental Stewardship's overly stringent approach should be rejected because it has not been adopted in this or any other groundwater conservation district.<sup>102</sup>

Regarding Environmental Stewardship's use of the GAM to estimate the impact of LCRA's proposed pumping on surface water resources, LCRA argued that Environmental Stewardship's inquiry improperly evaluated LCRA's proposed use in combination with all other groundwater production authorized by the District instead of the impact of LCRA's use standing alone because Texas Water Code § 36.113(d)(2) and District Rule 5.2.D(2) refer to only the unreasonable impacts caused by the "proposed use."<sup>103</sup> LCRA also maintains that Environmental Stewardship's approach is inherently flawed because Mr. Rice's analysis goes beyond the limited predictive capabilities of the GAM to model impacts by making oversimplified and incorrect assumptions.<sup>104</sup> LCRA asserts that the GAM cannot accurately capture the complexities and variabilities of river conditions and bank storage, specifically, because: (1) the GAM is an annual average condition and analysis of surface-groundwater interactions requires timesteps of hours or days; and (2) infiltration and unsaturated flows in the alluvium are not represented in the GAM. LCRA lists assumptions made by Mr. Rice that LCRA alleges appear to be designed to overstate the potential impacts of pumping, including: (1) assuming that LCRA (and only LCRA) will pump at maximum rates every year for 50 years; (2) attributing all losses to LCRA even though his model shows losses occurring before LCRA begins pumping; (3) including other pumpers besides LCRA; (4) omitting critical parts of the alluvium from a segment of the Colorado River that shows a net gain of water through 2070; and (5) adjusting pumping at LCRA's Lost Pines Power Park up to permitted limits without making similar adjustments to other users.<sup>105</sup> LCRA argued that the flaws

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<sup>102</sup> LCRA's Reply at 32-34.

<sup>103</sup> LCRA's Reply at 33.

<sup>104</sup> LCRA's Reply at 35-38.

<sup>105</sup> LCRA's Reply at 37-38.



of the modeling are demonstrated by the fact that the modeling shows levels of flow in certain tributaries that historical records indicate have not occurred even under natural conditions.<sup>106</sup>

LCRA believes that Mr. Trungale relied upon Mr. Rice's flawed inputs to conduct his flawed analysis using the WAM.<sup>107</sup> LCRA stated that Mr. Trungale's use of the "Run 3" version of the WAM for his analysis significantly understated the amount of water expected to be in the Colorado River and therefore overstated modeled impacts of LCRA's pumping on the surface water.<sup>108</sup> LCRA attributes the over-stated impacts to "Run 3," not accounting for historical or future expected real-world conditions in the river. Instead, "Run 3" is a conservative estimate of water consumption because it assumes full use of all permitted water by every water right holder in the Colorado River basin and 100% consumption of the water (with no return flows), which is not the historical or expected norm in the future.<sup>109</sup>

LCRA also concluded that Mr. Trungale's use of the WAM to examine pumping impacts on instream flow requirements is overly simplistic and flawed. LCRA claimed that even if Environmental Stewardship's quantifications in reduced surface water flows resulting from LCRA's pumping were accurate, Mr. Trungale's assessment of the impact to instream flows and the environment ignores consideration of actual historical subsistence flow data and the actual impact to wildlife habitat such as the Blue Sucker spawning area.<sup>110</sup>

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<sup>106</sup> LCRA's Reply at 39.

<sup>107</sup> LCRA's Reply at 39-44.

<sup>108</sup> LCRA's Reply at 40-41.

<sup>109</sup> LCRA's Reply at 40-41.

<sup>110</sup> LCRA's Reply at 43; LCRA Ex. 70.

#### 4. ALJs' Analysis

The ALJs concluded that LCRA's pumping under the Revised Draft Operating Permits alone would not result in unreasonable effects on surface water resources. Accordingly, the Applications should not be denied on that basis. On the other hand, the ALJs agreed with the GM and Environmental Stewardship that the District should include appropriate conditions in the operating permits to monitor whether LCRA's proposed pumping combined with District-wide pumping will cause unreasonable effects and to order curtailment when needed.

##### a. The Standard for Unreasonable Effects on Surface Water Resources

No party cited precedent or a legal definition of unreasonable effects to surface water resources, but LCRA witness Dr. Young proposed certain standards for what would constitute unreasonable effects. Under Dr. Young's definitions, unreasonable effects would be shown by pumping that: (1) causes a drawdown that results in the capture of underflow; or (2) causes a change in the hydraulic gradient between the water level in the stream and the water level in an adjacent shallow groundwater flow that causes a persistent and substantial flow from surface water to the groundwater system.<sup>111</sup> As they did regarding effects on groundwater, the ALJs noted that there might be additional conditions that would constitute unreasonable effects, but agreed that either condition would constitute unreasonable effects on surface water resources.

Neither statutory law nor the District's rules require the District to maintain groundwater flow of any amount into the surface water system. On the contrary, Texas courts have consistently held that groundwater can be pumped without protection of spring flow.<sup>112</sup> Districts are, however, required to address conjunctive water management in their water management plans and in the

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<sup>111</sup> LCRA Ex. 28 (Young direct) at 40.

<sup>112</sup> See *Denis v. Kickapoo Land Co.*, 771 S.W.2d 235 (Tex. App.—Austin 1989, writ denied); *Pecos County Water Control & Improvement District No. 1 v. Williams*, 271 S.W.2d 503 (Tex. App.—El Paso 1954, writ ref'd n.r.e.).

adoption of the DFCs.<sup>113</sup> Therefore, although cumulative effects of pumping are not relevant to the issue of unreasonable effects, those effects can, and should be, considered as part of the District's management, and the possibility exists that the District could curtail all users if necessary. In order to make those sorts of determinations, there will need to be surface water monitoring, as discussed below.

**b. There is No Evidence in the Record that LCRA's Proposed Pumping, Standing Alone, Will Unreasonably Affect Surface Water Resources**

No party argued that LCRA's proposed pumping, standing alone, will cause a loss of surface water in the Colorado River in Bastrop County to the groundwater system. At most, the parties who modeled the effects of LCRA's pumping found that it would cause a loss of discharges of groundwater into the surface waters, resulting in a loss of flow in the Colorado and its tributaries of 0.5% of the average annual flow of the Colorado River at Bastrop.<sup>114</sup> Environmental Stewardship also argued that such losses would be a greater percentage of the flows (up to 8%) during low flow conditions.<sup>115</sup> The ALJs found, based on the credible testimony of Dr. Young and supported by Dr. Hutchison, that extrapolations of the GAM model to low flow conditions are not appropriate because the GAM is a model that is based on annualized flows. Extrapolations improperly ignore many variables and the complexities of river conditions during different flow regimes. In sum, it has not been shown that LCRA's proposed pumping alone will cause unreasonable effects on surface water resources, and the permits should not be denied on that basis.

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<sup>113</sup> Tex. Water Code §§ 36.1071(a)(4), 36.108(d)(4).

<sup>114</sup> LCRA Ex. 28 at 41 (Dr. Young estimated losses of .2% of annual flow); Environmental Stewardship Ex. 100 (Rice direct) at 10. Mr. Rice estimated losses of .5% of annual flow and loss of 8% during low flows.

<sup>115</sup> Environmental Stewardship Ex. 100 (Rice direct) at 10.

