

**APPLICATION OF THE
LOWER COLORADO RIVER
AUTHORITY FOR EMERGENCY
AUTHORIZATION RELATED TO
WATER MANAGEMENT PLAN**

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**BEFORE THE

TEXAS COMMISSION ON

ENVIRONMENTAL QUALITY**

**LOWER COLORADO RIVER AUTHORITY'S BRIEF AND
ATTACHMENTS IN SUPPORT OF APPLICATION FOR EMERGENCY
AUTHORIZATION RELATED TO WATER MANAGEMENT PLAN UNDER
TEXAS WATER CODE §§ 5.501, 11.138 & 11.139**

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I. Introduction.

The lower Colorado River basin continues to suffer from a prolonged and exceptional drought. After suffering from the worst single year drought in recorded history, the Lower Colorado River Authority (LCRA) has, four years in a row, sought and obtained emergency relief from the Texas Commission on Environmental Quality (TCEQ) related to the LCRA Water Management Plan (WMP), which orders have provided for alternative procedures for the curtailment of interruptible stored water from lakes Buchanan and Travis.¹ Most recently, on March 24, 2015, TCEQ affirmed the Executive Director's order granting emergency relief, again continuing LCRA's rights to restrict releases of interruptible stored water for irrigated agriculture in the lower basin for the first part of the 2015 irrigation season.² Consistent with these Emergency Orders, with the exception of the Garwood division, LCRA has not provided interruptible stored water for agricultural use for the last three plus years.

¹ Attachment A – TEX. COMM'N ENVTL. QUAL., Docket No. 2015-0220-WR, *Order Affirming with Modification an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority Amending the 2010 Water Management Plan* (March 24, 2015) (herein "March 2015 Emergency Order"); TEX. COMM'N ENVTL. QUAL., Docket No. 2014-1044-WR, *Order Affirming an Order Granted by the Executive Director that Grants an Emergency Order Requested by the Lower Colorado River Authority* (August 15, 2014) (herein "August 2014 Emergency Order"); TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, *Order Affirming an Order issued by the Executive Director that grants a renewal of the Emergency Order issued to the Lower Colorado River Authority* (June 17, 2014) (herein "2014 Emergency Order Extension"); TEX. COMM'N ENVTL. QUAL., Docket No. 2014-0124-WR, *Order Affirming in Part, and Modifying in Part, the Executive Director's Emergency Order Authorizing the Lower Colorado River Authority to Amend its Water Management Plan* (Feb. 27, 2014) (herein "2014 Emergency Order").

See also TEX. COMM'N ENVTL. QUAL., Docket No. 2013-0225-WR, *Order Granting an Emergency Authorization to the Lower Colorado River Authority* (July 26, 2013) (herein "July 2013 Emergency Order"); TEX. COMM'N ENVTL. QUAL., Docket No. 2013-0225-WR, *Order Affirming, with Modification, an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority* (June 10, 2013) (herein "2013 Emergency Order Extension"); TEX. COMM'N ENVTL. QUAL., Docket No. 2013-0225-WR, *Order Affirming, with Modification, an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority* (Feb. 19, 2013) (herein "2013 Emergency Order"); TEX. COMM'N ENVTL. QUAL., Docket No. 2011-2096-WR, *Order Affirming an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority* (Dec. 12, 2011) (herein "2011 Emergency Order").

² See Attachment A, March 2015 Emergency Order.

Unfortunately, although LCRA has eliminated nearly all releases of interruptible stored water for agriculture for the past three years, the drought continues to plague the upper basin. Notwithstanding some periods with normal rainfall amounts, the lakes have not recovered, and the combined storage in lakes Buchanan and Travis on May 1, 2015 of 767,000 acre-feet is the third-lowest May 1 level in LCRA's history. And rainfall that has occurred since May 1 has not contributed substantially to combined storage in a manner that would alleviate the need for the emergency relief sought in this application.

This drought is unprecedented in many respects, particularly with regard to inflows into lakes Buchanan and Travis, the primary water supply for this region. The Governor's Emergency Disaster Proclamation has consistently included the watershed contributing inflows to lakes Buchanan and Travis since July 2011. The reason for this inclusion is clear: annual inflows in 2011, 2013 and 2014 represent the three lowest inflow years on record and inflows in 2012 were also well below normal. As discussed further herein, by many metrics, inflows are significantly lower than inflows in the 1950s Drought of Record.

Without further relief, the 2010 WMP will once again become effective. As in recent years, LCRA again requests TCEQ to issue a new emergency order that would continue LCRA's rights to suspend any obligation it might have under the 2010 WMP to release interruptible stored water through the remainder of the irrigation season outside of the Garwood division. Reversion to the 2010 WMP could otherwise obligate LCRA to provide interruptible stored water for first or second crop rice that was initially planted using groundwater or for supplemental uses (such as row crops or wildlife management). With persistent drought conditions, such releases could cause storage levels to fall to 600,000 acre-feet or lower, which would prompt LCRA to declare a Drought Worse than Drought of Record (DWDR) under the WMP. Such a declaration would occur based upon indicator criteria including drought duration, drought intensity, and combined storage levels that suggest the basin may be experiencing a drought worse than the 1950s. At such time, LCRA would immediately cease releases of water for agriculture, thus potentially wasting water supply that cannot be recaptured, while at the same time imposing mandatory water use reductions of 20% on municipal and industrial customers.

As the Commission has previously recognized, these conditions pose an imminent threat to human health and safety. The requested relief is the most practicable alternative to addressing the emergency conditions faced by the lower Colorado River basin by better ensuring that firm customer demands are not curtailed while the drought continues because of releases of interruptible stored water for irrigated agriculture.

Except as specifically set forth in this Application, LCRA requests consideration of and incorporates by reference as if set forth fully herein all supporting information and arguments

filed with TCEQ on December 23, 2014 in support of LCRA's original application for emergency relief for the 2015 irrigation season.

II. Relief Requested – Overview.

Pursuant to LCRA Board Action, which authorized LCRA to seek relief for all of 2015,³ LCRA requests that TCEQ issue a new emergency order suspending LCRA's obligations under the 2010 WMP related to interruptible stored water for downstream irrigation purposes for the remainder of the 2015 irrigation season. Specifically, LCRA seeks an emergency order pursuant to Texas Water Code § 11.139, and any other applicable law, confirming that LCRA does not have to provide interruptible stored water to any landowners or customers within the Gulf Coast, Lakeside, or Pierce Ranch irrigation operations, including those who might seek to use stored water for irrigating rice that has to date been watered with groundwater, or for any other purposes such as row crops, pasture or wildlife management.

LCRA requests this relief notwithstanding anything to the contrary in the 2010 WMP. LCRA requests that relief be granted pursuant to Texas Water Code §§ 5.501, 11.138, and 11.139. LCRA further requests that an order be issued by the Executive Director on or prior to June 18, but no earlier than June 11, 2015, so that this matter may be timely considered by the Commission at its July 1 agenda.

III. Background: LCRA's Water Management Plan and Drought Contingency Plan.

A. Overview of LCRA's 2010 Water Management Plan.

LCRA holds several water rights, including the water rights for lakes Buchanan and Travis, under Certificates of Adjudication 14-5478 and 14-5482 (Attachments C and D), which are further subject to the conditions and criteria set forth in the 2010 WMP (Attachment E). The original Water Management Plan was required by court order⁴ and is a condition of LCRA's Certificates of Adjudication 14-5478 and 14-5482.⁵ The Certificates of Adjudication and the TCEQ-approved WMP govern LCRA's operation of lakes Buchanan and Travis and dictate how LCRA makes water available from these lakes to help meet "firm" water⁶ customer needs,

³ Attachment B-2, November 19, 2014 Resolution of the Board of Directors of the Lower Colorado River Authority Regarding Drought Management Actions in Response to Current Drought Conditions (herein "November 2014 LCRA Board Resolution").

⁴ See Attachment F, Excerpts from *In re The Exceptions of the Lower Colorado River Authority and the City of Austin to the Adjudication of Water Rights in the Lower Colorado River Segment of the Colorado River Basin*, No. 115, 414-A-1 (264th Dist. Ct., Bell County, Tex. April 20, 1988), Lake Buchanan Conclusion of Law 4 and Lake Travis Conclusion of Law 6.

