

**TCEQ DOCKET NO. 2015-1444-WR  
APPLICATION NO. 5838A**

<b>APPLICATION OF LOWER COLORADO RIVER AUTHORITY TO AMEND WATER MANAGEMENT PLAN</b>	<b>§ § § §</b>	<b>BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY</b>
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**EXECUTIVE DIRECTOR'S RESPONSE TO COMMENTS**

The Executive Director (ED) files this response to comments filed or made at the July 20, 2015, public meeting in Austin, Texas on the Lower Colorado River Authority's (LCRA) application to amend its water management plan (WMP).

**BACKGROUND**

LCRA's Application No. 5838A to amend the WMP was received by the Commission on March 12, 2012, and was declared administratively complete on April 19, 2012. Technical review was completed in November 2012, the application was sent to notice and the comment period ended on May 28, 2013. On June 3, 2013, based on public comment and the ongoing drought conditions, the Executive Director determined that further evaluation of LCRA's application was necessary. In May 2014, after review of more recent severe drought data, the Executive Director's staff issued a draft report with recommendations related to the curtailment of interruptible stored water. On October 31, 2014, LCRA submitted a revised and supplemental application to amend its WMP that was intended to replace the 2012 WMP application. By statute, the technical review must be complete within one year of the administrative complete date. Technical review of LCRA's October 31, 2014 amended application was completed on June 11, 2015. LCRA filed another revision to its application on May 21, 2015 to include its Firm Raw Water Drought Contingency Plan (Firm Customer DCP) in the WMP.

**APPLICATION**

LCRA seeks an amendment to its WMP pursuant to Texas Water Code § 11.122 and Texas Commission on Environmental Quality Rules 30 Texas Administrative Code (TAC) §§ 295.1, et seq. Pursuant to 30 TAC § 295.158, mailed and published notice was issued to water holders of record in the Colorado River Basin.

The WMP for the Lower Colorado Basin defines LCRA's water management programs and policies in accordance with the Final Order of Adjudication of the water rights for the Lower Colorado River Authority; the Enabling Act of the Lower Colorado River Authority; General Law of the State of Texas, particularly the Texas Water Code; LCRA's Certificates of Adjudication Nos. 14-5478 and 14-5482, as amended; the Commission's Orders concerning the WMP; and the policies of the Lower Colorado River Authority's Board of Directors. TCEQ considers the WMP to be part of LCRA's water rights. Amendments to the WMP were last approved by the Texas Commission on Environmental Quality (TCEQ) on January 27, 2010.

LCRA engaged in an extensive stakeholder process to develop proposed amendments to the WMP. LCRA's proposed substantive revisions to the WMP under this amendment fall within three areas: 1) interruptible stored water availability; 2) new environmental flow criteria based on the most recent scientific studies and implementation of those criteria; and 3) a new determination of the combined firm yield.

## 1. Interruptible Stored Water Availability

Firm demands take precedence over all other uses; therefore, the proposed amendment to the WMP requests a reduction in interruptible supplies to offset the increase in firm water demand. The reduction is achieved by revising the annual interruptible water supply curtailment policy. Under the 2014 WMP, LCRA will determine availability of Interruptible Stored Water for its Gulf Coast, Lakeside operations and Pierce Ranch separately for First and Second Crop and apply volumetric limits on the availability of Interruptible Stored Water for each Crop Season. The amount of water available for these irrigation operations will be based on a Water Supply Condition: "Normal", "Less Severe", or "Extraordinary Drought" combined with a look-ahead test. Under the requirements in the WMP for the look-ahead test, if the LCRA Board determines that the Combined Storage would drop below 900,000 acre-feet in the upcoming Crop Season or below 600,000 acre-feet within twelve months, LCRA will not begin releasing water for non-Garwood irrigation operations for that Crop Season.

## 2. Environmental Flow Criteria

LCRA's amendment to the WMP includes a change in the procedure for supplying water to help meet instream flow needs at certain locations downstream of Lady Bird Lake and incorporates specific instream flow values based on the most recent scientific studies, as set out in WMP Section 4.4.2. The 2014 WMP includes three levels of instream flows: 1) subsistence; 2) base-dry; and 3) base-average and the amount of water provided will be determined based on combined storage on March 1st and July 1st. The WMP also includes specific trigger levels at which the three levels of instream flows apply. Under the 2014 WMP, LCRA will make releases from Lakes Buchanan and Travis limited to the daily storable inflows to help meet base-average and base-dry instream flows. In addition to storable inflows, previously stored water will be released as necessary to maintain subsistence flows.

LCRA will not manage water in the lower Colorado River to specifically provide for pulse flows under the 2014 WMP. However, LCRA will monitor pulse flows during the time period that this amendment to the WMP is in effect to assess whether pulse flows are occurring at the frequency recommended in the 2008 instream flow study of the lower Colorado River. (WMP Section 4.4.3)

LCRA's amendment to the WMP also includes a change in the procedures for supplying water to help meet freshwater inflow needs. The freshwater inflow criteria are based on the most recent scientific studies as set out in Section 4.4.3 of the WMP. The WMP freshwater inflow criteria include five levels of inflow to help meet freshwater inflow needs and are defined using two-month operational criteria. The 2014 WMP also

includes three month spring and fall freshet requirements and a combined storage trigger at which specific freshwater inflow levels apply.

At the end of each month, to the extent storable inflows are available, LCRA will provide storable inflows, if available, as necessary to meet the two-month operational criteria. In all months, LCRA will release storable inflows to help meet the Threshold level of 15,000 acre-feet per month, to the extent of storable inflows. The WMP also includes additional limitations, which may reduce the amount of water LCRA provides to help meet freshwater inflow needs.