**c. Cumulative Effects**

The ALJs found that Dr. Hutchison's and Mr. Rice's GAM models show that the cumulative effects of LCRA's proposed pumping, combined with the District pumping base case, may cause significant losses of surface water to the groundwater system in Bastrop County by 2050, including surface water sourcing up to half of LCRA's groundwater pumping. Such losses would be a "persistent and substantial flow from surface water to the groundwater system" and thus would meet the standards set forth by LCRA witness Dr. Young for unreasonable effects. However, the ALJs agreed with Dr. Hutchison's (and others') conclusion that the GAM models are not accurate enough to predict such impacts with certainty, due to the lack of reliable high volume pumping data in Bastrop County.<sup>116</sup>

Because the ALJs did not find that the GAM is accurate enough to predict the loss of surface water with sufficient certainty or precision, the ALJs did not accept Environmental Stewardship's conclusion that LCRA's pumping will definitely cause unreasonable effects. Specifically, because the inputted surface water losses calculated by the GAM are not precise or certain enough to be used as reliable inputs in further analysis relating to surface water impacts, the ALJs do not make any findings relating to whether the methods Environmental Stewardship witness Mr. Trungale used, which relied upon those uncertain inputs, are appropriate evaluations.

Nevertheless, while the Old and New GAMs do not conclusively show future impacts, absent additional data, they are the most reliable tool available with which to make a determination on the subject. The ALJs agreed that the GAM modeling shows the possibility of future unreasonable effects on surface water resources caused by the cumulative effects of District-wide pumping, including LCRA's. Therefore, the District needs to monitor the impacts of groundwater

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<sup>116</sup> GM Ex. 11 at 16.

pumping in order to have sufficient knowledge to be able to mitigate or prevent unreasonable effects.

### **C. Well Drawdown and Interference**

District Rule 5.2.D(9) requires consideration of “whether the conditions and limitations in the Operating Permit prevent [w]aste, achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, or lessen interference between wells.” Relatedly, the District Rules require large-volume wells, such as those proposed by LCRA, to be spaced more than 5,000 feet away from other wells in the same aquifer owned by a different owner.<sup>117</sup>

#### **1. Parties’ Evidence and Arguments**

LCRA’s proposed wells are closely spaced together on one portion of the Griffith League Ranch. According to LCRA’s evidence, this was to respect the preference of the Boy Scouts as reflected in the deed.<sup>118</sup> LCRA argued that (consistent with the District Rules) these wells are more than 100 feet away from the nearest property line and will be spaced at least 5,000 feet from the nearest Simsboro well not owned by LCRA. LCRA also noted that its wells will be located where the aquifer is deepest and that its wells, like Recharge’s permitted nearby wells, will be located in some of the most transmissive parts of the Simsboro in the District. LCRA presented testimony that because the wells will be part of an aggregated system, it will be able to adjust pumping among the wells to minimize the reduction of artesian pressure.<sup>119</sup> LCRA noted that the GM can restrict pumping if the pump tests required by the Draft Operating Permits reveal impacts worse than

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<sup>117</sup> District Rule 8.2(B).

<sup>118</sup> LCRA Ex. 3 at 2 (granting LCRA the right to use the portion of the surface area designated as the Preferred Groundwater Development Area).

<sup>119</sup> LCRA Ex. 28 (Young direct) at 47.

anticipated, which will, in turn minimize impacts on wells.<sup>120</sup> LCRA argued that its compliance with the spacing rules, along with the pump tests and potential restrictions, show that the Draft Operating Permits will lessen interference among wells.

LCRA also presented evidence about Recharge's permitted wells noting that modeling shows that LCRA's impacts on Recharge's well will be approximately the same as Recharge's impacts on LCRA's wells.<sup>121</sup>

Recharge, whose permitted wells will be close to LCRA's proposed well field, argued that LCRA failed to establish that its Applications will minimize as far as practicable the interference between wells.<sup>122</sup> Recharge argued that, to the contrary, LCRA's close-space siting of its wells on a portion of the Griffith League Ranch property maximizes well interference. Recharge argued that it was improper for LCRA to concentrate all of its wells near the property line and as close to Recharge's pre-existing permitted well field as the District's spacing rules allow. Recharge further contends, "LCRA took advantage of a recent change to the District's spacing rules that allows a well owner to avoid the 5000-foot well spacing rule that applies to all other wells of this size."<sup>123</sup> Recharge emphasizes that compliance with the District's spacing rules is not enough to lessen well interference. Finally, recharge challenges LCRA's motives and emphasizes that LCRA's original experts used to study the Griffith League Ranch site and obtain the permits were not the same experts who testified at the hearing.

Aqua and Elgin also argued that compliance with the spacing rule is insufficient to satisfy the requirement to lessen interference with other wells and contend that spacing rules do not override the permitting rule.

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<sup>120</sup> Tr. at 583-592.

<sup>121</sup> LCRA Ex. 55 (Young rebuttal) at 40.

<sup>122</sup> Recharge's Response to Closing Arguments (Recharge's Reply) at 8.

<sup>123</sup> Recharge's Closing Argument (Recharge's Closing) at 2.

Elgin emphasizes that its wells “are relatively updip within the Simsboro compared to LCRA’s proposed wells” and expresses concern that the New GAM may underestimate updip migration of drawdown caused by downdip pumping.

The Hernandezes argued that lessening drawdown and interference should be addressed by monitoring and mitigation.

The GM argued that the phased approach presents a reasonable and adequate solution to the issue of drawdown and interference and disagrees that its phased approach only considers broad, District-wide impacts. The GM points to the spacing rules and the 36-hour pump test as permit conditions that would lessen well interference. He also argued that if the pump test shows that there would be adverse impacts, Special Condition 14 of the Revised Draft Operating Permits authorizes the GM to lower the maximum rate of withdrawal.

## **2. ALJs’ Analysis**

The District’s Rule requires consideration of “whether the conditions and limitations in the Operating Permit prevent [w]aste, achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, or lessen interference between wells.” Thus, under the District’s rule, the obligation on the District is to “minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure,” but only to “lessen interference between wells.”<sup>124</sup> Therefore, the standard is not whether interference between wells will be minimized as far as practicable, but rather whether it will be lessened. Similarly, the ALJs noted that this Rule requires an inquiry into the terms of the Draft Permits, not just the Applications.

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<sup>124</sup> This rule is consistent with Code section 36.116, which authorizes a groundwater conservation district to regulate “in order to minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, to control subsidence, to prevent interference between wells, to prevent the degradation of water quality, or to prevent waste.” Tex. Water Code § 36.116(a).

The ALJs agreed that the Revised Draft Operating Permits contain sufficient terms to lessen well interference. In particular, they found that the combination of pump tests, monitoring wells, and phasing, plus the GM's ability to curtail pumping, if necessary, satisfy this factor. The ALJs declined to read anything sinister into LCRA's decision to change experts. The ALJs also declined to find that compliance with the spacing rules automatically satisfies this rule.

### **3. Board Conclusion**

The Final Operating Permit allows the GM to restrict the rate of withdrawal and will also require LCRA to file amendment applications to increase the authorized withdrawal amount.

#### **D. Management of Total Groundwater Production on a Long-Term Basis to Achieve Desired Future Condition**

District Rule 5.2.D(8) requires the District to consider “whether granting the application is consistent with the District’s duty to manage total groundwater production on a long-term basis to achieve an applicable Desired Future Condition.” A DFC is “a quantitative description, adopted in accordance with Section 36.108, of the desired condition of the groundwater resources in a management area<sup>125</sup> at one or more specified future times.”<sup>126</sup>

The Texas Water Code requires that:

In issuing permits, the district shall manage total groundwater production on a long-term basis to achieve an applicable [DFC] and consider:

- (1) the Modeled Available Groundwater determined by the executive administrator;
- (2) the executive administrator’s estimate of the current and projected amount of groundwater produced under exemptions granted by district rules and Section 36.117;
- (3) the amount of groundwater authorized under permits previously issued by the district;
- (4) a reasonable estimate of the amount of groundwater that is actually produced under permits issued by the district; and

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<sup>125</sup> A management area is defined as “an area designated and delineated by the Texas Water Development Board under Chapter 35 as an area suitable for management of groundwater resources.” Tex. Water Code § 36.001(13).