⁵ See Attachment C, Certificate of Adjudication 14-5478 at p. 4 (2.B.(7)); and Attachment D, Certificate of Adjudication 14-5482 at p. 4 (2.B.(7)).

⁶ Firm water refers to the amount of water that LCRA has determined would be available on a consistent or firm

downstream interruptible irrigation demands, and environmental flow needs of the lower Colorado River and Matagorda Bay. Certificates of Adjudication 14-5478 and 14-5482 state that “LCRA shall interrupt or curtail the supply of water . . . pursuant to commitments that are specifically subject to interruption or curtailment, to the extent necessary to allow LCRA to satisfy all demand for water under such certificate[] pursuant to all firm, uninterruptible water commitments.”⁷ The TCEQ-approved WMP further describes how LCRA will manage and curtail supplies from the lakes during times of drought including through a repeat of the 1950s Drought of Record.⁸ The WMP also sets forth criteria for triggering various drought response measures for customers upon declaration of a Drought Worse than the Drought of Record (DWDR).⁹

As established in the 2010 WMP, the combined firm yield of lakes Buchanan and Travis, while honoring downstream senior water rights, is 535,812 acre-feet per year (AFY). Of this amount, 90,546 AFY is committed to O.H. Ivie Reservoir, making 445,266 AFY of firm water supply available from lakes Buchanan and Travis for LCRA to help meet the firm water needs of its customers.¹⁰ Until firm demand for water from lakes Buchanan and Travis equals the combined firm yield, LCRA can supply stored water from these lakes for irrigated agriculture on an interruptible basis.¹¹ The maximum historical annual amount of reported firm water use by LCRA customers from the firm supplies of lakes Buchanan and Travis during 2000 through 2014 was about 247,000 acre-feet in 2011. In addition, about 33,000 acre-feet of water was supplied in 2011 to help meet environmental flow needs. The maximum amount of interruptible stored water released from lakes Buchanan and Travis during this same period occurred in 2011 and totaled about 433,000 acre-feet. The maximum total amount released or used from the Highland Lakes, about 714,000 acre-feet, occurred in 2011. In 2012, firm water use from lakes Buchanan and Travis by LCRA customers was about 148,000 acre-feet; about 31,000 acre-feet was

basis through the 1950s Drought of Record water availability analysis after honoring all senior water rights.

⁷ See Attachment C, Certificate of Adjudication 14-5478 at p. 4 (2.B.(7)); and Attachment D, Certificate of Adjudication 14-5482 at p. 4 (2.B.(7)).

⁸ Drought of Record refers to the worst hydrologic drought that has occurred since detailed records have been kept. This drought for the lower Colorado River basin is the drought that occurred from 1947-1957. The WMP states that the Drought of Record occurred between 1947 and 1956. The reservoirs, however, did not recover until mid-1957. See Attachment E – 2010 WMP at p. 4-19. Although preliminary information suggests the ongoing drought may be more severe than the 1950s Drought of Record, for purposes of the WMP and LCRA’s firm water contracts, the Drought of Record is the drought from 1947-1957.

⁹ Attachment E – 2010 WMP at 4-34. The WMP criteria for declaring a DWDR are indicator criteria that can be evaluated in real time to assess whether an ongoing drought might be worse than the 1950s Drought of Record. One of these criteria – combined storage – is also affected by demands. Therefore, it is possible that a drought may actually be worse than the Drought of Record *even if* storage content is held above the triggering criteria through the implementation of demand management strategies.

¹⁰ Attachment E – 2010 WMP at 5-31.

¹¹ See Attachment F, Excerpts from *In re The Exceptions of the Lower Colorado River Authority and the City of Austin to the Adjudication of Water Rights in the Lower Colorado River Segment of the Colorado River Basin*, No. 115, 414-A-1 (264th Dist. Ct., Bell County, Tex. April 20, 1988), Finding of Fact No. 19(e) (Lake Buchanan) and Finding of Fact No. 26(e) (Lake Travis).

supplied to help meet environmental flow needs; and about 9,000 acre-feet of interruptible stored water was supplied to farmers in the Garwood irrigation division. Total use of water from lakes Buchanan and Travis in 2012 was about 188,000 acre-feet. In 2013, firm water use from lakes Buchanan and Travis by LCRA customers was about 173,000 acre-feet; about 33,000 acre-feet was supplied to help meet environmental flow needs; and about 22,000 acre-feet of interruptible stored water was supplied for farmers in the Garwood irrigation division. Total use of water from lakes Buchanan and Travis in 2013 was about 229,000 acre-feet. In 2014, firm water supplied from lakes Buchanan and Travis by LCRA customers was about 128,000 acre-feet; about 5,000 acre-feet was supplied to help meet environmental flow needs; and about 16,000 acre-feet of interruptible stored water was supplied for farmers in the Garwood irrigation division. Total supply of water from lakes Buchanan and Travis in 2014 was about 149,000 acre-feet. *See* Affidavit of Ryan Rowney (Attachment G).

To manage the supply, the 2010 WMP imposes several trigger points keyed to the total combined storage capacity of lakes Buchanan and Travis that are intended to ensure that reasonable firm water demands can be met during droughts.¹² For purposes of this application, the most relevant trigger points are set out in Table 1.

Table 1. 2010 WMP Triggers

Combined Storage of lakes Buchanan and Travis	Date on Which Trigger is Decided	Action Taken
1.4 MAF	At any time	Request firm customers to implement voluntary drought response measures. ¹³
1.4 MAF	On Jan. 1	Begin gradual curtailment of interruptible supply to four major irrigation operations. Environmental releases for instream flows reduced to meet critical needs for ecosystems for following year. ¹⁴
900,000 acre-feet	At any time	Request firm customers to implement mandatory water restrictions; develop firm customer curtailment plan. ¹⁵
600,000 acre-feet	At any time	If criteria indicate a drought worse than the Drought of Record, then cease interruptible supply and begin mandatory pro rata curtailment of firm supply. ¹⁶

¹² Attachment E – 2010 WMP at 4-5.

¹³ *Id.* at 4-32.

¹⁴ Attachment E – 2010 WMP at 4-32; 2010 WMP Order at FOF 9, 10 and 11.

¹⁵ Attachment E – 2010 WMP at 4-32.

¹⁶ *Id.*

The 2010 WMP also includes conditions under which the LCRA Board of Directors may declare a Drought Worse than the Drought of Record (DWDR).¹⁷ To declare a DWDR, the Board must find that the following three conditions are simultaneously met:

1. Duration of drought is more than 24 months, which is determined by counting the number of consecutive months since both lakes Buchanan and Travis were last full;¹⁸
2. Inflows to the lakes are less than inflows during the Drought of Record;¹⁹ and
3. Combined storage of lakes Buchanan and Travis is less than 600,000 acre-feet of water.²⁰

Under the 2010 WMP, once a drought has lasted more than 36 months and a DWDR has been declared, interruptible stored water must be fully and immediately curtailed – making no stored water available for agricultural irrigation or other interruptible uses until lake levels recover or the inflows into the lakes increase substantially.²¹ Moreover, LCRA will implement pro rata curtailment of its firm water users once a DWDR is declared and after interruptible stored water (agriculture) uses have been cut off.²²

Prior to a declaration of a DWDR, however, LCRA is obligated by the 2010 WMP to provide at least some interruptible stored water to the four major irrigation operations. Under the 2010 WMP, the LCRA Board is to make a preliminary determination in November based on projections of storage on January 1 of the upcoming year.²³ Using January 1 storage, the amounts available under the 2010 WMP follow a sliding scale.²⁴ Thus, the decision regarding curtailment of interruptible supplies to the four major irrigation operations during the entire year is keyed to the January 1 storage levels.²⁵ Based on the January 1, 2015 combined storage of

¹⁷ As noted above, these criteria are real-time indicators that a drought *might* be worse than the 1950s Drought of Record. It is possible that although the criteria are all met, once the full hydrologic dataset is evaluated, the drought might not be worse than the 1950s Drought of Record. Conversely, in a drought that is later shown to hydrologically be worse than the 1950s Drought of Record, because of demand management during the drought, the combined storage might remain above 600,000 acre-feet, such that all three criteria for the declaration of DWDR are not satisfied.