In the event of a pro rata curtailment of firm supplies, the applicable instream flow and freshwater inflow criteria will be subject to the same percentage curtailment as imposed on LCRA's firm water customers. The WMP includes annual and multi-year caps on water for environmental flows in Section 4.4.4 of the WMP.

### 3. Combined Firm Yield

LCRA requests a change to the combined firm yield of Lakes Buchanan and Travis. Under the 1988 Adjudication Order, LCRA's firm commitments shall not exceed the combined firm yield. The Combined Firm Yield represents the maximum amount of water LCRA can commit from Lakes Buchanan and Travis for firm water supply. Based on updated modeling using a modified version of the TCEQ's water availability model (WAM) for the Colorado River Basin, the combined firm yield of Lakes Travis and Buchanan is reduced from 535,812 acre-feet (which includes 90,546 acre-feet of water associated with O.H. Ivie Reservoir) to 434,154 acre-feet (which does not include an amount for O.H. Ivie Reservoir). The combined firm yield was determined based on the average annual amount of water supplied during the critical period. The new combined firm yield is a net reduction of 11,112 acre-feet from the previously calculated combined firm yield. The combined firm yield is subject to change in future WMP revisions. (WMP Section 3.2.)

## COMMENTERS

**The following individuals and entities provided comments at the public meeting (written or oral):**

Ronald Gertson

Central Texas Water Coalition

Highland Lakes Firm Water Customer Cooperative

Earl Foster

City of Austin

Dennis Werchan

## **RESPONSE TO COMMENTS**

### **FIRM CUSTOMER DROUGHT CONTINGENCY PLAN**

Comment No. 1: Highland Lakes Firm Water Customer Cooperative (Highland) comments that the Draft Order should specifically state that LCRA's Firm Customer DCP is incorporated into Chapter 4 of the WMP and made a part of the WMP for all purposes as if set forth in Chapter 4 of the WMP in full. Highland argues that the 1988 Adjudication Order requires LCRA to interrupt or curtail supplies of stored water to interruptible customers to satisfy all demand of firm customers 100% of the time without shortage through a repeat of DOR conditions, and that firm customers cannot be curtailed unless a DWDR has been declared and all interruptible water customers have been cut off. If the Firm Customer DCP is taken out of the WMP the DCP will be stripped of its proper context. Removal of the Firm Customer DCP from the WMP diminishes firm water customers' due process rights, and handicaps firm customers' ability to engage in effective water management. The 1988 Adjudication Order requires meaningful TCEQ oversight of the terms of the Firm Customer DCP. They request that Findings of Fact Nos. 1, 29, and 30 and Conclusion of Law No. 1.b. in the Draft Order unequivocally state that the Firm Customer DCP is incorporated into Chapter 4 of the WMP for all purposes as if set forth in full.

Comment No. 2: The City of Austin (City) comments that it needs to be clear that LCRA's recently submitted firm customer Drought Contingency Plan is fully incorporated into the WMP. The City recommends modifying language in the draft Order and/or WMP as needed to indicate that the firm customer Drought Contingency Plan is fully incorporated into the Water Management Plan.

**Response to Comments Nos. 1 and 2: In its August 17, 2015 letter, LCRA proposed clarifying language to Findings of Fact 1 and 29. The Executive Director accepts the LCRA's proposed language and has made changes to the draft order incorporating these modifications to Finding of Fact 1 and renumbered Finding of Fact 31 to clarify that the DCP is part of the WMP. In addition, Ordering Provision 1.d. in the Executive Director's revised draft order, attached to this RTC, requires the text of the WMP to be consistent with Finding of Fact No. 31. The ED believes that these changes address Highland's and the City's concerns.**

### **DETERMINATION OF WATER SUPPLY CONDITIONS**

Comment No. 3: Highland comments that Finding of Fact No. 15 and the corresponding provisions of the WMP pertaining to when and how a Water Supply Condition will be determined contain ambiguous terms that must be clarified. Highland argues that Finding of Fact No. 15(d), (e), (g), and (i) are unclear relating to the length of the period before the evaluation date that should be reviewed for deciding when a water supply condition applies. In (d) and (e), "for the period prior to the Evaluation Date," in (e) there is no time period mentioned, and in (g) and (i) the language is "for one or more days during the period preceding the Evaluation Date."

**Response to Comment No. 3: The length of the period Highland is questioning is described in the WMP in section 4.2. This section of the WMP describes how the water supply condition is determined. As reflected in Ordering Provision 1.d., in the ED's revised order attached to this RTC, in the event of a conflict the specific language in the WMP document text will control over the more general language in the Findings of Fact. Therefore, the ED did not make changes to the revised proposed order in response to this comment.**

### **UPDATES TO THE WMP**

Comment No. 4: Highland argues that Ordering Provision No. 1.f. is vague on the timelines for when the WMP must be updated, and that the timelines are too long. Ordering Provision No. 1.f. is not clear on whether LCRA has to initiate the update process on December 31, 2018, or one year after the occurrence of listed events. Highland believes that it should be the earliest to occur.

**Response to Comment No. 4: The ED agrees with Highland that the intent of the language is that the earliest occurrence begins initiation of the update process. In its August 17, 2015 letter, LCRA proposed clarifying language to Ordering Provision 1.f. The ED notes that LCRA has agreed to change the December 31, 2018 deadline in Ordering Provision No. 1.f. to January 1, 2018 and replaces the phrase "no later than" with "on the earlier of". The ED accepts LCRA's change and has incorporated it into the attached revised draft order. The ED believes that this change should address Highland's concerns.**

Comment No. 5: Highland comments that it is unclear what is meant by the word "initiate" related to the update process in Ordering Provision No. 1.f.