<sup>126</sup> Tex. Water Code § 36.001(30).



(5) yearly precipitation and production patterns.<sup>127</sup>

The District is a part of Groundwater Management Area (GMA) 12, which on April 27, 2017, adopted a DFC for the Simsboro Formation of a District-wide average drawdown between January 2000 and December 2069 of 240 feet.<sup>128</sup> The DFC is also divided into DFCs for the counties in the District. For Bastrop County, the DFC is a county-wide average drawdown between January 2000 and December 2069 of 174 feet; for Lee County, the DFC is a county-wide average drawdown between those dates of 350 feet.

The DFC is used to determine the GMA's Modeled Available Groundwater ("MAG"). The MAG is "the amount of water that the [TWDB's] executive administrator determines may be produced on an average annual basis to achieve a desired future condition."<sup>129</sup>

It is undisputed that if LCRA and all the other permit holders pumped their full permitted amount, the total groundwater production within the District would exceed the MAG.

### **1. The Parties' Arguments**

The Hernandezes are the only party to raise an issue about how the District is issuing permits in relation to the DFCs and MAGs. They argued that by not using the MAG as a permitting cap, the District is not fulfilling its duty. They add, "[i]t is inane that countless hours and dollars are spent by five [groundwater conservation districts] in the GMA-12 to develop the DFCs only to have them disregarded for permitting decisions."<sup>130</sup>

For its part, the GM contends the MAG is not a hard permitting cap; rather, it is "a factor to consider when managing the DFC."<sup>131</sup> He argued that this use of the MAG as a permitting tool is

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<sup>127</sup> Tex. Water Code Ann. § 36.1132.

<sup>128</sup> GM Ex. 10 at 7.

<sup>129</sup> Tex. Water Code § 36.001 (25).

<sup>130</sup> Closing Argument of Elvis Hernandez (Hernandez Closing) at 3.

<sup>131</sup> GM's Closing at 44.

consistent with Texas Water Code §36.1132, which requires a district, when making permitting decisions, to consider “a reasonable estimate of the amount of groundwater that is actually produced under permits issued by the district.” He similarly testified that a significant reason why MAGs are used as management guides, not hard caps for permitting, is because permit holders typically do not produce their full permitted values.<sup>132</sup>

## **2. ALJs’ Analysis**

While noting the Hernandezes’ frustration, the ALJs found that the GM’s approach to the DFC and the MAG is consistent with the District’s duty to manage total groundwater production on a long-term basis to achieve an applicable DFC. The Texas Water Code does not anticipate the MAG being a hard permitting cap, as evidenced by amendments adopted in 2015 to Texas Water Code §36.1132 to change the MAG from a permit cap to a production limit.<sup>133</sup> Instead, the MAG is one factor in the permitting analysis.<sup>134</sup> The ALJs found that the evidence shows the GM appropriately considered the factors.

## **E. Special Conditions from Previous Permits**

### **1. Parties’ Arguments**

Recharge’s permits, like Forestar’s, contain several conditions that resulted from a settlement. Among the settlement-related terms in Recharge’s permits are: (1) a reduction in its requested production amount, (2) tiered phasing of production, and (3) the creation of a mitigation fund.

Recharge argued that provisions contained in previous permits reflect District policy and, thus, must be included in the Draft Permits. Alternatively, they argued that the principle of applying

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<sup>132</sup> GM Ex. 1 (Totten direct) at 39.

<sup>133</sup> Act of May 27, 2011, 82d Leg., R.S., ch. 18, § 4, 2011 Tex. Gen. Laws 39

<sup>134</sup> Tex. Water Code Ann. § 36.1132.

equal, non-discriminatory treatment to all citizens of the District requires that permit provisions be the same.

As with its permits, Recharge argued that the same District policy considerations require that the following conditions be included in LCRA's Draft Operating Permits:

- Reducing the initial amount of water requested by the applicant;
- Requiring adequate spacing;
- Requiring future cutbacks, if necessary;
- For all permits over 20,000 acre-feet, requiring end-user contracts, monitoring-well agreements, and tiered phasing of production; and
- Provisions for financial mitigation for all production in Bastrop County.

Some of these items are, in fact, contained in the Revised Draft Operating Permits. The Revised Draft Operating Permits anticipate that the GM may require future cutbacks. The Revised Draft Operating Permits also required end-user contracts, monitoring-well agreements, and tiered phasing of production.

Recharge also argued that if the Draft Permits are issued without these provisions, its permit (as well as Forestar's and Bastrop's permits) should be reopened, and those provisions removed. Such an action is beyond the scope of this hearing and were not addressed further.

Recharge argued that "policy can be adopted by action, in addition to a formal written policy, much like a contract can be formed through the parties' course of conduct."<sup>135</sup> It then argued that the District has adopted a standard practice of including certain special conditions in similarly-situated permits and that this practice rises to the level of District policy. Recharge also argued that the record "demonstrates that the [District's] board adopted certain special conditions in writing for similarly-situated permit holders on a systematic basis."<sup>136</sup> Finally, Recharge argued

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<sup>135</sup> Recharge's Closing at 25.

<sup>136</sup> Recharge's Closing at 26.

that “[t]he District has similarly adopted an effective policy of requiring adequate spacing between wells of at least 5,000 feet as between all large volume wells, as evidenced by the spacing for the Bastrop, Forestar, and Recharge wells.”<sup>137</sup>

The GM disagrees, as does LCRA. The GM argued that permitting decisions are made on a case-by-case basis and that what is appropriate for one applicant and permit may not be appropriate for another. The GM also emphasizes the need for balancing private property and natural resource interests when managing groundwater.

## **2. ALJs’ Analysis**

The ALJs found that when, following a settlement, a groundwater conservation district issues a permit that reduces the total amount of production from the amount requested in the application, it does not create a policy of reducing the amount of production from the amount requested. Recharge cannot rely on the fact that in previous cases, the permit that was issued authorized less production than requested to argue that LCRA’s requested production should be reduced, as well.<sup>138</sup> Such an approach would be inconsistent with the balancing analysis required by Texas Water Code § 36.113(d) and District Rule 5.2.D.

As for a spacing policy, the undisputed evidence is that the District’s spacing rules changed after the permits for Recharge’s three wells were issued and before LCRA’s Applications. Under the current rules, the spacing required between wells belonging to one party is different from the spacing required between wells of different owners.<sup>139</sup> The current rules only require a distance of 5,000 feet between large wells owned by different owners. And it is also undisputed that the proposed wells in the Applications comply with the current spacing rules. Even assuming, for the

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<sup>137</sup> Recharge’s Closing at 27.

<sup>138</sup> The ALJs note that Forestar’s and Recharge’s permitted production amounts (28,500 and 46,000 acre-feet, respectively) exceed the production amount allowed in the Revised Draft Operating Permits.