¹⁸ *Id.* at 4-34. For purposes of the WMP, the duration of a drought is the time period since both lakes Buchanan and Travis were at their maximum allowable water conservation storage levels.

¹⁹ The cumulative inflow deficit since the beginning of the drought must exceed the envelope curve for cumulative inflow deficits by at least 5 percent for six consecutive months. Attachment E – 2010 WMP at 4-34.

²⁰ *Id.* at 4-34.

²¹ *Id.* at 4-34.

²² *Id.*

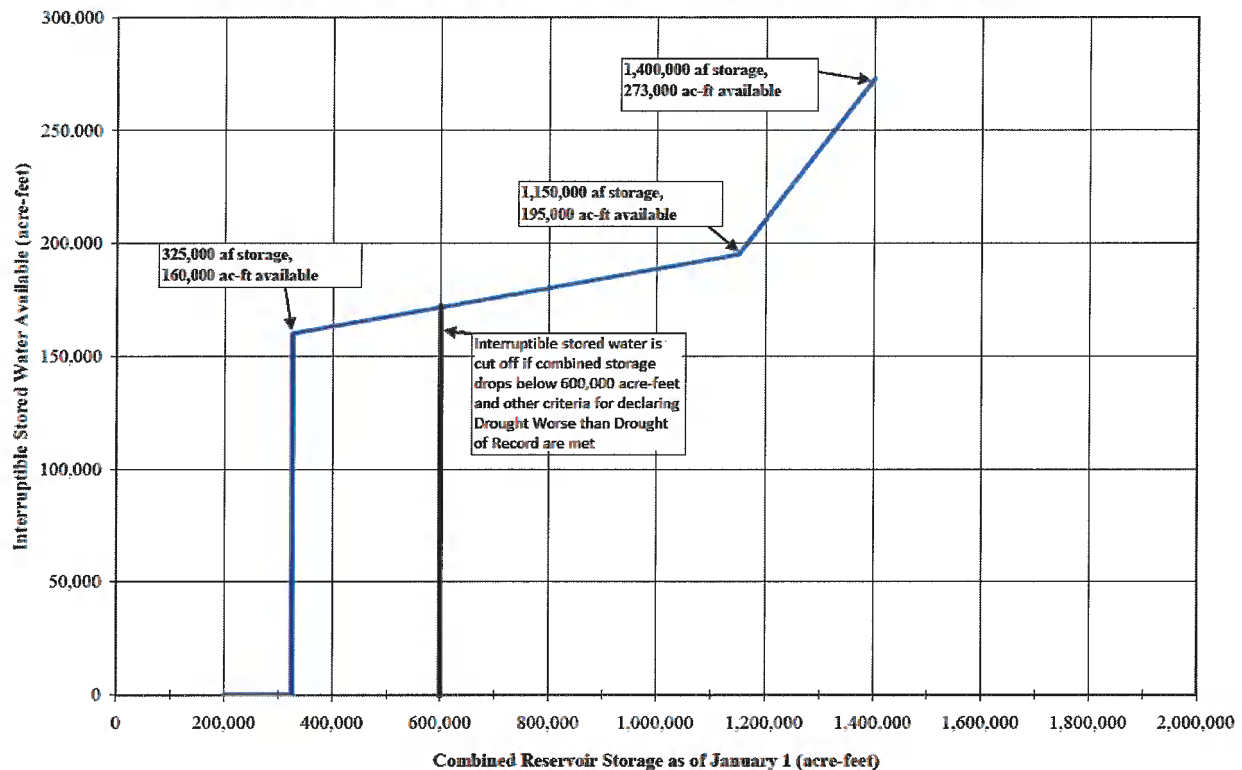
²³ *Id.* at 3-7 and 4-21.

²⁴ *Id.* at 4-24.

²⁵ *Id.* at 3-7 and 4-21.

689,400 acre-feet, the 2010 WMP would provide about 175,000 acre-feet of interruptible stored water for diversion by those operations. (See Figure 1, Curtailment Curve from 2010 WMP.) Total curtailment of interruptible stored water under the 2010 WMP does not occur until a declaration of a DWDR.

Figure 1. Interruptible Stored Water Available for Diversion by the Four Downstream Irrigation Operations under the 2010 WMP



B. Overview of LCRA's Drought Contingency Plan and relationship to the Water Management Plan.

Prior to adoption of state law in 1997 and TCEQ's subsequent adoption of the Chapter 288 rules in 1999 that require all major water rights holders to develop and implement a drought contingency plan (DCP), LCRA already had a "Drought Management Plan" for managing its water supplies in lakes Buchanan and Travis through a repeat of the 1950s Drought of Record. The "Drought Management Plan" was incorporated in the WMP and when TCEQ adopted its rules for DCPs, LCRA adopted separate stand-alone DCPs for its irrigation, municipal and industrial operations that more specifically addressed the requirements of the Chapter 288 rules. Then, although the DCP addressed things not specifically required of the original court or TCEQ orders on the WMP, LCRA incorporated the DCPs into Chapter 4 of the 2010 WMP, largely for customer ease of reference. LCRA was originally required to develop the Drought Management Plan as a direct result of the court order adjudicating LCRA's water rights and the Texas Water

Commission's 1989 WMP Order, giving initial approval to LCRA of an earlier version of the plan. Specifically, the Commission ordered LCRA to submit a drought management plan to the Commission for its review and approval, which was filed with the Texas Water Commission on October 19, 1990.²⁶ The Drought Management Plan is subject to the continuing supervision of the TCEQ and LCRA is required to provide an annual report documenting compliance with the approved plan and any special conditions.²⁷

When LCRA was required under TCEQ's Chapter 288 rules to develop and implement a DCP, LCRA incorporated the same triggers and criteria from the approved WMP into its DCP, and elaborated on the details of how pro rata curtailment of interruptible customers might occur to comply with the additional requirements of TCEQ's Chapter 288 rules. The Drought Management Plan included elements that go beyond what is required of a DCP, particularly the allocation of supply between firm and interruptible customers. TCEQ has recognized that LCRA can modify certain elements of its DCP without amending the WMP and providing an opportunity for contested case hearing.²⁸ However, this does not include changes that alter the total amount of interruptible stored water supplied under the WMP.

The water use reduction targets in LCRA's DCP for firm water supplies comply with TCEQ's DCP rules adopted in 2004. These include:

- water use reduction goals for firm water supply customers of 5 percent by asking customers to implement their voluntary water use reduction measures when the combined storage of lakes Buchanan and Travis is less than 1.4 million acre-feet;
- a 10 to 20 percent reduction goal by asking firm customers to implement their own mandatory water use reduction measures when combined storage levels fall below 900,000 acre-feet; and
- pursuant to Texas Water Code § 11.039, a mandatory pro rata curtailment of firm water supplies for customers of 20 percent or more will be implemented when combined storage levels fall below 600,000 acre-feet and other criteria in the WMP are met that correspond to a drought more severe than the Drought of Record.

In April 2007, LCRA adopted changes to LCRA's raw water contract rules to improve implementation of LCRA's DCP. These included:

²⁶ Attachment E – 1989 WMP Order, Ordering Provision 1.g.; 1990 WMP Order FOF 4.

²⁷ Attachment E – 1990 WMP Order, Ordering Provision 1.b., 1.e.

²⁸ Attachment E – 2010 WMP Order, Ordering Provision 1.g. Some of LCRA's firm customers dispute the extent to which LCRA can modify the firm customer DCP without an opportunity for a contested case hearing as part of a WMP amendment process. This issue, however, is not specifically relevant to this application for emergency relief.

- clarifying how LCRA will, in accordance with Texas Water Code § 11.039, impose a pro rata curtailment during an emergency shortage of firm water as a result of a drought, accident, or other cause;
- providing that a customer must pay a surcharge to be set by the LCRA Board for the unauthorized use of water, if the customer takes more water than authorized under a mandated curtailment of firm water supplies; and
- clarifying the drought contingency requirements related to golf course irrigation and recreational use.