**Response to Comment No. 5: The ED believes that this language is sufficiently clear. LCRA must begin the process of updating the WMP according to the timelines in Ordering Provision 1.f. The ED declines to change this language in the draft order.**

Comment No. 6: Highland comments that the December 31, 2018 deadline for a WMP update is too long and not consistent with some of the Findings of Fact. The naturalized streamflow data could change everything. The events listed in Ordering Provision 1.f. form some of the most important assumptions on which the current WMP is based. There should not be a three year period before LCRA does anything after there is data demonstrating that the firm demand has increased to levels not modeled for this WMP.

**Response to Comment No. 6: The ED does not agree that LCRA would be doing nothing for 3 years after data is received showing firm demand has increased. LCRA will be operating under the 2014 WMP during this time and establishing a baseline to inform future updates to the plan. Ordering Provision 1.f.ii. in the ED's revised draft order requires LCRA to initiate a**

**process to amend its WMP if firm demands reach 90% or greater of the demands considered in modeling of the 2014 WMP amendment for two years. Under this provision, the process to amend the plan could begin before firm demands exceed the actual level considered in the 2014 WMP.**

**The ED notes that LCRA has proposed to change the December 31, 2018 deadline in Ordering Provision No. 1.f. to January 1, 2018. LCRA also proposes to add a new Ordering Provision No. 1.h., concerning how updates to naturalized flow data will be incorporated into any new plan. The ED accepts these changes and has incorporated the changes into the attached revised draft order. The ED believes that these changes should address Highland's concerns.**

Comment No. 7: Highland also comments about Ordering Provision 1.f.iv. This provision allows LCRA to demonstrate that modeling of operations related to use of one or more of its downstream water rights based on non-temporary amendments to those rights obtained after the effective date of this Order will not cause the combined storage to drop below 600,000 AF in a repeat of the hydrology considered in the WMP. Highland argues that notice and opportunity to review and comment should be provided to the WMP stakeholders because this review bears directly on a fundamental aspect of the WMP. If LCRA does anything operationally that might cause the combined storage to go below 600,000 AF, this should be treated as a major amendment to the WMP.

**Response to Comment No. 7: This demonstration and review by the Executive Director is the type of technical review that the Executive Director performs that does not require notice and opportunity for a hearing if it does not change the Certificate of Adjudication or the WMP in a substantive way. Notice would be required if the occurrence causes the storage to drop below the 600,000 AF combined storage level in a repeat of the hydrology considered in this WMP.**

Comment No. 8: Highland further comments that Ordering Provision 1.g., requiring LCRA to submit an application to amend its WMP no later than two years from the date it initiates a process to update the WMP, is too long. LCRA has shown that it is capable of submitting WMP applications in a much shorter time period. Further, the delay in submitting an application leads to multiple emergency orders. The provision should also be revised to state that the requirement is for LCRA to submit a technically complete application on or before the deadline.

**Response to Comment No. 8: The ED anticipates that LCRA's process would include substantial stakeholder input, which requires additional time. LCRA also proposed a new Ordering Provision 1.h., which was accepted by the ED. This new ordering provision would require LCRA to revise naturalized flow data which is a detailed and intensive process. Therefore, the ED believes that the time limit in the Draft Order is reasonable.**

Comment No. 9: Highland comments that the determination of the critical period, the DOR, and combined storage required to avoid declaration of a DWDR, needs to be clarified. It is concerned that the 600,000 acre feet (AF) level for the DWDR is not in the WMP. Highland urges amendment of the Draft Order to include references to the 600,000 AF level so that it is clear going forward what the assumed conditions were for this amendment in order to ensure that firm customers' demands are met 100% of the time without shortage through a repeat of the DOR. Highland also requests that the Draft Order make it clear that this WMP was prepared using the assumption that the DOR was the drought of the 1940's and 50's.

**Response to Comment No. 9: LCRA has proposed to amend the Draft Order to include the 600,000 AF level in renumbered Findings of Fact 16 and 19. The ED believes that these changes should satisfy Highland's concerns. Renumbered Finding of Fact 19 states that the DOR is "the drought of the 1940s and 50's" and LCRA has proposed to add to this definition of the DOR that it is for "this WMP and combined storage in Lakes Travis and Buchanan is maintained above 600,000 acre feet." The ED accepts this change and has incorporated this change into the attached revised draft order. The ED believes that this change should address Highland's concerns.**

Comment No. 10: The Central Texas Water Coalition (CTWC) comments that the draft Order's proposed timelines for revising the WMP will result in a WMP that is so out-of-date that it no longer satisfies one of its primary purposes: to ensure that LCRA's operation of Lakes Buchanan and Travis is in accordance with governing water rights. CTWC further comments that:

1. TCEQ should revise the Order to set a date certain by which LCRA must file its next amendment application;
2. 2014 inflow data, which is not included in the proposed WMP, will impact modeling as such time as the model's period of record is extended to include 2014;
3. WMP should be revised within a timeframe that enables it to stay up to date with hydrological data; and
4. LCRA should be required to submit an administratively complete application to revise its WMP no later than December 31, 2016.

**Response to Comment No. 10: LCRA has proposed to change the December 31, 2018 deadline in Ordering Provision No. 1.f. to January 1, 2018. This is the latest possible date that LCRA will initiate their process. LCRA also proposes to add a new Ordering Provision 1.h., concerning how updates to naturalized flow data will be incorporated into any new plan. Adding the new naturalized flow will allow the WMP to stay up to date with hydrological data. The ED accepts these changes and has incorporated them into the attached revised draft order. The ED believes that these changes should address CTWC's concerns.**

Comment No. 11: CTWC asks whether Ordering Provision 1.f. is intended to require the initiation of the process at the earliest of the five possibilities described.