<sup>139</sup> District Rule 8.2.

sake of argument, that the District had a policy of requiring at least 5,000 feet between large-volume wells regardless of ownership, it changed that policy by adopting a new rule. Recharge does not—and could not—argue that it was improper for the District to amend its rules. Likewise, Recharge does not—and could not—directly argue that all later permit applications should be subject to the rules in place at the time the District granted the first large-volume permit. But by turning the spacing requirements in its permit into a "policy," despite the existence of the rule, that is, in essence, what Recharge is arguing. The ALJs were not convinced that the District has a separate well-spacing policy, aside from its spacing rule, that should apply here.<sup>140</sup>

#### **F. Separate Issues Raised by the Brown Landowners**

The Brown Landowners raised several issues that were not raised by the other parties. Those issues will be addressed here.

##### **1. Was the District Required to Consider Historic Use?**

The Brown Landowners argued that the District was required to consider historic use when reviewing the Applications and failed to do so. In making this argument, they rely on Texas Water Code § 36.116(b). As set out above, § 36.116(b) provides that a groundwater conservation district *may* preserve historic use in its rules limiting production. That section does not *require* a district to adopt rules preserving historic use, and it is undisputed that historic use is not one of the factors in the District's permitting rules.<sup>141</sup>

Moreover, the Brown Landowners do not clearly describe the historic use that they argued must be considered. They argued that most of the available water in Bastrop and Lee Counties is

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<sup>140</sup> Recharge also argued that the District has a policy of requiring future cutbacks, which it agrees are contained in the Draft Permits.

<sup>141</sup> The Brown Landowners quote *Edwards Aquifer Authority v. Day*, 369 S.W.3d 814 (Tex. 2012) for the proposition that "the amount of groundwater withdrawn and its purpose are both relevant when identifying an existing or historic use to be preserved," but they do not argue that *Day* holds that historic use must be preserved. Brown Landowners' Brief in Support of Closing (Brown Landowners' Closing) at 17 (quoting *Day*, 369 S.W.3d at 836).

groundwater, that those counties “are significantly more rural than Travis County,” and that “[t]here is no history of Travis County being an intended importer of Bastrop and Lee County water.”<sup>142</sup> Rather than protect a specific historic use—except, broadly, groundwater use in Bastrop and Lee Counties—they appear to argue that because groundwater has been used in Bastrop and Lee Counties, a new use should not be allowed.

For these reasons, the ALJs declined to find that the District was required and failed to consider historic use.

## **2. Were the Applications Administratively Complete?**

The Brown Landowners also argued that the Applications should be denied because they were not administratively complete.<sup>143</sup> They contend that “[w]hen viewed under these guidelines and principles the LCRA application is not administratively complete as it was not given the proper scrutiny by the [District].”<sup>144</sup>

The GM disagrees. According to the GM, administrative completeness is a technical requirement that does not require a balancing of the various factors that the District’s board must consider under chapter 36 and the District’s rules. Instead, Mr. Totten testified that to determine whether the Applications were complete, he determined whether LCRA had provided the information the District Rules and Code require and whether it used the correct forms in its Applications.<sup>145</sup> He also agreed that administratively complete “means it must have the minimal amount of information required in [the District’s] rules.”<sup>146</sup> The ALJs found that GM’s understanding is consistent with Texas Water Code chapter 36, which provides that an application is

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<sup>142</sup> Brown Landowners’ Closing at 17.

<sup>143</sup> Brown Landowners’ Closing at 2 (“First and foremost, the ALJ should deny the permit as it is administratively incomplete.”).

<sup>144</sup> Brown Landowners’ Closing at 5.

<sup>145</sup> GM Ex. 1 (Totten direct) at 17. Mr. Totten originally determined that LCRA had used the incorrect forms; he required LCRA to resubmit its applications using the correct forms.

<sup>146</sup> Tr. at 1118.

administratively complete if it contains the information set forth under Sections 36.113 and 36.1131.<sup>147</sup> It also prohibits a district from requiring that additional information be included in an application for it to be considered administratively complete.<sup>148</sup>

The Brown Landowners do not offer a competing definition of administrative completeness, nor do they indicate what it requires. They only argued that they do not think the Application satisfies it. To the extent that the Brown Landowners argued that the Application is not administratively complete because of the factors set out in the Texas Water Code or the District's Rules, the discussion of that argument is set out in the sections discussing the substantive portions of the Texas Water Code or Rules. Otherwise, the ALJs were satisfied that the Applications are administratively complete in that they contain the required information.

### **3. Analysis Based on Benefit in the District**

The Brown Landowners argued that the District should add some sort of geographic limitation to the Draft Permits. In essence, they argued that the District failed to examine whether there will be a beneficial use in Bastrop and Lee Counties.<sup>149</sup> They do not point to any statute or rule that requires an examination of beneficial use within the District, as opposed to outside it, and the ALJs were not persuaded that any such requirement exists.

### **G. Phasing**

The Draft Operating Permits and the Revised Draft Operating Permits both anticipate that LCRA will increase its pumping in phases. LCRA and the parties opposed to the Applications expressed concerns about various aspects of the phasing process.

First, LCRA objects to a requirement in the Draft Operating Permits that it have binding

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<sup>147</sup> Tex. Water Code § 36.114(h).

<sup>148</sup> Tex. Water Code § 36.114(h).

<sup>149</sup> Brown Landowners' Brief in Support of Closing at 18 ("Including Travis county in their permit, the LCRA cannot demonstrate that there is a beneficial use to Bastrop and Lee counties.").

contracts with end users to move to the next phase and increase pumping.

Next, both LCRA and Recharge have concerns about the phasing formula, and LCRA requested it be changed.<sup>150</sup> LCRA argued that, although it is willing to phase in production, it should not be required to accept special conditions “that are unreasonable, flawed, create significant uncertainty, or are so open to interpretation that they cannot be reasonably implemented” just because previous permittees agreed to those special conditions.<sup>151</sup> In particular, LCRA argued, citing Recharge’s expert, that the phasing formula is “a mess” that should be eliminated.<sup>152</sup>

Finally, Aqua and Elgin raise a different concern: that the phasing examines district-wide conditions, as opposed to local impacts. Equally significant for Aqua is that potentially-impacted local users cannot participate in the decision to move LCRA from one phase to the next. Aqua argued that, as the phasing standards stand in the Draft Operating Permits, they provide “no meaningful review of local impacts, and no due process for protestants to have their respective *local* impacts heard and addressed.”<sup>153</sup>

These concerns are moot under the Final Operating Permits, which do not include any phasing requirements or options. LCRA will have to file permit amendment applications if it desires to increase production at any point in the future. Should any amendment applications be filed, the parties here or any future protestants will have the opportunity to contest whether the groundwater will be put to any beneficial use and if the additional production will cause unreasonable local impacts.

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<sup>150</sup> Recharge would like to have this formula removed from its permit. As discussed above, such a request is outside the scope of this contested case hearing. In its briefing, LCRA suggests that nothing precludes potential amendments to Forestar’s and Recharge’s permits to remove the formula. LCRA’s Closing at 55 n.10.

<sup>151</sup> LCRA’s Closing at 44.

<sup>152</sup> LCRA’s Closing at 51.

<sup>153</sup> Closing Argument of Aqua (Aqua’s Closing) at 21.



## **H. Monitoring Well Agreement**

There are two main issues relating to Special Condition 1, which requires LCRA and the GM to enter into a Monitoring Well Agreement. The GM and LCRA disagreed about certain aspects of this Special Condition as it relates to monitoring groundwater. As discussed above, the ALJs also found it necessary to conduct monitoring of the impacts on surface water, as well.