In June 2010, LCRA adopted additional changes to LCRA's raw water contract rules that include the procedures for implementing a pro rata curtailment of firm water customers.²⁹ Additional changes were made to the rules related to pro rata curtailment in December 2013 and November 2014. The 2010 WMP includes a requirement that LCRA develop a stored water curtailment plan to be approved by the LCRA Board and TCEQ in response to combined storage dropping below 900,000 acre-feet.³⁰ TCEQ approved LCRA's water curtailment plan for its firm customers in December 2011.³¹ Under this curtailment plan and LCRA's DCP, in the event that combined storage drops below 600,000 acre-feet and a DWDR is declared, firm customers will be subject to an initial 20 percent mandatory reduction in use as compared to a recent baseline demand.

In response to the ongoing drought conditions, the LCRA Board further amended the firm customer drought contingency plan to require that, if combined storage on March 1, 2014 was below 1.1 million acre-feet and interruptible stored water supply to the Gulf Coast, Lakeside and Pierce Ranch irrigation operations was cut off, LCRA's customers would be required to implement a landscape irrigation watering schedule of no more than once per week.³² The Board reaffirmed this action in November 2014.³³ The criteria for this restriction to take effect have been met and the restriction will be in effect until storage increases to above 1.1 million acre-feet or the supply of interruptible stored water to the Gulf Coast, Lakeside and Pierce Ranch irrigation operations resumes. LCRA has also adopted measures that would take effect in the event that combined

²⁹ See LCRA Water Contract Rules, Article 11, Pro Rata Curtailment of Water Use by Firm Water Customers, available at: <http://lcra.org/water/water-supply/water-supply-contracts/> (last visited Dec. 18, 2014).

³⁰ Attachment E – 2010 WMP at 4-32 & 2010 WMP Order, Ordering Provision No. 1(g).

³¹ Attachment H, TEX. COMM'N ENVTL. QUAL., Docket No. 2011-2097-WR, *Order Approving the Lower Colorado River Authority's Water Curtailment Plan for its Firm Water Customers* (Dec. 12, 2011).

³² See Attachment B-1, November 2013 LCRA Board Resolution. While some LCRA firm customers have questioned LCRA's authority to implement this restriction, the customers are nonetheless implementing the restrictions. See Affidavit of Nora Mullarkey Miller (Attachment I). LCRA's authority on this issue is not specifically relevant to this application for emergency relief.

³³ See Attachment B-2, November 2014 LCRA Board Resolution.

storage falls below 600,000 acre-feet and is preparing for possible further declines in storage. See Affidavit of Nora Mullarkey Miller (Attachment I).

IV. There is an Emergency.

LCRA requests the Commission to promptly act on its request to address the exceptional drought that has persisted in the areas that contribute inflows to lakes Buchanan and Travis and preserve water to meet the essential needs of LCRA's municipal and industrial customers if the drought continues. As discussed below, this drought is unprecedented in many respects, particularly with regard to inflows into the primary water supply for this region, lakes Buchanan and Travis. At times, this drought has been more intense than the region's Drought of Record that occurred between 1947 and 1957. The Governor on May 8, 2015, re-issued the Emergency Disaster Proclamation regarding drought for many areas of the state, including nearly all the counties in the lower Colorado River basin that border on and contribute inflows into lakes Buchanan and Travis.³⁴ The Governor's declaration recognizes that "significantly low rainfall across Texas beginning in late 2010 and continuing has resulted in declining reservoir and aquifer levels, threatening water supplies and delivery systems in many parts of the state" and that the "drought conditions have reached historic levels and continue to pose an imminent threat to public health, property, and the economy."³⁵

A. The lakes have not recovered, despite the emergency orders in place in 2012, 2013 and 2014.

1. Record-low inflows into lakes Buchanan and Travis have continued.

By almost every measure, the inflows to the Highland Lakes are at record lows. At times, the inflow deficit has been as much as 90% more than the inflow deficit for a similar period of inflows experienced during the historic Drought of Record for the lower Colorado River basin, which occurred from 1947 to 1957. Affidavit of Ron Anderson (Attachment K, Tab 2).

Annual gauged inflows into lakes Buchanan and Travis in five of the last six years are among the ten lowest years of inflow on record as shown in Table 2. Inflows in 2011, 2013 and 2014 were the three lowest inflows on record. See Affidavit of Ryan Rowney (Attachment G).

³⁴ Attachment J, available at: http://gov.texas.gov/files/press-office/DISASTER_drought_proc_05_08_15.pdf (last visited May 11, 2015). Counties included in the Governor's declaration that contribute flows into or contain LCRA's Highland lakes include: Burnet, Edwards, Gillespie, Kendall, Kerr, Lampasas, Llano, McCulloch, Mills, Real, San Saba and Travis.

³⁵ *Id.*

Table 2. Lowest Annual Gauged Inflows into the Highland Lakes (acre-feet)

Year	Amount
2011	127,802
2014	209,023
2013	215,138
2008	284,462
2006	285,229
1963	392,589
2012	393,163
1983	433,312
1999	448,162
2009	499,732
Average (1942-2014)	1.2 million

Gauged inflows into lakes Buchanan and Travis during the current drought have been the lowest for time periods ranging from 12 months up to 84 months, and are significantly lower for periods of similar duration during the historic Drought of Record. *See* Table 3. In fact, the total inflows for the past 84 months were only about half of the lowest 84-month inflow period in the Drought of Record. Affidavit of Ryan Rowney (Attachment G).

Table 3. Comparison of Gauged Inflows in Current Drought to Drought of Record

	Lowest inflows for time period in ongoing drought		Lowest inflows for time period in 1950s Drought of Record	
Time Period	Period ending	Inflows (acre-feet)	Period ending	Inflows (acre-feet)
12 months	Sept. 2011	120,160	Apr. 1951	408,784
24 months	May 2014	393,337	Mar. 1952	1,006,681
36 months	Mar. 2015	643,177	Aug. 1952	1,636,088
48 months	Feb. 2015	936,774	Aug. 1952	3,035,846
60 months	Apr. 2015	1,348,206	Aug. 1952	4,128,806
72 months	Apr. 2015	2,372,796	Apr. 1955	5,193,016
84 months	Apr. 2015	2,617,790	Aug. 1952	6,050,804

When inflows are adjusted to account for the fact that O.H. Ivie Reservoir was not in place in the 1950s, the comparison of the current drought to the Drought of Record still shows the recent inflows are dramatically lower than the 1950s Drought of Record, with inflows since

2008 at about half of the inflows for the first seven years of the Drought of Record. *See* Affidavit of Ron Anderson (Attachment K, Tab 3).

2. High temperatures and sporadic rainfall have contributed to the low inflows and low lake levels.

In addition to the record-low inflow conditions affecting lakes Buchanan and Travis noted above, drought conditions have been recognized throughout the state in the form of rainfall and extreme heat. Year 2011 was recognized by Texas State Climatologist, Dr. John Nielsen-Gammon, as the worst one-year statewide drought on record. The summer of 2011 was the hottest on record in Texas. Year 2011 was the hottest on record for Austin, and the second hottest statewide. Year 2012 tied with 1921 as the hottest on record statewide. Summer temperatures for Austin in 2013 were the 5th hottest on record. Although summer 2014 was not as extreme in Austin, it was still above normal, ranking the 34th warmest since 1895. *See* Affidavit of Bob Rose (Attachment L).

Since 2011, there have been some periods with closer to normal rainfall totals, but the rainfall has generally been sporadic, often with several weeks between significant rain events. Rain events in the contributing watershed of lakes Buchanan and Travis 2014 failed to provide the type of inflows needed for the lake levels to improve. For example, a rain event in early November 2014 included rain totals averaging two to three inches above the Highland Lakes but produced only about 4,000 acre-feet of inflow to the lakes; another event later in November with rain totals averaging one to three inches yielded about 17,000 acre-feet of inflow. *See* Affidavit of Bob Rose (Attachment L); Affidavit of Ryan Rowney (Attachment G). While these events lacked prolonged, heavy rainfall intensity, the limited amount of inflows are indicative of the severity of the ongoing drought and the dry soil conditions that have yet to be overcome. By comparison, an event in March 2007 with similar rainfall totals (but more intensity) produced almost 100,000 acre-feet of inflows to lakes Buchanan and Travis. *See* Affidavit of Bob Rose (Attachment L); Affidavit of Ryan Rowney (Attachment G). Similar rain events in 2013 were equally as unproductive from a water supply standpoint. *See* Affidavit of Ryan Rowney (Attachment G).