**Response to Comment No. 11: Yes, Ordering Provision 1.f. is intended to require the initiation of the process at the earliest of the five possibilities described, if those possibilities occur. The ED also notes that LCRA has proposed to change the December 31, 2018 deadline in ordering provision 1.f. to January 1, 2018. The ED accepts this change and has incorporated this change into the attached revised order.**

Comment No. 12: City made the following comments relating to updating the next WMP:

- a. The timelines for updating the next WMP with new hydrology have the potential of leaving firm water supplies inadequately protected for a decade or longer. The City recommends revising Ordering Provision 1.f. to state that LCRA shall initiate a process to update the WMP no later than January 1, 2017 instead of December 31, 2018.

**Response to Comment 12.a.: LCRA has proposed to change the December 31, 2018 deadline in Ordering Provision No. 1.f. to January 1, 2018. This is the latest possible date that LCRA will initiate their process. The ED accepts LCRA's change, and has incorporated it into the revised draft order attached to this Response to Comments (RTC). The ED believes that this change should address the City's concerns.**

- b. The City also recommends removing language in Ordering Provision 1.f.iv., which allows LCRA to demonstrate that once LCRA has begun using one or more of its downstream water rights based on a non-temporary amendment, modeling of such operations in combination with the WMP does not result in combined storage dropping below 600,000 AF in a repeat of the hydrology considered in this WMP.

**Response to Comment 12.b.: The models used to support LCRA's 2014 WMP assumed that LCRA's downstream water rights are operated in the same way that they are operated today. Any changes to LCRA's operation of these water rights resulting from future amendments of those rights are not taken into account in the model used to develop the curtailment curves in the 2014 WMP. Ordering Provision 1.f.iv. is designed to address this situation. LCRA would need to submit the information required in Ordering Provision 1.f.iv. with any future applications to amend its downstream water rights. The type of notice will be determined in accordance with TCEQ rules applicable to that application. The ED declines to remove this language from the Draft Order.**

- c. The City further recommends that a WMP update initiated January 1, 2017 must, at a minimum, incorporate the 2014 and 2015 naturalized hydrology data into the

WMP simulations and make adjustments to interruptible curtailment triggers to maintain combined storage in the WMP simulations above the DWDR storage trigger (600,000 AF in this WMP) through the period of record. All other updates must include the naturalized hydrology from the years prior to year in which the update process is triggered and any necessary adjustments to interruptible curtailment triggers to maintain combined storage in the WMP simulations above the DWDR storage trigger through the period of record.

**Response to Comment 12.c.: The process to extend the naturalized flows is detailed and intensive just as it was when the TCEQ extended the flows through 2013. In addition, the lakes have not refilled, so although the 2014 and 2015 naturalized hydrology data might provide additional data, it may not answer the question about whether or not there was a new drought of record. LCRA also proposes to add a new Ordering Provision No. 1.h., concerning how updates to naturalized flow data will be incorporated into any new plan. The ED accepts this change and has incorporated this change into the attached revised draft order. The ED believes that this change should address the City's concerns.**

- d. The City recommends modifying Ordering Provision 1.g. to require LCRA to submit an application to amend its WMP by July 1, 2017 if the revision process is initiated January 1, 2017.

**Response to Comment 12.d.: The ED anticipates that LCRA's process would include substantial stakeholder input, which requires additional time. LCRA has proposed new Ordering Provision 1.h., which is accepted by the ED. This new ordering provision would require LCRA to revise naturalized flow data, which is a detailed and intensive process. The ED declines to make the City's recommended change.**

Comment No. 13: The City comments that assuming the lakes do not entirely refill to 98% combined capacity on the near term horizon, then an analysis of the only date-certain timelines for updates show these provisions would not result in a plan update until sometime into the next decade. A new WMP would not be expected before the year 2022 and could possibly be as long as 2024 to 2026. The City further comments that even under the best case scenario for a shorter time frame under Ordering Provision 1.f.i. (update triggered by reaching 98% combined capacity) the clock on the timeline for revision would not start until March 1, 2016, and the earliest an adopted plan incorporating the 2014-2015 drought data could be expected would be sometime in 2020, to be first implemented in 2021. The City comments that under Ordering Provision 1.f.ii.-iv. that an update under any of these scenarios can be expected after an even longer timeframe.

**Response to Comment No. 13: LCRA has proposed to change the December 31, 2018 deadline in Ordering Provision No. 1.f. to January 1, 2018. The ED accepts this change and has incorporated this change into the attached revised draft order. The ED believes that the timelines in the Draft Order**

**are reasonable considering that LCRA will update the naturalized flows and have a stakeholder process.**

Comment No. 14: The City comments that a simulation of proposed WMP including synthesized 2014 data shows combined storage falls far below the 600,000 AF emergency level in a repeat of the period of record. The City comments and explains that the accuracy of the approach the City used to approximate the 2014 naturalized flow data is supported because the City calibrated the model closely with the actual naturalized flows for the past 10 years and the City used the model to also compute the Combined Firm Yield and the results are essentially the same as the results LCRA has indicated their CFY model shows using preliminary 2014 data. The City comments that with the inclusion of the 2014-early 2015 drought data, the protection of essential firm water supplies are basically the same as those proposed more than 3 years ago, well before TCEQ issued their report in May 2014, which prompted LCRA to develop a plan using a 600,000 AF minimum combined storage.

**Response to Comment No. 14: The City's data is synthesized rather than actual data. In evaluating a water rights application, the ED must base his decision on an extension of the naturalized flows that includes actual gage flows and evaporation data. New Ordering Provision 1.h. requires LCRA to revise naturalized flow data in their future application to amend the WMP.**

Comment No. 15: The City comments that updating the WMP with hydrological data subsequent to 2013 can be accomplished in a short time frame; there is no need for several years of process to make this basic update.