### **1. Details of the Monitoring Well Agreement as It Relates to Groundwater**

The GM and LCRA disagree about certain aspects of the special conditions relating to a Monitoring Well Agreement. Special Condition 1 of the Revised Draft Operating Permit requires LCRA to enter into a Monitoring Well System Construction and Maintenance Agreement, approved by the District's Board, within 180 days after the Permit is issued.<sup>154</sup> LCRA would be required to construct and maintain the new monitoring wells, and a violation of the Monitoring Well Agreement would violate the Permit.

Special Condition 4 of the Revised Draft Operating Permits sets out certain criteria for a monitoring well system. Wells in the system must be screened in the Simsboro Formation; must improve the spatial coverage of the monitoring well system; must be easily accessible for regular measurements; and must meet any other criteria agreed upon by the GM and LCRA.<sup>155</sup>

### **2. Parties' Arguments**

LCRA first objects to the 180-day deadline to enter into a Monitoring Well Agreement. LCRA argued that decisions about the timing and number of monitoring wells should be deferred to provide both LCRA and the District with additional flexibility.<sup>156</sup> LCRA suggests that the

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<sup>154</sup> In the Draft Operating Permit, this deadline was 90 days after permit issuance.

<sup>155</sup> The Revised Draft Operating Permits remove a reference to an existing monitoring well, as LCRA requested. Similarly, the Revised Draft Operating Permits no longer require LCRA to "operate" the monitoring wells. LCRA had also requested that change.

<sup>156</sup> LCRA's Closing at 45.

deadline to enter into a monitoring well agreement should be before beginning construction of a well to be used in the first pumping phase of the permit (Phase II).<sup>157</sup> According to LCRA, not having an exact date would provide greater flexibility and would allow it (and the District) to take changed conditions into account.<sup>158</sup>

LCRA argued that the portion of Special Condition 1 under which a violation of the Monitoring Well Agreement is a violation of the operating permit should be removed. In LCRA's view, tying together an as-yet-unnegotiated Monitoring Well Agreement and the Draft Operating Permit would add an unreasonable amount of uncertainty to the process. LCRA points out that it has an incentive to comply with the Monitoring Well Agreement because it will not be allowed to increase its pumping unless it complies. LCRA also argued that the Monitoring Well Agreement should be enforced as a contract between the LCRA and the District, not as part of an operating permit.

LCRA also suggests that the requirement that it "has assisted the District in adding any New Monitoring Wells that the District and Permittee agreed are needed before Permittee may increase its pumping [to the requested phase]" be added to the Draft Operating Permit.<sup>159</sup>

The GM argued that negotiation of a monitoring well agreement cannot be delayed until after production, particularly since monitoring wells are used to analyze local impacts,<sup>160</sup> such as those that have been contested in this case. The GM also argued that the District has the authority to include a special condition requiring a monitoring well agreement pursuant to District Rule 5.3.D(2), which provides that an operating permit may include "any special conditions

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<sup>157</sup> LCRA Ex. 8A at 2.

<sup>158</sup> LCRA's Closing at 45.

<sup>159</sup> LCRA Ex. 8A at 3-4.

<sup>160</sup> Tr. at 1594.

required by the considerations in Rule 5.2.D and any other special condition required or authorized by these Rules or applicable law.”

### **3. ALJs’ Analysis**

The ALJs agreed that the District has the authority to require LCRA to enter into a Monitoring Well Agreement. The District may impose Special Conditions it determines are required by the considerations in Rule 5.2.D.<sup>161</sup> Among those considerations are whether the conditions and limitations “minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, or lessen interference between wells.” The special conditions relating to the Monitoring Well Agreement tie into those considerations. The ALJs also noted that the GM incorporated some of LCRA’s suggestions in the Revised Draft Operating Permit.

That said, the ALJs recommended adopting LCRA’s proposed change to extend the deadline to enter into a Monitoring Well Agreement. The ALJs were convinced that a flexible deadline, rather than a 180-day deadline, would better allow LCRA and the GM to take any new pumping into account. Additionally, the ALJs agreed that the portion of Special Condition 1 under which violation of the Monitoring Well Agreement is a permit violation should be removed. Incorporating a contract that does not yet exist into a permit adds too great a level of confusion to the permitting process.

The Board decided that while a permittee may agree to a special condition to negotiate a future contract as part of a settlement agreement, the District may not impose such a condition. Further, because the Final Operating Permit does not include the proposed phasing provisions, there is no need to condition such phasing on following the Monitoring Well Agreement.

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<sup>161</sup> District Rule 5.3.D(2).

#### 4. Monitoring Effects on Surface Water Resources

As the ALJs previously found, the GAM modeling does not reliably address the potential cumulative effects of LCRA's proposed pumping on surface water resources, in combination with all other authorized groundwater production in the District. Texas Water Code § 36.113(d)(2) requires the District to consider whether "the proposed use of water unreasonably affects . . . surface water resources." However, the GM's test-and-see approach, without a definite plan for monitoring effects, is not adequate to prevent unreasonable impacts on surface water resources.

The GM supports incorporating surface water monitoring in the Monitoring Well Agreement and is open to including language in that agreement that will be helpful in assessing impacts.<sup>162</sup> The GM is also not opposed to Environmental Stewardship's suggestion of including a work plan developed for the Colorado River related to surface water/groundwater interaction in the permit.<sup>163</sup> However, the GM suggests that both the surface water monitors and the work plan be part of the Well Monitoring Agreement to be negotiated with LCRA at a later date.<sup>164</sup>

The ALJs found that, in light of the fact that the GAMs show potential impacts to surface water resources caused by LCRA and District-wide pumping, the monitoring well agreement between LCRA and the District must include monitoring wells that could monitor effects on surface water resources. Thus, the ALJs recommended amending the definition of "Monitoring Well System" contained in Special Condition (4)(a) in the Revised Draft Operating Permit to require that a monitoring well system must monitor such effects.

The ALJs did not include Environmental Stewardship's recommended changes to the permits incorporating Dr. Young's work plan. While the ALJs agreed that adoption of a surface

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<sup>162</sup> GM's Reply at 39.

<sup>163</sup> GM's Reply at 39.

<sup>164</sup> GM's Reply at 39.

water plan (like Dr. Young's or some other work plan the District has approved) might be beneficial for in managing District-wide pumping impacts on surface water resources, the adoption of a work plan in a permit is not appropriate. Adoption of a surface water work plan falls squarely within the process of adoption of the District's water management plan.<sup>165</sup> Instead, the Well Monitoring Agreement should incorporate any work plan added to the District's water management plan.

#### **I. 36-Hour Pump Test**

LCRA argued that certain changes should be made to Special Condition 14, which relates to the 36-hour pump test. A 36-hour pump test is used to collect data to calculate aquifer parameters, such as transmissivity and storativity. LCRA was concerned that, as it stood, the Special Condition lacked specific parameters for transmissivity that would be used to determine whether pumping limits should be imposed. LCRA also suggested shortening the advance notice required before performing the pump test. LCRA also requested a clarification that the authorized maximum rate of withdrawal is an aggregated amount for all wells and also requested a procedure that would allow it to appeal the GM's decision to limit pumping as a result of a pump test. In his reply brief, the GM noted that he agreed to all those changes and included those changes in the Revised Draft Operating Permits. Accordingly, the Final Operating Permit includes the agreed modifications.

#### **J. Review of LCRA's Designs and Specifications**

LCRA argued that Special Condition 15, which in the Draft Operating Permit provided that the GM has the authority to approve or reject LCRA's well design after the well is completed, should be removed.

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<sup>165</sup> Tex. Water Code §§ 36.1071(a)(4) (requiring coordination with surface water entities when developing a water management plan to include addressing conjunctive surface water management issues), .108(d)(4).