Furthermore, recent rains in 2015 have tended to be heaviest below the Highland Lakes. *See* Affidavit of Bob Rose (Attachment L). The gauged inflows into the Highland Lakes for the period of January to April 2015 totalled about 71,000 acre-feet as compared to about 620,000 acre-feet that flowed past Bay City at the lower end of the Colorado River. *See* Affidavit of Ryan Rowney (Attachment G).

The drought conditions have created a circumstance where the lakes have been unable to recover in any significant manner, even with an emergency cutoff of nearly all water supply for downstream irrigation in 2012, 2013 and 2014, as well as the emergency relief associated with

releases for the Blue Sucker in the Spring of 2014 and 2015. As noted above, by many measures, the recent low inflows are already as bad as or worse than the 1950s.

3. Recent rainfall forecasts are positive, but for significant recovery in the lakes, inflows need to break the trend of being below normal.

As of May 2015, the sea surface temperatures in the tropical Pacific were above the threshold for El Niño. Normal to above normal rainfall is forecast for the Highland Lakes watershed for May and June, with more normal conditions in July and August which tend to yield low rainfall totals. Later in the year, normal to above normal rainfall is again forecast for the Highland Lakes watershed. *See* Affidavit of Bob Rose (Attachment L). While the rainfall forecasts are promising, the recent history is that rain has fallen in a pattern yielding little inflows and larger storm events have stayed downstream of Lake Travis. *See id.* Inflows to the lakes have been below average in 59 of the past 60 months, including the January to April 2015 period in which rainfall totals were close to normal while inflows were only about 21 percent of the historical average for that four-month period. *See* Affidavit of Ryan Rowney (Attachment G). While the rainfall outlook is positive, the trend of below average inflows has yet to be overcome.

B. Reverting to the 2010 Water Management Plan creates the potential of releasing water that should be conserved for later use if the drought persists.

If LCRA were to revert to the 2010 WMP for the remainder of the irrigation season, farmers who have started crops on groundwater or run-of-river water may seek to compel LCRA to make interruptible stored water available at a time when significant recovery in lake storage has not occurred, increasing the chance of triggering mandatory curtailment of firm water customers. Releasing more interruptible stored water would only increase the likelihood of combined storage falling below 600,000 acre-feet—which is the third and final criterion for a Drought Worse than Drought of Record declaration. In fact, as of May 2015, even with emergency drought relief in place, there is a chance of reaching conditions triggering a declaration of Drought Worse than Drought of Record during the irrigation season. *See* Affidavit of Ron Anderson (Attachment K). If that occurred, all interruptible stored water would be cut off; potentially jeopardizing any crops that were not yet harvested and firm customers would be subject to a 20 percent reduction in supply. Furthermore, any water previously released would no longer be in storage to help meet the needs of LCRA's firm customers through a prolonged drought. Simply put, allowing any additional release of interruptible stored water would only amplify the risk and shorten the timeframe that LCRA and its firm customers have to prepare for such an occurrence.

This approach is unacceptable.

The 2010 WMP requires that firm customers (mainly cities and industries) be curtailed on a pro rata basis and that LCRA cease all releases for interruptible stored water (*regardless* of the impact on the crops) when a DWDR is declared.³⁶ As discussed above, to declare a DWDR under the WMP, the Board must find that the following three criteria indicating conditions may be worse than the 1950s Drought of Record are simultaneously met:

1. Duration of drought is more than 24 months, which is determined by counting the number of consecutive months since both lakes Buchanan and Travis were last full;³⁷
2. Inflows to the lakes are less than inflows during the Drought of Record;³⁸ and
3. Combined storage of lakes Buchanan and Travis is less than 600,000 acre-feet of water.³⁹

The first criterion has been met. The drought has lasted more than 24 months. In fact, despite significant rains in 2007 and 2010, the last time that both lakes Buchanan and Travis were simultaneously at their maximum allowable water conservation storage levels was February 13, 2005. *See* Affidavit of Ryan Rowney (Attachment G). In addition, the cumulative inflow deficit criteria has been met. *See* Affidavit of Ron Anderson (Attachment K). Despite the emergency relief implemented in 2012, 2013 and 2014, the combined storage in the lakes has failed to substantially recover. In fact, within this period, combined storage fell from a high of 1,032,000 acre-feet (51 percent full) on May 22, 2012 to a low of 637,000 acre-feet (31 percent full) on September 19, 2013. The combined storage in lakes Buchanan and Travis was about 767,000 acre-feet on May 1, 2015, or about 33 percent full. *See* Affidavit of Ryan Rowney (Attachment G).

Following the 2010 WMP significantly increases the risk that a DWDR will be declared during 2015, possibly during the growing season. The 2010 WMP employs a “curtailment curve” that determines the amount of interruptible stored water to be made available based on the combined storage in lakes Buchanan and Travis on January 1 of any year. However, as explained above, interruptible stored water can be completely curtailed at any time during the irrigation season if the combined storage of lakes Buchanan and Travis drops to 600,000 acre-feet. Based on January 1, 2015 combined storage of 689,400 acre-feet, the 2010 WMP would have required LCRA to make available around about 175,000 acre-feet for diversion for

³⁶ Attachment E – 2010 WMP at 4-32.

³⁷ Attachment E – 2010 WMP at 4-34. For purposes of the WMP, the duration of a drought is the time period since both lakes Buchanan and Travis were at their maximum allowable water conservation storage levels.

³⁸ The cumulative inflow deficit since the beginning of the drought must exceed the envelope curve for cumulative inflow deficits by at least 5 percent for six consecutive months. Attachment E – 2010 WMP at 4-34.

³⁹ Attachment E – 2010 WMP at 4-34.

interruptible irrigation use in the lower basin for the 2015 crop year.⁴⁰ *See* Affidavit of Ryan Rowney (Attachment G). Even without any releases of interruptible stored water other than to Garwood, combined storage could drop to 600,000 acre-feet in the next few months. *See* Affidavit of Ron Anderson (Attachment K). Any releases of interruptible stored water for Gulf Coast, Lakeside or Pierce Ranch would amplify that risk.

The only meaningful action that can be taken to preserve LCRA's firm water supplies in the face of potential mandatory curtailment of LCRA's firm water customers is for LCRA to continue to seek and obtain the relief that has been granted in prior Commission Orders; namely, to allow LCRA to continue to suspend all releases of interruptible stored water to its interruptible stored water customers other than Garwood.. *See* Affidavit of Ron Anderson (Attachment K); Affidavit of David Wheelock (Attachment M).

V. The Emergency Conditions Present an Imminent Threat to the Public Health and Safety.

LCRA provides raw water out of the combined firm yield of lakes Buchanan and Travis to over 60 retail and wholesale potable water suppliers that together serve over one million people. LCRA's municipal raw water customers include, but are not limited to, the Cities of Austin, Cedar Park, Leander, Burnet, Marble Falls, Pflugerville, Lakeway, Bee Cave, Horseshoe Bay, other Highland Lakes cities, water supply corporations, special districts, and investor-owned utilities. In addition, LCRA provides water to several electric utilities—LCRA, Bastrop Energy Partners, Austin Energy, Gen-Tex Corporation, and South Texas Project Nuclear Operating Company—from the firm water supply of lakes Buchanan and Travis. These electric utilities provide electricity into the electrical grid in Texas operated by the Electric Reliability Council of Texas (ERCOT) and provide electricity to customers in Texas. LCRA also provides firm raw water to several industries located downstream, including Oxea Chemical and Underground Services Markham. *See* Affidavit of David Wheelock (Attachment M).

As discussed above, if LCRA were following the 2010 WMP this year, LCRA would be obligated to release significant quantities of water from lakes Buchanan and Travis for interruptible agriculture—as much as 210,000 acre-feet. *See* Affidavit of Ryan Rowney (Attachment G). Such a release could result in combined storage dropping to 600,000 acre-feet - prompting LCRA to make a declaration of DWDR. At that point, any releases of interruptible stored water would have amounted to an irreversible reduction of the water supply available for firm customers. Combined storage on May 1, 2015 of 767,000 acre-feet is only about three percent higher than the combined storage on March 4, when TCEQ first approved relief for 2015.