**Response to Comment No. 15: The process to extend the naturalized flows is detailed and intensive just as it was when the TCEQ extended the flows through 2013.**

Comment No. 16: The City comments that allowing for water supply to be compromised in a return of extraordinary drought and then attempting to manage through Emergency Orders or other means is not a workable or acceptable approach.

**Response to Comment No. 16: The ED agrees that trying to manage through EOs is not the best approach, and therefore the ED is recommending the approval of the application for the 2014 WMP. The ED believes that the more comprehensive drought management regime in the 2014 WMP should protect firm water customers.**

Comment No. 17: The City comments that the basin is not out of the woods with regard to this historic drought; there was a pattern in the 1950s drought of dry periods, punctuated with numerous instances of wet periods some lasting for several months. The City comments that LCRA's recent application for emergency relief and TCEQ's Emergency Order confirm that multiyear drought may continue and that increases in combined storage do not equate to an end of multi-year drought and that after such increases hydrological conditions can revert to long-term severe drought.

**Response to Comment No. 17: The ED acknowledges this comment. The pattern of the 1950s drought is incorporated into the modeling for the WMP.**

Comment No. 18: CTWC comments that Finding of Fact No. 12 is misleading as to the fundamental reasoning driving proposed changes to interruptible release triggers and it should be revised. CTWC further comments that the WMP triggers have been designed to ensure that in a hydrological model incorporating the entire period of record, releases of interruptible water do not cause the combined storage of the Highland Lakes to fall below the trigger level for a DWDR laid out in the WMP.

**Response to Comment No. 18: The ED believes that Finding of Fact 12 is not misleading; however, LCRA has proposed to amend the draft order to include the 600,000 AF level in renumbered Findings of Fact 16 and 19. The ED also has added renumbered Findings of Fact 16 and 19 to Ordering Provision 1.d., which requires conforming changes in the WMP. The ED believes that these changes should address CTWC's concerns.**

Comment No. 19: The City also comments that there needs to be a clearer articulation of a key principle in revisions of the WMP, which is maintaining the minimum combined storage in simulations of the period of record above the DWDR storage trigger (600,000 AF in this plan update) through adjustments in curtailment triggers. This will continue to provide critically needed guidance for future revisions as well. The City recommends modifying the last sentence of Finding of Fact 12 to state that the reduction in interruptible supplies is intended to offset the increase in firm demands, as well as account for a higher minimum storage level. The City further recommends modifying Finding of Fact 14 by adding the following underlined statements and removing the following struck through statements:

LCRA 's proposed revisions to its curtailment policies and procedures are intended to ensure that LCRA can satisfy all current firm demands during drought conditions, in part by maintaining in simulations of the plan a higher minimum storage level through repeat of the ~~drought period~~ of record that assures the minimum combined storage is maintained above the Drought Worse than a Drought of Record (DWDR) storage trigger such that a declaration of a DWDR, and resulting firm customer curtailment, will not be triggered due to providing interruptible water supply, consistent with LCRA's permit conditions in Certificates of Adjudication Nos. 14-5478 and 14-5482, as amended. LCRA's permit conditions require that LCRA shall interrupt or curtail the supply of water under these Certificates of Adjudication pursuant to commitments that are specifically subject to interruption or curtailment, to the extent necessary to allow LCRA to satisfy all demands for water under such certificates pursuant to all firm, uninterrupted commitments. For this amendment of the WMP the higher minimum combined storage is the DWDR storage trigger of 600,000 AF (one of three criteria for declaring a DWDR.) ~~than was maintained in previous WMPs.~~ LCRA's curtailment policy has been found to be an acceptable approach in earlier Commission orders. The use of various rule curves and procedures continues to be an acceptable approach for addressing the allocation of interruptible stored water because this approach will allow

LCRA to be responsive to changes in water supply conditions throughout the year while protecting firm demands. (WMP Section ES. E.)

The City comments that the requested changes to Finding of Fact 14 are consistent with TCEQ's prior Emergency Orders and LCRA's proposed Water Management Plan, and that it is critical to clearly establish this principle of maintaining a minimum combined storage above the DWDR storage.

The City comments that a key principle in water planning under the WMP is that an interruptible stored water curtailment trigger should be set to avert, rather than create, conditions that could require declaration of a DWDR.

The City notes that in its proposed modification of the draft Order Finding of Fact 14, the City recommends using the terminology "period of record" rather than "drought of record" as maintenance of combined storage above the DWDR storage trigger should be for the entire period of record in simulations. Because the intensity of the current drought which has exceeded the intensity of the 1950s drought for several years, simulations of the period of record may show combined storage above the DWDR storage trigger in the 1950s drought, but combined storage may fall well below this level in a repeat of the current drought. The same protection should be maintained throughout the period of record and there should not be a lack of proper protection through a repeat of the current drought due to the use of nomenclature such as "drought of record" as the period for measuring whether storage has remained above the DWDR trigger.

**Response to Comment No. 19: LCRA has proposed to amend the draft order to include the 600,000 AF level in renumbered Findings of Fact 16 and 19. Renumbered Finding of Fact 19 states that the DOR is “the drought of the 1940s and ‘50s”, and LCRA has proposed to add to this definition of the DOR that it is for “this WMP and combined storage in Lakes Travis and Buchanan is maintained above 600,000 acre feet.” The ED also added renumbered Findings of Fact 16 and 19 to Ordering Provision 1.d., which requires conforming changes in the WMP. The ED believes that these changes should address the City’s concerns.**

### **GARWOOD IRRIGATION COMPANY**

Comment No. 20: Highland also comments that Garwood is not entitled to special treatment under the WMP, and the parts of Finding of Fact No. 15(j) – (n) stating “except for Garwood irrigation operation consistent with prior contracts between Garwood and LCRA” should be deleted. It also requests that Finding of Fact no. 15(r) be completely deleted.

