

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



ORDER APPROVING AMENDMENTS TO LOWER COLORADO RIVER AUTHORITY'S WATER MANAGEMENT PLAN

On the ____ day of _____, 2015, the Texas Commission on Environmental Quality ("Commission") considered the Lower Colorado River Authority's ("LCRA") application (Application No. 5838A) to amend its Water Management Plan (WMP) and having heard evidence and arguments concerning Application No. 5838A and the proposed order, the Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

- 1) 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 and 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 amend the part of its application related to removing from the WMP those elements of LCRA's Raw Water Drought Contingency Plans that are required by TCEQ's rules in 30 Tex. Admin. Code Chapter 288 but not required by prior WMP orders.

- 2) The WMP for the Lower Colorado River Basin defines LCRA's water management program and policies in accordance with the 1988 Final Judgment and Decree, *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*; the Enabling Act of the Lower Colorado River Authority; general Law of the State of Texas, particular 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 water policies of the Lower Colorado River Authority's

Board of Directors. The LCRA's original and amended and supplemental applications were filed as allowed by these authorities.

- 3) Notices of the original and revised and supplemental applications to amend the WMP were each published in newspapers regularly published and generally circulated in Mason, San Saba, Lampasas, Llano, Burnet, Travis, Bastrop, Gillespie, Williamson, Fayette, Colorado, Wharton and Matagorda Counties, Texas. These counties are the only counties in which persons reside who may be affected by action taken by the Commission on the proposed amendments.
- 4) Notices of the original and revised and supplemental applications to amend the WMP were sent by first-class mail to the water right holders of record in the Colorado River Basin as required by law.
- 5) The Executive Director's technical review of the revised and supplemental application evaluated the impacts of this amendment to the Water Management Plan on existing water rights and the environment. Because this application did not change any authorizations in LCRA's Certificates of Adjudication, a complete technical review under TWC Section 11.134 was not necessary or appropriate. However, the Executive Director's technical review did include examination of LCRA's model simulations, LCRA's water use and demand projections, and LCRA's recalculation of the combined firm yield of Lakes Buchanan and Travis.
- 6) The Executive Director also determined that the amendments to the WMP requested in the revised and supplemental application do not impair existing water rights, do consider applicable environmental flow standards for the environment, are not detrimental to the public welfare, comply with TCEQ rules regarding water conservation and drought contingency plans; and are consistent with the Regional Water Plan.
- 7) The January 27, 2010 TCEQ order approving the previous amendment to the WMP required LCRA to file another amendment to address the following:
 - a. Interruptible curtailment procedures to ensure LCRA can satisfy projected firm customer demands during intense drought conditions such as those experienced over the past several decades;
 - b. Evaluation of the criteria for determining a drought worse than the Drought of Record;
 - c. Evaluation of the minimum combined storage in Lake Travis and Buchanan that would be necessary or appropriate to protect firm water customers either during a repeat of the Drought of Record or under worse conditions;
 - d. Incorporation of changes to address LCRA's agreements with STP Nuclear Operating Company (STPNOC);
 - e. LCRA's 2007 agreement with the City of Austin regarding return flows in the lower Colorado River;
 - f. Revisions to LCRA's procedures for providing water for environmental flows using the best scientific data available including provisions to accommodate

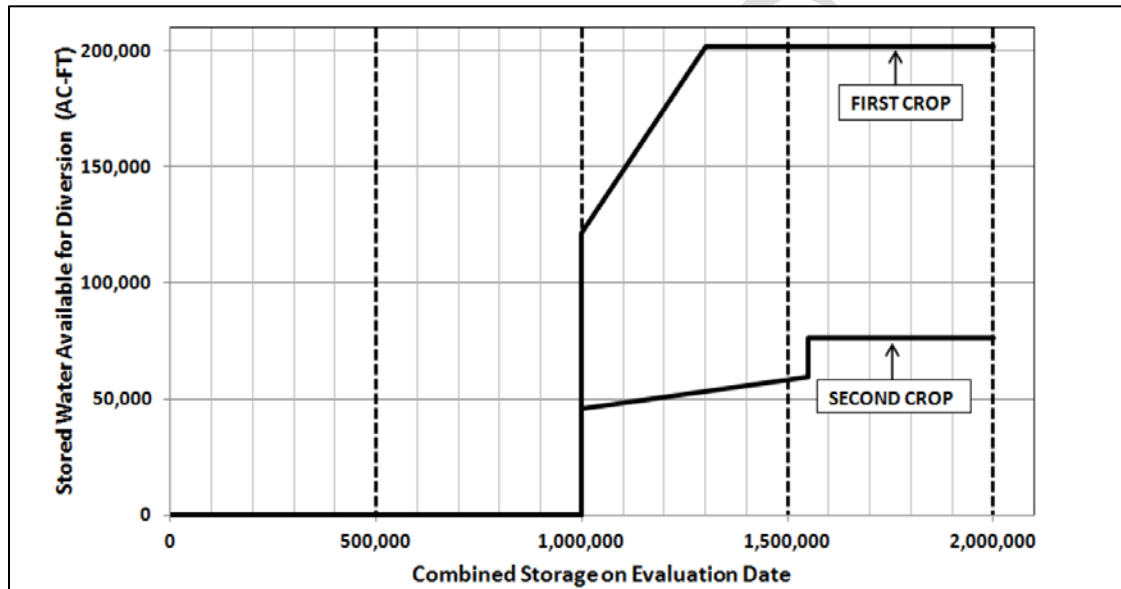
changing conditions within a year, limiting harmful intra-daily fluctuations in streamflows, and, to the maximum extent reasonable, specification of an overall instream flow regime.