⁴⁰ Attachment E – 2010 WMP at 4-24 & 4-26.

While rainfall in the lower basin below Lake Travis has generated more runoff recently, the water supply conditions for the Highland Lakes are similar or worse than conditions in place when TCEQ issued its earlier orders for the 2012, 2013 and 2014 seasons. In fact, the May 1, 2015 combined storage level was the third-lowest recorded storage on that date since the lakes were built. *See* Affidavit of Ryan Rowney (Attachment G). The conditions once again support the conclusion that following the 2010 WMP under these conditions poses an imminent threat to firm customers served by LCRA.⁴¹ As the drought has continued, LCRA and its firm customers are actively exploring ways to acquire or develop alternative water supplies to meet essential needs of their respective potable water systems. However, it takes many years to develop significant additional new water supplies. As the Commission recognized in prior emergency orders, the sheer length of time that it takes to develop or conserve significant quantities of water supply mean that a water supply emergency arises well before a reservoir goes dry.⁴² Releasing interruptible stored water based on the 2010 WMP further increases the amount of water for essential needs that will need to be acquired elsewhere should the drought continue. For the most part, although LCRA's firm customers are working on plans to implement curtailment and secure alternate supplies (such as local groundwater), most have not secured any readily available sources of water supply that could substitute for their reliance on the Colorado River. *See* Affidavit of Ryan Rowney (Attachment G); Affidavit of David Wheelock (Attachment M).

Moreover, as the lake levels drop, it becomes more difficult and expensive for the retail water suppliers to pump water from lakes Buchanan and Travis. LCRA has 18 customers that actively take raw water for municipal purposes from Lake Travis. The lowest pumping elevations of the intakes range from about 545 feet mean sea level (msl) to 645 feet msl on Lake Travis. If the levels in Lake Travis or Lake Buchanan drop below the current lowest pumping elevations, LCRA and its wholesale raw water customers must take action to either lower their pumping elevation or find alternative supplies. For smaller systems, the alternative is likely hauling water from a water utility with a viable source. For larger systems, temporary measures must be implemented to extend the intake capabilities to reach lower elevation water. Similar measures would likely be needed by LCRA's raw water customers that have their own intake facilities. Firm customers have indicated that they are actively spending or planning to spend

⁴¹ Attachment A – March 2015 Emergency Order, Finding of Fact Nos. 14-16, 20, 24-30, 32, 35, Conclusion of Law No.2; August 2014 Emergency Order, Finding of Fact Nos. 14-16, 20, 24-29, 32, 34-35, Conclusion of Law No. 2; 2014 Emergency Order Extension, Finding of Fact No. 3, 12, Conclusion of Law No. 4; 2014 Emergency Order, Finding of Fact Nos. 18-25, 28, 30, 31, 33-36, 45, 60, 61, Conclusion of Law 4; *see also* 2013 Emergency Order, Finding of Fact Nos. 18, 20, 22, 26, 27, 31-33, Conclusion of Law 2; 2013 Emergency Order Extension, Finding of Fact Nos. 9, 10, 16, 17, Conclusion of Law 4; July 2013 Emergency Order, Finding of Fact Nos. 21, 23, 26, 28, Conclusion of Law 2; 2011 Emergency Order, Finding of Fact Nos. 20, 21, 25, 30, 31, Conclusion of Law 2.

⁴² Attachment A - March 2015 Emergency Order, Finding of Fact Nos. 41-43; August 2014 Emergency Order, Findings of Fact Nos. 32, 34; 2014 Emergency Order, Finding of Fact Nos. 45, 60, 61; *see also* 2013 Emergency Order, Findings of Fact Nos. 32-33; 2013 Emergency Order Extension, Finding of Fact No. 16; July 2013 Emergency Order, Finding of Fact No. 28; 2011 Emergency Order, Findings of Fact Nos. 30-31.

funds to allow their intakes to operate at lower elevations. *See* Affidavit of Ryan Rowney (Attachment G). Overall, over 40 public water systems that rely on the Highland Lakes or that draw from the tributaries that typically contribute significant inflow to the Highland Lakes are already in some form of drought restriction and are at risk of water supply shortages.⁴³ If the lake levels drop more quickly than arrangements for alternative intakes or supplies can be implemented, the current drought presents an imminent threat to public health and safety for the water systems of those customers.

VI. The Threat to Public Health and Safety Override the Necessity to Comply with the Established Statutory Procedures.

Once again, allowing LCRA the flexibility to deviate from the requirements of the 2010 WMP, as requested by this application, provides LCRA with one of the very few opportunities it has to make a substantial difference in the amount of water available in the combined storage of the two lakes. *See* Affidavit of David Wheelock (Attachment M).⁴⁴

Because the WMP is required by, and incorporated into, LCRA's Certificates of Adjudication 14-5478 and 14-5482, the WMP may only be amended in the same manner and following the same procedures as one would amend any state-issued water right, which procedures for this type of amendment would require basin-wide 30-day public notice, likely public meetings, significant staff review, and presents the potential for a lengthy contested case hearing.

The time period in which LCRA must make decisions regarding its commitments of interruptible water occur long before there could be any decision on any amendments to the 2010 WMP if the regular TCEQ water rights permitting procedures are followed. Once interruptible stored water is released, the water cannot be brought back. Thus, the emergency authorization is the only means by which LCRA can obtain timely approval to make a significant impact on its supply remaining in storage.

VII. There are No Feasible Alternatives to the Emergency Authorization.

A. LCRA has implemented and will continue to implement its water conservation and drought plans.

⁴³ *See* Tex. Comm'n Env'tl. Qual., *List of Texas PWSs Limiting Water Use to Avoid Shortages* at: <http://www.tceq.texas.gov/drinkingwater/trot/droughtw.html> (last updated on May 8, 2015) (last visited May 11, 2015).

⁴⁴ *See also* Attachment A, March 2015 Emergency Order, Finding of Fact Nos. 55-66; August 2014 Emergency Order, Findings of Fact 51-54, 57; 2014 Emergency Order Findings of Fact Nos. 66-69; July 2013 Emergency Order, Findings of Fact Nos. 26, 36-37, 39; 2013 Emergency Order Finding of Fact No. 44, 46; 2011 Emergency Order, Finding of Fact No. 46.

LCRA has, to this point, fully implemented its Drought Contingency Plan. LCRA requires all of its customers that currently divert and purchase water from LCRA to have a drought contingency plan (DCP). As of May 1, 2015, 100 percent of those customers are covered by a DCP that is on file. *See* Affidavit of Nora Mullarkey Miller (Attachment I). In August 2011, the combined storage of lakes Buchanan and Travis dropped below 900,000 acre-feet. LCRA called on its firm water customers to voluntarily implement mandatory water use restrictions under their individual DCPs to reduce their water use by 10 to 20 percent.⁴⁵ *See* Affidavit of Nora Mullarkey Miller (Attachment I). As lake conditions continued to deteriorate, LCRA's firm customers stepped up their efforts to extend the water supply. Since that time, most of LCRA's municipal customers have stayed in some form of mandatory water restrictions, significantly limiting landscape irrigation. LCRA industrial customers, who consist of power plants and a few large industries along the Gulf Coast, have also worked to reduce non-essential water uses. *See* Affidavit of Nora Mullarkey Miller (Attachment I, Tab 2). As noted above, in November 2013 (and reaffirmed in November 2014), as part of LCRA's drought response, the LCRA Board approved a no more than once-per-week watering restriction that took effect in March 2014 and remains in effect as long as combined storage is below 1.1 million acre-feet and interruptible stored water for Gulf Coast, Lakeside and Pierce Ranch is cut off.⁴⁶ While many customers were already implementing once or twice per week watering restrictions, the LCRA Board action makes the once per week restriction applicable across all LCRA customers.