Comment No 21: CTWC asks whether the WMP or Order include a curtailment curve or similar protocol that dictates when interruptible supplies will be curtailed or cut off for the Garwood irrigation operation.

**Response to Comment Nos. 20 and 21: Under prior WMPs, EOs, and this WMP, LCRA has requested that Garwood operations be provided interruptible stored water consistent with these agreements, and this provision is reflected in the 2014 WMP.**

**In a letter dated September 3, 2015, LCRA proposes to add an additional Finding of Fact and Conclusion of Law recognizing the agreements between LCRA and Garwood Irrigation Company. To be consistent with prior WMPs, EOs, and this WMP, the ED has incorporated these changes to the attached draft order in new Finding of Fact No. 36 and Conclusion of Law No. 2, with the exception of the last sentence in the suggested conclusion of law. This last sentence is not included in the WMP; therefore, the ED has changed this sentence to a sentence that is in the WMP to be consistent with the WMP.**

Comment No. 22: CTWC asks how releases of interruptible stored water to Garwood were included in the modeling to predict whether those releases will cause the Highland Lakes to drop below the combined storage level trigger for a DWDR.

**Response to Comment No. 22: In the modeling, Garwood operations were provided interruptible stored water consistent with the Garwood purchase agreement. The modeling did not show that the combined storage level dropped below 600,000 AF.**

### **USE OF 99 PERCENT EXCEEDANCE PROBABILITY FOR LOOK AHEAD TEST**

Comment No. 23: Highland comments that Finding of Fact Nos. 15 (t) should be amended to take out the quoted language in the following sentence. LCRA shall use the 99 percent exceedance probability “unless a different trend for inflows and combined storage is being observed. However in no case shall LCRA’s determination rely on less than a 95 percent exceedance probability.” Highland argues that LCRA has used the 99 percentile exceedance probability factor and its customers rely on those forecasts for their own planning. Introducing a new 95% exceedance probability factor is inappropriate.

Comment No. 24: CTWC asks for an explanation of the change from 99% to 95% exceedance probability in the Look-Ahead Test found in Finding of Fact 15(t).

Comment No. 25: The City comments that a change in the criteria used for the Look-Ahead Test could result in combined storage falling below the DWDR storage level of 600,000 AF in a repeat of the current drought. The City recommends modifying Finding of Fact 15.t. by removing the following struck language:

In making its determination under the Look-Ahead Test, LCRA shall use the 99 percent exceedance probability, ~~unless a different trend for inflows and combined storage is being observed. However, in no case shall LCRA's determination rely on less than a 95~~

~~percent exceedance probability.~~ Exceedance probability refers to the likelihood that a future outcome will be better than the specified value.

The City comments that the protections to firm water supply achieved by using the 99% exceedance line are not assured when using the 95% exceedance line. The City recommends that the TCEQ should require the Look-Ahead to be operated in the manner that was modeled during the stakeholder process, as this assures that the plan works according to the new framework of maintaining combined storage above 600,000 AF. The City is concerned that there is no longer an assurance that this framework principle of maintaining 600,000 AF combined storage can be met.

**Response to Comment Nos. 23-25: The ED agrees that the 99% exceedance level is consistent with the modeling for the WMP. The ED also recognizes a different trend for inflows and combined storage could be observed in a very wet year, i.e. high storage and a wet forecast. In this scenario, LCRA's determination could rely on a different exceedance level; however, in no instance could it be less than a 95% exceedance level. LCRA has proposed to amend the draft order to include the 600,000 AF level in renumbered Findings of Fact 16 and 19. The ED also added renumbered Findings of Fact 16 and 19 to Ordering Provision 1.d. The ED believes that these changes should address Highland's, CTWC's, and the City's concerns.**

## **ORDERING PROVISIONS**

Comment No. 26: Highland comments that there are double negatives and vague standards in the Ordering Provisions. Ordering Provision 1.a. and 1.b. provide that the WMP is subject to prior Commission's Orders approving and amending the WMP "except to the extent not inconsistent with this order." Highland would change the quoted language to "except to the extent this order expressly provides otherwise."

**Response to Comment No. 26: LCRA has proposed striking the word "except" in these provisions. This takes out the double negative and is clearer. The ED accepts this change and has incorporated this change into the attached revised draft order. The ED believes that this change should address Highland's concerns.**

Comment No. 27: Highland also comments that Ordering Provision 1.d. contains an incomplete list of the changes to the WMP that are needed to conform to the Order. It would add Findings of Fact 11, 12, 14, 17, and 29. It also comments that Ordering Provision 1.d. provides that in case of conflict the WMP will prevail over the Findings of Fact, which Highland believes is inappropriate. This would make something the Commissions have not reviewed prevail over the Order, which the Commission has issued.