The GM concedes that a similar special condition is not in other permits. He argued that some kind of well-design review is necessary in this case, however, because LCRA did not include specific well-design information in its Applications.<sup>166</sup> He adds that “[w]ell-design requirements are intended to ensure that the well is completed in such a way as to prevent degradation of the aquifer and to protect the quality of the state’s resource.” As shown by the Revised Draft Operating Permits, the GM has agreed to amend Special Condition 15 to require LCRA to provide design specifications before drilling, rather than after the well is completed. The revision also removes the GM’s authority to reject that design.

With this change in the timing of the design specification review and the elimination of the GM’s approval authority, the ALJs found Special Condition 15 to be within the District’s authority and not arbitrary. The ALJs recommend it remain in the Revised Draft Operating Permits.

#### **K. Place and Type of Use**

At LCRA’s request, the Revised Draft Operating Permits reflect a change to the place of use. In its prefiled testimony, LCRA requested to amend its Applications to reduce the place of use from LCRA’s entire water service area to the portion of LCRA’s service area within Lee, Travis, and Bastrop Counties.<sup>167</sup> The GM initially did not accept the amendment because it was not part of the original application and not submitted on the District’s forms.<sup>168</sup> However, no other parties contested this reduction in the place of use, and the GM ultimately accepted the change after LCRA witness Hoffman testified to the requested reduction at the hearing. This reduction is reflected in the GM’s Revised Draft Operating and Transport Permits.<sup>169</sup>

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<sup>166</sup> GM’s Reply at 13.

<sup>167</sup> LCRA Exs. 8A, 8B.

<sup>168</sup> GM Ex. 1 (Totten direct) at 30.

<sup>169</sup> GM’s Reply at 4.

LCRA also requested changes to the language relating to the type of use in both the Operating and Transportation Permits. The Applications requested authority to use the requested groundwater for all beneficial uses as defined by the District's rules and recognized under Chapter 36 of the Texas Water Code.<sup>170</sup> The GM's initial draft permits granted LCRA's request by authorizing some, but not all, of the beneficial uses found in the District's rules and Chapter 36 (municipal, industrial, recreational, irrigation, and agricultural), because LCRA only listed that it had commitments for those uses.<sup>171</sup> LCRA re-urged that the GM change the language to include "all beneficial uses as defined by the District's rules and recognized under Chapter 36 of the Texas Water Code" to give LCRA the flexibility to serve customers for any lawful beneficial use in its service area.<sup>172</sup> The GM responded that to be consistent with previously authorized permits, it must list out the authorized uses, and LCRA should be required to amend its permits if Chapter 36 is amended to include new uses. However, as a compromise, the GM's Revised Draft Operating Permits were amended to authorize "[a]ll beneficial uses authorized by Texas Water Code § 36.001(9)(A)-(B)."

The ALJs agreed that LCRA, as a regional water provider, should have the flexibility to serve its customers for any lawful beneficial use and the revision offered by the GM appears to allow for that flexibility.

The Board approved Final Operating Permits that allow all beneficial uses authorized by Texas Water Code § 36.001(9)(A)-(B).

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<sup>170</sup> LCRA Ex. 3(A-2).

<sup>171</sup> GM Ex. 7.

<sup>172</sup> LCRA's Closing at 42.

**L. Mitigation**

The Brown Landowners, the Hernandezes, and Recharge argued that LCRA should be required to create a mitigation account, such as the one contained in Recharge's permit. This mitigation account was part of a negotiated settlement of the contested case concerning Recharge's application.<sup>173</sup>

The parties who argued in favor of mitigation have not pointed to a provision of chapter 36 or the District's rules that allow the District to impose mitigation requirements in individual permits. Certainly, it seems that the District could adopt rules or require production fees that could be used for a mitigation fund. But the Protestants did not present any authority that would allow the District to require the establishment of a mitigation fund, nor have they offered any analysis for which permits should be subject to such a fund.

The ALJs recognized the difficulty this creates for the Protestants, particularly Recharge. Under the terms of Recharge's settlement agreement, it could theoretically pay to mitigate LCRA's impacts. But that difficulty does not give the District the authority, much less require it, to impose a mitigation fund as a special condition.<sup>174</sup>

**V. ISSUES RELATING TO THE TRANSPORT PERMITS**

Pursuant to District Rule 6.1, a transport permit is required to convey groundwater beyond the District's boundaries, which are coextensive with the boundaries of Bastrop and Lee counties.<sup>175</sup> LCRA's Applications requested transport permits to use the requested 25,000 acre-feet per year of groundwater anywhere within LCRA's water service area. LCRA subsequently

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<sup>173</sup> GM Ex. 8.

<sup>174</sup> In the *City of Bastrop* contested case, the ALJ addressed the proposed mitigation fund in the analysis of whether the effects of pumping would be unreasonable. *City of Bastrop*, SOAH Docket No. 952-15-3851, PFD at 31. Here, because LCRA did not propose a mitigation fund, there was none to analyze. Moreover, nothing in the *City of Bastrop* PFD suggested that a mitigation fund was required.

<sup>175</sup> Tex. Spec. Dist. Code § 8849.004.



amended its Applications to limit the place of use of the groundwater to its service area only within Bastrop, Lee, and Travis Counties.<sup>176</sup> Therefore, transport permits are only required for LCRA's requested authorization to use groundwater in Travis County, the only place of use that is not within the District's boundaries.<sup>177</sup> The GM's Draft Transport Permits would have authorized LCRA's requested place of use in Travis County; however, the Draft Transport Permits include a special provision which prohibits the transport of LCRA's authorized groundwater pursuant to a bed and banks permit or discharge of the groundwater into any surface water.

**A. Whether LCRA's Transport Permit Applications Meet the Requirements of Section 6 of the District's Rules and Texas Water Code § 36.122(f).**

The GM concluded that LCRA's applications for transport permits meet the requirements of Section 6 of the District's Rules and Texas Water Code § 36.122(f), and the ALJs agreed.<sup>178</sup> The Applications met each of the filing requirements under District Rule 6.2.

In reviewing a proposed transfer of groundwater out of the District, Texas Water Code § 36.122(f) and District Rule 6.3 require the District to consider: (1) the availability of water in the District and in the proposed receiving area during the period for which the water supply is requested; (2) the projected effect of the proposed transfer on aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the District; and (3) the approved regional water plan and approved District management plan. The GM properly considered each of the factors, none of which were directly challenged by any party. The analysis of the proposed effect of pumping, as set out above applies to the second factor, and no party alleges that the GM did not consider the approved regional water plan or district management plan.

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<sup>176</sup> LCRA Ex. 1 (Hofmann direct) at 21.

<sup>177</sup> Tex. Spec. Dist. Code § 8849.004; GM Ex. 9.

<sup>178</sup> GM's Closing at 51.

For the first factor relating to the availability of water in the district and the proposed receiving area during the period for which the water supply is requested, the District considered the 2016 Region K and Region G Water Plans.<sup>179</sup> The Region K and Region G Water Plans identify water supply demands in the counties LCRA is requesting to serve (Lee, Bastrop, and Travis Counties) and project that there is sufficient water available for LCRA's planned withdrawals from the Simsboro Formation in the Carrizo-Wilcox aquifer underlying the District.<sup>180</sup>

The Board concluded that the second factor relating to the projected effect of the proposed transfer on aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the District was analyzed for the Operating Permit, and that analysis applies here. For the third factor related to the approved regional water plan and approved District management plan, the Board reviewed the evidence presented through the Region K and Region G Water Plans and the District's management plan. The Final Transport Permits meet all the requirements of Texas Water Code § 36.122(f) and District Rule 6.3

## VI. CONCLUSION

The Board approves issuance of the Operating Permits with a five-year term at a maximum production of 8,000 acre-feet per year and Transport Permits with a three-year term (to be converted to a thirty-year term once construction of transportation facilities begins) at a maximum amount of 25,000 acre-feet per year.