While water conservation is in the forefront of everyone's minds during times of drought, LCRA has on-going water conservation efforts that it has been implementing for many years. As detailed in the Affidavit of Nora Mullarkey Miller (Attachment I, Tab 2), LCRA's commitment to water conservation is unwavering, and spans all user groups. Prior to any state requirement for water conservation plans, LCRA required its municipal customers to adopt such plans and has continued to strengthen the minimum requirements of those plans to further encourage wise water use. LCRA developed the Major Rivers fourth-grade curriculum in 1988, which has reached more than 1 million school children in Texas through a partnership with the Texas Water Development Board (TWDB). LCRA also provides significant conservation program planning support for its customers. *See* Affidavit of Nora Mullarkey Miller (Attachment I, Tab 2). In 2012, LCRA began a rebate program for certain irrigation technologies, and a wholesale customer cost-share program focused on conservation. *See* Affidavit of Nora Mullarkey Miller (Attachment I, Tab 2).

LCRA's conservation efforts have also supported significant improvements in irrigation water use efficiency in rice irrigation systems. Since the 1990s, volumetric pricing and canal rehabilitation are estimated to have saved approximately 13 percent, or about 41,500 acre-feet

⁴⁵ The WMP does not allow LCRA to impose mandatory curtailments on its firm water customers until a drought worse than the Drought of Record is declared.

⁴⁶ *See* Attachments B-1 and B-2, November 2013 and November 2014 LCRA Board Resolutions.

annually, of the projected water use that would have occurred without conservation practices in place. Between 2006 and 2013, LCRA provided up to 30 percent of the costs to the farmers for the implementation of precision laser land leveling on more than 30,000 acres of land. *See* Affidavit of Nora Mullarkey Miller (Attachment I, and Tab 2). Additional efforts implemented by LCRA to use water more efficiently in the irrigation operations are described in LCRA's Water Conservation Plan.

B. Requiring the firm water customers to curtail water use by up to 20 percent will take time and have a significant impact on these customers.

When LCRA declares a DWDR and releases of interruptible stored water cease, LCRA's DCP requires firm customers to implement measures to try to immediately reduce their water consumption by twenty percent (20%) as compared to a baseline water use.⁴⁷ In December 2011, LCRA obtained approval from the TCEQ of its Water Curtailment Plan for firm water customers.⁴⁸ Since that time, LCRA has worked with its firm customers on the development of their plans for drought response under a pro rata curtailment. *See* Affidavit of Nora Mullarkey Miller (Attachment I).

Achievement of a twenty percent reduction in water use may require firm customers to implement fairly dramatic measures. Some municipal customers plan to eliminate all outdoor spray irrigation as a drought response measure under pro rata curtailment. Some of LCRA's customers, such as the City of Austin, have already achieved significant water savings through dramatic reductions in outdoor water use. While this could mean required reductions under pro rata curtailment for these customers may be a smaller incremental step initially, the practical matter is that, if water supplies continue to decline, customers will likely have to adopt water reductions that are more stringent than the initial twenty percent. Moreover, most industrial customers would have to implement the full twenty percent reduction more immediately. Reductions in use by industrial customers, including power plants, likely means a curtailment in annual production. *See* Affidavit of Nora Mullarkey Miller (Attachment I, and Tab 2).

Reductions in water use by firm customers cannot prevent the emergency created by falling reservoir levels that would result from the level of irrigation releases required by the 2010 WMP. Firm customer water use reductions simply cannot be implemented fast enough once such a reduction is mandated by LCRA.⁴⁹ Extensive benchmarking research shows that these savings are achievable but that it will likely take water suppliers considerable time (up to a year)

⁴⁷ Attachment E – 2010 WMP at p. 4-32.

⁴⁸ Attachment H, TEX. COMM'N ENVTL. QUAL., Docket No. 2011-2097-WR, *Order Approving the Lower Colorado River Authority's Water Curtailment Plan for its Firm Water Customers* (Dec. 12, 2011).

⁴⁹ *See* Attachment A – March 2015 Emergency Order, Finding of Fact Nos. 59-60; August 2014 Emergency Order, Finding of Fact No. 54; 2014 Emergency Order, Finding of Fact No. 69; *see also* 2013 Emergency Order, Finding of Fact No. 44; July 2013 Emergency Order, Finding of Fact No. 40; 2011 Emergency Order, Finding of Fact No. 39.

to implement drought restrictions that result in the level of water savings identified in LCRA's DCP. *See* Affidavit of Nora Mullarkey Miller (Attachment I, Tab 3 and Tab 4).

C. The use of LCRA's downstream run-of-river water rights to meet firm customer needs provides an additional supply, but not a sufficient or predictable supply.

In evaluating options to address the firm water needs of its customers, LCRA evaluated the possibility of using its downstream run-of-river rights to meet the needs of the firm water customers located downstream of Lake Travis. LCRA has obtained temporary permits since 2012 to use water under Certificate of Adjudication 14-5476 or Certificate of Adjudication 14-5475 at diversion points along the river downstream of Lady Bird Lake. These permits have allowed LCRA to meet some firm demands with run-of-river water rather than releasing water from lakes Buchanan and Travis to meet these demands.

By their very nature, the downstream run-of-river water rights are highly variable in terms of availability and quantity. LCRA's firm customers need to have certainty as to the quantity of water that will be available and when the water will be available for their operations. To make these rights sufficiently predictable without backup supply from lakes Buchanan and Travis, especially in times of severe drought, LCRA would need to construct small reservoirs for storage beyond those existing reservoirs that some of LCRA's customers own and operate. The normal permitting process for such facilities, at best, takes up to two years with approvals or permits required from, at a minimum, TCEQ and the United States Army Corps of Engineers. *See* Affidavit of David Wheelock (Attachment M).

Finally, the downstream run-of-river water rights do not provide by themselves a sufficient quantity of water to eliminate the need for the emergency relief from the 2010 WMP as requested herein. LCRA using the downstream water rights to supply the downstream industrial and municipal users at diversion points for which LCRA does not have permanent authorizations kept about 7,000, 1,000 and 7,000 acre-feet of water in the reservoirs in 2012, 2013 and 2014 respectively. *See* Affidavit of Ryan Rowney (Attachment G). These rights only serve to offset the amount of stored water required to be released for the downstream firm customers. While clearly beneficial, it is equally as clear that temporary permits to supply these firm customers are not a sufficient replacement for the water that could be lost if LCRA were required to follow the 2010 WMP. *See* Affidavit of David Wheelock (Attachment M).

D. LCRA obtained relief related to the Blue Sucker requirement but the savings achieved do not remove the need for the emergency authorization.

The emergency relief approved by TCEQ in March 2015 reduced the instream flow requirement associated with the Blue Sucker from 500 cubic feet per second (cfs) to 300 cfs for a

six-week period. LCRA previously estimated that without the emergency relief, up to about 21,000 acre-feet might be released from lakes Buchanan and Travis to meet the instream flow requirement. As a result of the emergency relief and inflows from rain events below Lake Travis during the six-week period, LCRA did not release any water from storage for the instream flow requirement. *See* Affidavit of Ryan Rowney (Attachment G). While the relief and rain events allowed LCRA to preserve some water in lakes Buchanan and Travis, the water savings do not remove the need for the emergency authorization sought herein.

E. LCRA has explored other alternatives for protecting firm supply, but they are not feasible or practicable alternatives to the emergency authorization.

LCRA has evaluated many other alternatives to address the emergency conditions that the drought presents. As was the case when LCRA sought emergency relief over the past three years, none of the alternatives identified would avert the projected water supply shortage because most of the supplies identified would produce insufficient or uncertain quantities of supply, would create other operational issues for customers, involve a lengthy permitting process (if not implemented on an emergency basis), or would take years to develop.⁵⁰ None of the alternatives identified are feasible or practicable alternatives to the emergency authorization. *See* Affidavit of David Wheelock (Attachment M, Tab 3).

VIII. The Emergency Relief.

A. Proposed Relief – Allow curtailment of interruptible stored water to deviate from the TCEQ-approved 2010 WMP.

LCRA seeks this additional TCEQ order to make clear that for the remainder of the 2015 irrigation season, the 2010 WMP will not be effective and no interruptible stored water would be provided outside of the Garwood irrigation division. This deviation from the 2010 WMP would apply notwithstanding anything to the contrary in the 2010 WMP. LCRA requests that relief be granted pursuant to Texas Water Code §§ 5.501, 11.138, and 11.139. LCRA further requests that an order be issued by the Executive Director on or prior to June 18, but no earlier than June 11, 2015, so that this matter may be timely considered by the Commission at its July 1 agenda.