**Response to Comment No. 27: The ED has proposed changes to renumbered Finding of Facts 16 and 19 to include the 600,000 AF storage level. The ED has also agreed to a change to renumbered Finding of Fact 31**

**as discussed above. LCRA has proposed to amend Ordering Provision 1.d. to add renumbered Finding of Fact No. 31. The Executive Director agrees that renumbered Findings of Fact 16, 19, and 31 should be included in Ordering Provision 1.d. The ED has also agreed to add Finding of Fact 23.b. to Ordering Provision 1.d. The other findings Highland lists are already included in the WMP. Concerning whether the WMP will prevail over the Findings of Fact in case of inconsistency, the Executive Director believes that it should. As stated in Ordering Provision No. 1.d., the Findings of Fact are summaries of what is provided in more detail in the WMP. The ED therefore disagrees that the Findings of Fact should prevail over the WMP. Additionally, the entire WMP is filed with the draft order for the Commission's consideration.**

Comment No. 28: Highland comments that Ordering Provision 1.e. in the Draft Order is similar to Ordering Provision 1.g. in the 2010 Order, but does not provide the process if changes to the DCP change the triggers, amount of curtailment of interruptible stored water supply, or the triggers or criteria related to bay and estuary inflows or instream flows. Highland also requests that a sentence at the end of Ordering Provision 1.g. in the 2010 Order be placed in Ordering Provision 1.e. That provision requires LCRA to work with firm customers to develop a specific water curtailment plan prior to implementing any mandatory firm water customer curtailment allowed under Texas Water Code Section 11.039.

**Response to Comment No. 28: The Executive Director agrees that if changes to the DCP change the triggers, amount of curtailment of interruptible stored water supply, or the triggers or criteria related to bay and estuary inflows or instream flows, this would most likely require an amendment to the Order and WMP. However, the type of notice for this amendment would be decided at that time.**

**Concerning adding the last sentence of Ordering Provision 1.g. in the 2010 Order to Ordering Provision 1.e., the Executive Director believes that LCRA will work with its firm customers in this manner and that the provision is unnecessary.**

Comment No. 29: CTWC asks what process will be followed to show that “modeling of such operations in combination with this WMP does not result in combined storage dropping below 600,000 AF for the 1940-2013 period of record” found in Ordering provision 1.f.iv.

**Response to Comment No. 29: LCRA would need to submit the information required in 1.f.iv. with any future applications to amend its downstream water rights. The type of notice will be determined in accordance with TCEQ rules relating to that type of application.**

Comment No. 30: CTWC asks what scenario Ordering Provision 1.f.iv. is designed to address.

**Response to Comment No. 30: The models used to support LCRA’s 2014 WMP assumed that LCRA’s downstream water rights are operated the way that they are today. Any changes to LCRA’s operation of these water rights resulting from future amendments of those rights are not taken into account in the model used to develop the curtailment curves in the 2014 WMP. Ordering Provision 1.f.iv. is designed to address this situation.**

## **DEFINITIONS**

Comment No. 31: Highland comments that the definitions of “Combined Firm Yield,” “Firm Water,” and “Drought of Record,” in the WMP should be the same definitions that were included in the 2010 WMP. It contends that the 2010 WMP definitions were more consistent with the 1988 Adjudication Order. Highland also asserts that the definition of “Critical Period” as set forth in the 2010 WMP needs to be added to the WMP.

**Response to Comment No. 31: This WMP is different from previous WMPs. This WMP incorporates a 600,000 AF drought trigger level and imposes curtailment triggers to help prevent the lakes falling below 600,000 AF. LCRA has proposed adding the 600,000 AF storage level in renumbered Finding of Facts 16 and 19, and the ED agrees with these proposed changes. The ED also believes that these changes should be incorporated into the WMP under Ordering Provision 1.d. The ED has also modified Ordering Provision 1.d. to include renumbered Findings of Fact 16 and 19. The WMP will prevail over the Findings of Fact in cases of inconsistency. Therefore, the ED does not believe that these terms need to be changed.**

Comment No. 32: Highland comments that “Combined Managed Conservation Storage” should be defined in the Glossary in Section 4.7 in the WMP.

**Response to Comment No. 32: The term “Combined Managed Conservation Storage” is described in Technical Paper A-7, which is referenced in 4.7 of the WMP and is considered part of the WMP. Therefore, the ED does not believe adding the term to the Glossary is necessary.**

## **TRANSPARENCY**

Comment No. 33: CTWC comments that LCRA should ensure transparency in the critical decisions LCRA makes affecting people’s water supplies, and all data, models, and formulas used by LCRA for its decision making analyses should be readily available to the public.

**Response to Comment No. 33: The TCEQ encourages transparency in this process.**

## **MODELING AND MODELING DATA**

Comment No. 34: CTWC asks whether it is possible for the TCEQ to run the models used for the revised WMP using 2014 data inputs by the end of 2015, and if not, why not.

**Response to Comment No. 34: The process to extend the naturalized flows is detailed and intensive just as it was when the TCEQ extended the flows through 2013. Such a detailed and intensive process will not be completed by the end of 2015.**

Comment No. 35: CTWC asks what the reasoning is behind revising the WMP one year after the OCR comes online.

**Response to Comment No. 35: The models used to support LCRA's 2014 WMP assumed that LCRA's water rights are operated the way they are today. Although, the OCR is permitted, construction has not been completed. The ED believes an additional year of data with the OCR in place would provide sufficient data to inform development of a future WMP.**

Comment No. 36: The City comments that any prospective benefit to combined storage from an off-channel reservoir is unproven under the proposed plan.

**Response to Comment No. 36: The prospective benefit to combined storage from an OCR is not included in the proposed plan. An additional year of data with the OCR in place could inform development of a future WMP. This is addressed in Ordering Provision 1.f.iii.**

### **COMBINED FIRM YIELD**

Comment No. 37: CTWC comments that concerns remain regarding the calculation of the combined firm yield of the Highland Lakes. It is hard to see how the combined firm yield of the lakes has only decreased by 11,112 acre-feet/year since the 2002-2003 timeframe.

**Response to Comment No. 37: Section 3.2 of the WMP discusses the combined firm yield computation. Additional information can be found in technical paper A-6. The ED performed a technical review of LCRA's calculation. The Combined Firm Yield was determined based on the average annual amount of water supplied during the critical period. The calculation of this firm yield is reasonable and consistent with that used for the previous estimate of the combined firm yield recognized in the commission's 1989 order.**

### **CONSERVATION**

Comment No. 38: CTWC comments that the proposed WMP lacks incentives for water conservation throughout the basin. CTWC states that the WMP should include a

method by which water saved through conservation efforts of a user group is reserved for the use of those who saved it.