In support of these recommendations, the Board provides the following Findings of Fact and Conclusions of Law.

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<sup>179</sup> GM's Closing at 51.

<sup>180</sup> LCRA Ex. 13; GM's Closing at 51.

## VII. FINDINGS OF FACT

### Background and Procedural History

1. The Lower Colorado River Authority (LCRA) is a conservation and reclamation district established by the Texas Legislature in 1934 that serves as a regional water supplier within its 35-county service area.
2. In 2015, as part of a goal to diversify its water supply and “drought proof” it, LCRA acquired groundwater rights beneath the Griffith League Ranch, an approximately 4,847.5-acre property owned by the Capitol Area Council, Inc. of the Boy Scouts of America.
3. On February 1, 2018, LCRA filed applications (Applications) to drill eight water wells with associated operating permits and transport permits with the Lost Pines Groundwater Conservation District (District). The applications for operating permits sought authorization to withdraw a total of 25,000 acre-feet per year of groundwater from the Simsboro Formation based on the groundwater rights it acquired at the Griffith League Ranch. The water was to be used for all beneficial uses under Chapter 36 of the Texas Water Code.
4. On February 21, 2018, LCRA resubmitted the Applications on different forms.
5. On August 20, 2018, the District’s General Manager (GM) notified LCRA by letter that its Applications were administratively complete and that the Applications would be set for a public hearing. The letter also provided LCRA with the GM’s Draft Operating Permits and Draft Transport Permits (collectively, Draft Permits.)
6. Following notice, the District held a public hearing on the Applications on September 26, 2018. Several persons disagreed with the issuance of the Draft Permits, and LCRA challenged some of the Draft Operation and Transport Permit provisions. Following the public hearing, the Board voted to contract with the State Office of Administrative Hearings (SOAH) to conduct a preliminary hearing on the Applications.
7. On December 18, 2018, SOAH Administrative Law Judges (ALJs) Michael O’Malley and Laura Valdez held a prehearing conference in Bastrop, Texas. At the prehearing conference, the ALJs admitted the following as parties: LCRA, the District, Aqua Water Supply Corporation (Aqua), Environmental Stewardship, City of Elgin (Elgin), and Recharge Water, LP (Recharge). A group of landowners represented by a single attorney was also admitted, and will be referred to as the Brown Landowners. Several self-represented litigants were also named parties.
8. Following a challenge to party status, the ALJs determined that many of the self-represented litigants, and some of the Brown Landowners, did not have a justiciable interest and struck them as parties. The remaining self-represented litigants were Peggy Jo and Marshall Hilburn, Walter Winslett, JC Jensen, Elvis and Roxanne Hernandez, Verna L. Dement, Catherine and Charles L. White, and Richard Martinez. Mr. Jensen and Mr. Martinez withdrew their protests, as did several of the Brown Landowners.

9. Aqua is a retail public utility with a service area in Bastrop, Caldwell, Fayette, Lee, Travis, and Williamson Counties that has a permit from the District authorizing the production of 23,627 acre-feet per year from 15 wells in the Simsboro Formation. Twelve of those wells are in two well fields near the shallow outcrop of the Simsboro. Aqua's three other wells are located on the south side of Highway 290, in the deeper down dip portion of the aquifer.
10. Elgin has a retail public utility that provides retail water utility service within its certificated service area. The city, which is located in the greater Austin area, expects continued and rapid growth. Elgin has four wells, permitted by the District, that are all partially or wholly completed within the Simsboro Formation. Two of Elgin's wells are in the outcrop area of the Simsboro Formation, with the wells screened partially in both the Simsboro and Hooper Formations. Its other two wells are located in the down dip and are entirely screened within the Simsboro Formation.
11. Recharge, formerly known as End Op, L.P., has operating permits from the District authorizing the production of 46,000 acre-feet from 14 wells, to be phased in, which it acquired following settlement of the its contested case on its permit applications. Seven of the permitted wells are to be located in Bastrop County, and seven are to be located in Lee County.
12. The Hernandezes' well is in the Calvert Bluff Formation, which overlays the Simsboro. The Brown Landowners' wells are located throughout the District.
13. The hearing on the merits was held October 15-22, 2019, before ALJs Ross Henderson and Rebecca S. Smith. The first four days of the hearing were held in Bastrop, Texas, and the last two took place at SOAH's hearing facility in Austin, Texas. Mr. and Mrs. Hernandez were the only self-represented litigants who prefiled testimony and participated in the hearing on the merits. The record closed on January 31, 2020, with the filing of reply briefs.
14. In its original Applications, LCRA stated that the water would be used throughout its 35-county service area. In its testimony, and at hearing, LCRA amended its request to only seek to use the water in Bastrop, Lee, and Travis Counties.
15. As an attachment to his reply brief, the GM provided a January 31, 2020, Revised Draft Operating Permit (Revised Draft Operating Permit) that made several changes to the Draft Operating Permit. No party objected to these changes.

#### **Uncontested Texas Water Code Factors Relevant to Operating Permits**

16. The Applications for Operating Permit included all of the information required by chapter 36 of the Texas Water Code and the District Rules.
17. LCRA intends to use the groundwater it produces to meet its existing and future water supply obligations.

18. Standard Provision No. 1 in the Revised Draft Operating Permits require that the water withdrawn be put to beneficial use at all times and prohibits the operation of a permitted well in a wasteful manner.
19. The District's Management Plan stated that the District will endeavor to manage groundwater to meet demands on a sustainable basis.
20. The Revised Draft Operating Permits' production limits, requirements for pump-testing and monitoring, and a provision that LCRA is subject to future production limits allow the District to manage groundwater to meet demands on a sustainable basis.
21. LCRA's proposed use of water is consistent with the District's approved management plan.
22. LCRA has adopted water conservation and drought contingency plans pursuant to its policy to meet or exceed state water conservation requirements.
23. In its Applications and with its plans, LCRA has agreed to avoid waste and achieve water conservation.
24. In its Applications, LCRA agreed that reasonable diligence will be used to protect groundwater quality and that it will follow well-plugging guidelines at the time of any well closure.
25. LCRA does not have a history of non-compliance with District Rules or Chapter 36.

#### **Unreasonable Effects on Groundwater or Surface Water Resources or Existing Permit Holders**

26. The 2018 Central Carrizo-Wilcox Groundwater Availability Model (New GAM) provides a better tool to model the impact of LCRA's proposed pumping than does the 2004 Central Queen City-Sparta Groundwater Availability Model.
27. LCRA's expert Dr. Steven Young performed several model runs using the New GAM, factoring in well-design factors, such as pump settings, well constrictions, and location of well screens for Aqua's and Elgin's wells.
28. Under Dr. Young's modeling, LCRA's proposed pumping would not cause the water level in Aqua's or Elgin's wells to drop below the pump elevation.
29. The Special Conditions proposed by the GM in the Revised Draft Operating Permit—in particular, the 36-hour pump test and the requirement that a groundwater monitoring well agreement be entered into—will help ensure that LCRA's proposed use will not unreasonably affect existing groundwater resources or existing permit holders.
30. Dr. Young's modeling showed that LCRA's proposed pumping should not unreasonably affect existing surface water resources.