B. Proposed dates the authorization should begin and end.

LCRA requests that TCEQ process this request in a manner that allows LCRA to gain the benefit of the authorization for as long as may be needed to address this exceptional drought. To that end, LCRA requests that:

⁵⁰ *See* Attachment A – March 2015 Emergency Order, Finding of Fact Nos. 55-56; August 2014 Emergency Order, Finding of Fact No. 51; 2014 Emergency Order, Finding of Fact No. 66; *see also* 2013 Emergency Order Findings of Fact Nos. 47-48; 2013 Emergency Order Extension, Finding of Fact No. 15; July 2013 Emergency Order, Finding of Fact No. 37; 2011 Emergency Order, Findings of Fact Nos. 41-42.

1. The emergency authorization become effective upon expiration of the existing order (June 18, 2015); and
2. The emergency authorization continue through the initial 120 day period allowed by Texas Water Code § 11.139, and any extension thereof as allowed by Section 11.139.

Should this exceptional drought persist, LCRA will evaluate at the appropriate time whether any further relief from the Water Management Plan may be needed and seek such relief as the LCRA Board may deem necessary and appropriate at that time.

C. The requested relief will be effective by preserving stored water for firm customers and avoiding waste.


Continuing to deviate from the 2010 WMP avoids the possibility of interruptible releases amplifying the risk of triggering a DWDR declaration in the next few months. *See* Affidavit of David Wheelock (Attachment M); Affidavit of Ron Anderson (Attachment K). If additional interruptible stored water were to be released, that water would be lost from the system, and no longer available to help meet the needs of LCRA's firm water customers in a prolonged drought.

IX. Conclusion.

It is clear the 2010 WMP puts at risk a significant quantity of stored water that may be needed to meet firm water commitments in this unprecedented drought. The ongoing drought and its effect on the water supply is an emergency that presents an imminent threat to the public health and safety. Authorizing a temporary deviation from the 2010 WMP will help preserve the water supply to help meet the critical needs of LCRA firm water customers in this prolonged drought. This application, in combination with actions LCRA has already taken related to use of its downstream water rights, presents the only feasible and practicable alternatives to addressing this exceptional drought in a timely manner. For these reasons, LCRA respectfully requests that TCEQ grant its application for an emergency authorization under Texas Water Code §§ 5.501, 11.138 and 11.139.

X. Certification.

"I, Phil Wilson, General Manager, Lower Colorado River Authority, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."




Phil Wilson, General Manager
Lower Colorado River Authority

Date: 5/15/15

Subscribed and sworn to as being true and correct before me on this the 15th day of May 2015.





Notary Public of the State of Texas

XI. Attachments

Attachment A – TEX. COMM’N ENVTL. QUAL., Docket No. 2015-0220-WR, *Order Affirming with Modification an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority Amending the 2010 Water Management Plan* (March 24, 2015) (herein “March 2015 Emergency Order”); TEX. COMM’N ENVTL. QUAL., Docket No. 2014-1044-WR, *Order Affirming an Order Granted by the Executive Director that Grants an Emergency Order Requested by the Lower Colorado River Authority* (August 15, 2014) (herein “August 2014 Emergency Order”); TEX. COMM’N ENVTL. QUAL., Docket No. 2014-0124-WR, *Order Affirming an Order issued by the Executive Director that grants a renewal of the Emergency Order issued to the Lower Colorado River Authority* (June 17, 2014) (herein “2014 Emergency Order Extension”); TEX. COMM’N ENVTL. QUAL., Docket No. 2014-0124-WR, *Order Affirming in Part, and Modifying in Part, the Executive Director’s Emergency Order Authorizing the Lower Colorado River Authority to Amend its Water Management Plan* (Feb. 27, 2014) (herein “2014 Emergency Order”).

See also TEX. COMM’N ENVTL. QUAL., Docket No. 2013-0225-WR, *Order Granting an Emergency Authorization to the Lower Colorado River Authority* (July 26, 2013) (herein “July 2013 Emergency Order”); TEX. COMM’N ENVTL. QUAL., Docket No. 2013-0225-WR, *Order Affirming, with Modification, an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority* (June 10, 2013) (herein “2013 Emergency Order Extension”); TEX. COMM’N ENVTL. QUAL., Docket No. 2013-0225-WR, *Order Affirming, with Modification, an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority* (Feb. 19, 2013) (herein “2013 Emergency Order”); TEX. COMM’N ENVTL. QUAL., Docket No. 2011-2096-WR, *Order Affirming an Emergency Order Granted by the Executive Director to the Lower Colorado River Authority* (Dec. 12, 2011) (herein “2011 Emergency Order”).

Attachment B - LCRA Board Resolutions Regarding Drought Management Actions

B-1: November 19, 2013 Resolution of the Board of Directors of the Lower Colorado River Authority Regarding Drought Management Actions in Response to Current Drought Conditions.

B-2: November 19, 2014 Resolution of the Board of Directors of the Lower Colorado River Authority Regarding Drought Management Actions in Response to Current Drought Conditions.

Attachment C – Certificate of Adjudication 14-5478, as amended

Attachment D – Certificate of Adjudication 14-5482, as amended

Attachment E – Excerpts from the 2010 Water Management Plan (2010 WMP) including:

Table of Contents and Preface;

Chapter 1 – Introduction to the Water Management Plan;

Chapter 3.C. – Annual Allocation of Firm and Interruptible Water;

Chapter 4 – Development of the Drought Management Plan;

September 20, 1989 Texas Water Commission Order approving LCRA's Water Management Plan (1989 WMP Order");

December 23, 1991 Texas Water Commission Order approving LCRA's Drought Management Plan (1991 WMP Order");

December 18, 1992 Texas Water Commission Order approving amendments to LCRA's Water Management Plan and Drought Management Plan (1992 WMP Order"); and

March 1, 1999 Texas Natural Resource Conservation Commission Order approving amendments to LCRA's Water Management Plan and Drought Contingency Plan (1999 WMP Order").

January 27, 2010 Texas Commission on Environmental Quality Agreed Order Approving Amendments to Lower Colorado River Authority's Water Management Plan (2010 WMP Order).

Attachment F – Excerpts from Order Adjudication LCRA's Water Rights for Lakes Buchanan and Travis, *In re The Exceptions of the Lower Colorado River Authority and the City of Austin to the Adjudication of Water Rights in the Lower Colorado River Segment of the Colorado River Basin*, No. 115, 414-A-1 (264th Dist. Ct., Bell County, Tex. April 20, 1988).

Attachment G – Affidavit of Ryan Rowney

Tab 1 – Resume of Ryan Rowney

Tab 2 – Combined Storage in lakes Buchanan and Travis since Jan. 1, 2008

Attachment H – TEX. COMM'N ENVTL. QUAL., Docket No. 2011-2097-WR, *Order Approving the Lower Colorado River Authority's Water Curtailment Plan for its Firm Water Customers* (Dec. 12, 2011).

Attachment I – Affidavit of Nora Mullarkey Miller

Tab 1 – Resume of Nora Mullarkey Miller

Tab 2 – LCRA's Ongoing Water Conservation Initiatives and Drought Response Efforts

Tab 3 – Benchmarking Research on Drought Restrictions implemented in other Communities (2011).

Tab 4 – Benchmarking Research on Mandatory Drought Restrictions implemented in other Communities (2013).

Attachment J – Proclamation by the Governor of the State of Texas (May 8, 2015)

Attachment K – Affidavit of Ron Anderson

Tab 1 – Resume of Ron Anderson

Tab 2 – Summary of Inflow Deficit for lakes Buchanan and Travis

Tab 3 – Cumulative Historical Inflows to Lakes Travis and Buchanan

Tab 4 – Description of Stochastic Modeling

Attachment L – Affidavit of Bob Rose

Tab 1 – Resume of Bob Rose

Attachment M – Affidavit of David Wheelock

Tab 1 – Resume of David Wheelock

Tab 2 – Map of LCRA Water Service Area

Tab 3 – Summary of Water Supply Alternatives

Attachment N – LCRA Policies Regarding Delegation of Authority and Organizational Chart