**Response to Comment No. 38: The ED reviewed LCRA's water conservation plan and found it to meet the requirements of TCEQ's rules.**

#### **WHEN WILL THE WMP BE IN PLACE AND IN OPERATION**

Comment No. 39: CTWC asks if all the hearing requests on this application are withdrawn, does the TCEQ expect that the revised WMP will be in place and operating by January 1, 2016.

**Response to Comment No. 39: The ED believes that this is possible if all the hearing requests are unconditionally withdrawn.**

#### **NOTICE**

Comment No. 40: The City comments that the City's proposed changes should not require any re-notice of the application. The City comments that after review of relevant law, and in particular the Chocolate Bayou decision, the City concludes that none of the changes requested herein should in any manner require renote of the application. *Chocolate Bayou Water Co. & Sand Supply v. Texas Natural Res. Conservation Comm'n*, 124 S.W.3d 844, 851 (Tex. App. 2003). The City further comments that none of the specifics about timeframes for updating the WMP and modeling criteria for implementing the Look-Ahead Test are included in application notice, so modifying these provisions would not modify the notice.

**Response to Comment No. 40: The ED agrees that further notice will not be required.**

#### **MOVE FORWARD WITH THE WMP**

Comment No. 41: Mr. Gertson comments that it is time to move on with this application, which is a better product than the 2010 WMP, and that he hopes that hearing requestors will withdraw their hearing requests.

Comment No. 42: Mr. Foster also expresses that he wishes to move forward with the WMP.

Comment No. 43: The City and CTWC comment that they want to move forward with the application, but also had changes to the draft Order.

**Response to Comment Nos. 41-43: The ED acknowledges the comments.**

#### **DESALINATION**

Comment No. 44: Mr. Werchan comments that Freeport, Texas is building a Desalination Plant, which is about 34 miles along on the coast from Matagorda. Mr. Werchan asks whether it could be possible to pump fresh water to Matagorda for the rice farmers.

**Response to Comment No. 44: The ED has not evaluated this possibility because we do not have an application pending related to this project.**

Comment No. 45: Mr. Werchan asks whether the rice farmers are using some way to retain runoff water when severe storms are in the area. Mr. Werchan comments that LCRA is building 3 reservoirs to catch runoff water and suggests that farmers do the same. Mr. Werchan asks what the cost of these 3 reservoirs would be and what it would cost to pump the desalinated water to Matagorda instead.

**Response to Comment No. 46: The ED does not know whether rice farmers are using runoff water when there are severe storms or if they have reservoirs to catch runoff water. LCRA is not required to have these alternatives for an application to amend its WMP. The ED also does not know what the cost for this would be.**

Comment No. 47: Mr. Werchan comments that with the current changes in weather, that Matagorda may not be the best place to grow rice. Mr. Werchan asks whether there are other locations with water where rice can grow. Mr. Werchan suggests Buchanan Dam, Lake Travis, or Brushy Creek if the water could be retained into holding areas. Mr. Werchan suggests that a better location can be found to grow rice where much needed water is not being released half way across the state.

**Response to Comment No. 47: The ED acknowledges the comment. However, these issues are outside of the TCEQ's review of the WMP.**

Comment No. 48: Mr. Werchan comments that Governor Abbot signed a bill to begin using Desalination as a way to obtain more water sources in Texas. Mr. Werchan suggests that desalination is a wise choice; since Matagorda is so close to the coast and another plant this would be a wise choice to work out the problem. Mr. Werchan states that like other farmers in Texas, rice farmers have to depend on the weather for a crop and in some cases their crops have been lost. Maybe it is time if you so choose not to use Desalination water for Matagorda to not have rice farming in that area.

**Response to Comment No. 48: The ED acknowledges the comment. Desalination is not included in LCRA's application to amend its WMP.**

**This is the end of the ED's Response to Comments.**

The ED's amended proposed Draft Order is attached to this RTC. This amended order incorporates the changes to the proposed Draft Order discussed in the ED's Responses to Comments above. This amended order also includes changes to the proposed Draft Order that the ED made in response to LCRA's letters of August 17, 2015 and September

3, 2015. In those letters, LCRA proposed changes to the proposed Draft Order to reflect agreements LCRA had made with some of the hearing requestors. The ED has approved these changes, with one exception that is discussed above in Response to Comments Nos. 20 and 21.

The ED also adds Finding of Fact No. 37 and Ordering Provision No. 2 based on LCRA's request, in a letter dated October 1, 2015, to clarify which Water Management Plan's environmental flow requirements apply during a transition period from the effective date of the Order to February 29, 2016, for purposes of determining the applicable environmental flow criteria.

Changes made to the ED's proposed Draft Order that are not discussed in the ED's Responses to Comments above, are: Finding of Fact 8; new Findings of Fact 9, 10, and 37; Renumbered Findings of Fact 25(b), 25(i), 27, and 33-35; Conclusion of Law 1; new Conclusion of Law 3, and new Ordering Provision 2.

Respectfully submitted,

TEXAS COMMISSION ON  
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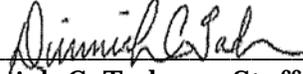
ATTORNEYS FOR THE  
EXECUTIVE DIRECTOR

**CERTIFICATE OF SERVICE**

I certify that on the 1St day of October 2015, a true and correct copy of the foregoing *Executive Director's Response to Comments* was filed with the Chief Clerk of the Texas Commission on Environmental Quality in Austin, Texas.



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