31. The modeling also showed that LCRA's proposed pumping, when combined with other groundwater production, has the potential to affect existing surface water resources.
32. Because LCRA's proposed production, when combined with other groundwater production, has the potential to affect existing surface water resources, the Final Operating Permits require monitoring for effects on surface water resources.

**Whether Granting the Applications is Consistent with the District's Duty to Manage Total Groundwater Production on a Long-Term Basis to Achieve an Applicable Desired Future Condition**

33. The District is a part of Groundwater Management Area 12, which on April 27, 2017, adopted a desired future condition (DFC) for the Simsboro Formation of a District-wide average drawdown between January 2000 and December 2069 of 240 feet.
34. The DFC is also divided into DFCs for the counties in the District. For Bastrop County, the DFC is a county-wide average drawdown between January 2000 and December 2069 of 174 feet; for Lee County, the DFC is a county-wide average drawdown between those dates of 350 feet.
35. Modeled Available Groundwater (MAG) is the amount of water that the Texas Water Development Board's executive administrator determines may be produced on an average annual basis to achieve a DFC.
36. MAG is a factor for the District to consider when managing the DFC.
37. The Special Conditions contained in the Final Operating Permit are consistent with the District's duty to manage total groundwater production on a long-term basis to achieve the applicable DFC.
38. The TWDB executive administrator's estimate of the current and projected amount of the groundwater produced under exemptions granted by District Rules and Texas Water Code §36.117 is a factor for the District to consider when reviewing an application and managing the DFC.
39. The amount of groundwater authorized under permits previously issued by the District is a factor for the District to consider when reviewing an application and managing the DFC.
40. A reasonable estimate of the amount of groundwater that is actually produced under permits issued by the District is a factor for the District to consider when reviewing an application and managing the DFC.
41. Yearly precipitation and production patterns are factors for the District to consider when reviewing an application and managing the DFC.

**Whether the Conditions and Limitations in the Revised Operating Permit Will Prevent Waste, Achieve Water Conservation, Minimize as far as Practicable the Drawdown of the Water Table or the Reduction of Artesian Pressure, or Lessen Interference Between Wells**

42. LCRA's proposed wells will be located more than 100 feet away from the nearest property line and will be spaced at least 5,000 feet from the nearest Simsboro well not owned by LCRA.
43. LCRA's proposed wells will be located where the aquifer is deepest, in some of the most transmissive parts of the Simsboro in the District.
44. Because LCRA's proposed wells will be part of an aggregated system, LCRA will be able to adjust pumping among the wells to minimize the reduction of artesian pressure.
45. Under the Revised Draft Operating Permits, the GM can restrict the rate of withdrawal if the 36-hour pump tests reveal that impacts from pumping are worse than anticipated.
46. The Special Conditions regarding the 36-hour pump tests and monitoring wells in the Final Operating Permit will prevent waste, achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, or lessen interference between wells.

**Other Issues**

47. The District has not adopted rules or policies requiring an applicant to reduce the initial amount of water requested or requiring permittees to provide financial mitigation for adverse impacts caused by production in the District.
48. The District has not adopted a rule or policy of requiring spacing between wells owned by the same owner.
49. The Special Condition in the Final Operating Permits, which requires LCRA to provide well design specifications before drilling, is appropriate and within the District's authority.
38. The Regional Water Plans and LCRA's existing contracts demonstrate there is a need for the water in the receiving area.
50. Pumping water without beneficially using it is a violation of the Final Operating Permit.
51. The parties admitted at this hearing are affected persons and have interests beyond those of the general public.
52. The Final Operating Permits provide that the authorized maximum rate of withdrawal is an aggregated amount for all LCRA wells included in the authorized well field and allow

LCRA to appeal the GM's decision to limit the rate of withdrawal based on the results of a pump test.

53. LCRA did not submit well design specifications with its Applications.
54. The GM is authorized to require LCRA to provide design specifications.
55. A Special Condition of the Revised Draft Operating Permit requires LCRA to provide the GM with design specifications before drilling a new well.
56. The Final Operating Permits authorize "[a]ll beneficial uses authorized by Texas Water Code § 36.001(9)(A)-(B)."
57. LCRA, as a regional water provider, should have the flexibility to serve its customers for any lawful beneficial use, and the Final Operating Permits provide for that flexibility.

#### **Monitoring Wells**

58. Special Condition 1 of the Final Operating Permits would require LCRA to enter into a Monitoring Well System Construction and Maintenance Agreement, approved by the District's Board, before LCRA may begin construction of a well.
59. A Special Condition of the Final Operating Permits sets out certain criteria for a monitoring well system. Wells in the system must be screened in the Simsboro Formation; must improve the spatial coverage of the monitoring well system; must be easily accessible for regular measurements; and must meet any other criteria agreed upon by the GM and LCRA.

#### **Transport Permit Requirements**

60. The Region K and Region G Water Plans identify water supply shortages in the counties LCRA is requesting to serve (Lee, Bastrop, and Travis Counties) and project that there is sufficient water available for LCRA's planned withdrawals.
61. LCRA's existing contracts demonstrate a need for the water in the receiving area.
62. In reviewing LCRA's Applications for Transport Permits, the GM considered the projected effect of the proposed transfer on aquifer conditions, depletion, subsidence.
63. In reviewing LCRA's Applications for Transport Permits, the GM considered the effects on existing permit holders or other groundwater users within the District.
64. In reviewing LCRA's Applications for Transport Permits, the GM considered the approved regional water plan and approved district management plan.
65. Under the Final Transport Permits, transportation of groundwater by use of a bed-and-



banks permit would be impossible because water cannot be conveyed upriver from Bastrop County to Travis County, the only place of use outside the District.

### VIII. CONCLUSIONS OF LAW

1. The District has jurisdiction to decide the issues raised by LCRA's Applications. Tex. Water Code ch. 36.
2. Notice was accomplished in accordance with chapter 36 of the Texas Water Code and District Rules.
3. LCRA's Applications are subject to the District Rules as amended on April 20, 2016.
4. LCRA's Applications for Operating Permits conform to the requirements prescribed by chapter 36 of the Texas Water Code and the District Rules. Tex. Water Code §36.113(d)(1); District Rule 5.2D(1).
5. Modeled Available Groundwater is the amount of water that may be produced on an average annual basis to achieve a desired future condition. Tex. Water Code § 36.001 (25).
6. Under District Rule 5.4.B, Operating Permits are effective for a period of five years from the date the permit is granted,
7. Under District Rule 8.2.B, a new non-exempt well with a maximum pumping capacity of greater than 1,000 gpm must be spaced at least 5,000 feet from the nearest well completed in the same aquifer unit and owned by a different well owner.
8. The District is not required to consider historic use in evaluating LCRA's Applications. Tex. Water Code § 36.116(b).
9. Neither the Texas Water Code nor the District Rules authorize the District to unilaterally impose a requirement that an applicant create a mitigation account to pay other well owners for the impacts from the applicant's drilling.
10. In reviewing LCRA's Applications for Transport Permits, the District considered the factors required by Texas Water Code § 36.122(f) and District Rule 6.3.
11. Under District Rule 6.5, the permit term for Transport Permits is three years unless the permittee has either already begun construction of a conveyance system or begins construction of a conveyance system before the expiration of the 3-year permit term, in which case the permit term is extended to 30 years.
12. After weighing the factors under Texas Water Code § 36.113(d) and the District Rules, the District approved the Final Operating Permit and the Final Transport Permit

SIGNED this \_\_\_\_ day of \_\_\_\_\_, 2022.