- 8) LCRA's application to amend its WMP addresses items 5.(a) through 5.(f).
- 9) LCRA engaged an advisory committee consisting of basin stakeholders prior to its initial application filed in 2012. The advisory committee process was required by the January 27, 2010 order to allow meaningful participation by interested basin stakeholder groups and achieve regional consensus, where possible, during the WMP revision process. Following TCEQ's draft report in May 2014, LCRA held meetings with stakeholders throughout the summer of 2014, prior to filing the revised and supplemental application. The stakeholder input process is documented in materials submitted by LCRA in support of its original and revised and supplemental applications, filed on March 12, 2012 and October 31, 2014.
- 10) LCRA requested changes to the WMP based on the stakeholder process and the Executive Director's May 2014 draft report. These requested changes are designed to address protection of firm water demands, and to incorporate updated environmental flow studies and LCRA's agreements with STP Nuclear Operating Company and the City of Austin. All of these proposed amendments to the WMP are detailed in submissions filed with the Executive Director by LCRA on October 31, 2014, November 18, 2014, March 5, 2015, April 13, 2015 and May 21, 2015.
- 11) LCRA's proposed substantive revisions to the WMP under this amendment fall within three areas: 1) Interruptible Stored Water Availability; 2) a new determination of the combined firm yield; and 3) new environmental flow criteria based on the most recent scientific studies and implementation of those criteria.
- 12) Under the WMP, firm demands take precedence over all other uses; therefore, LCRA's proposed amendment to the WMP requests a reduction in interruptible supplies to compensate for an increase in firm demands. The reduction in interruptible supplies is intended to offset the increase in firm demands.
- 13) LCRA's projected firm demands used to develop this WMP are approximately 350,086 acre-feet per year and reflect anticipated demands between 2010 and 2020.
- 14) LCRA's proposed revisions to its curtailment policies and procedures are intended to ensure that LCRA can satisfy current and projected firm demands during drought conditions, in part by maintaining a higher minimum storage level through a repeat of the drought of record than was maintained in previous WMPs. LCRA's curtailment methods have 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.

- 15) LCRA proposes to revise the annual interruptible water supply curtailment policy described in Chapter 4 of the WMP. The curtailment policy includes the following:
- a. LCRA will determine availability of Interruptible Stored Water for its Gulf Coast, Lakeside operations and Pierce Ranch separately for the first and second (ratoon) crops and apply volumetric limits on the availability of Interruptible Stored Water for each crop season. (WMP Section 4.3.2.)
 - b. The amounts of Interruptible Stored Water for LCRA's Gulf Coast and Lakeside agricultural operations, and Pierce Ranch will be determined taking into consideration what Water Supply Condition is in effect: "Normal", "Less Severe Drought", or "Extraordinary Drought". (WMP Section 4.3.2.)
 - c. The Water Supply Condition will be evaluated on March 1 and July 1 (Evaluation Dates), taking into account inflows and the combined storage of Lakes Buchanan and Travis. (WMP Section 4.2.)
 - d. The Normal condition will be in effect if:
 - i. Neither the Less Severe Drought condition nor the Extraordinary Drought condition were in effect for the period prior to the Evaluation Date, and, on the Evaluation Date neither the criteria for entering Less Severe Drought or Extraordinary Drought are met; or
 - ii. The Less Severe Drought or Extraordinary Drought condition was in effect for the period prior to the Evaluation Date and the criteria for lifting Less Severe Drought is met on the Evaluation Date. (WMP Section 4.2.2.)
 - e. The Less Severe Drought conditions will be in effect if:
 - i. Combined storage in Lakes Buchanan and Travis is below 1,600,000 acre-feet and cumulative inflows into the lakes for the three months preceding the Evaluation Date are less than 50,000 acre-feet; or
 - ii. Combined storage in Lakes Buchanan and Travis is below 1,400,000 acre-feet and cumulative inflows into the lakes for the three months preceding the Evaluation Date are less than the 33rd percentile of inflows to the lakes for that three month period. The 33rd percentile will be based on United States Geological Survey streamflow data. (WMP Section 4.2.3.1.)
 - f. The Less Severe Drought condition is also entered upon exiting the Extraordinary Drought condition, unless, the criteria for exiting Less Severe Drought condition is also met on the Evaluation Date. (WMP Section 4.2.3.1.)
 - g. The Less Severe Drought condition will no longer be in effect if:

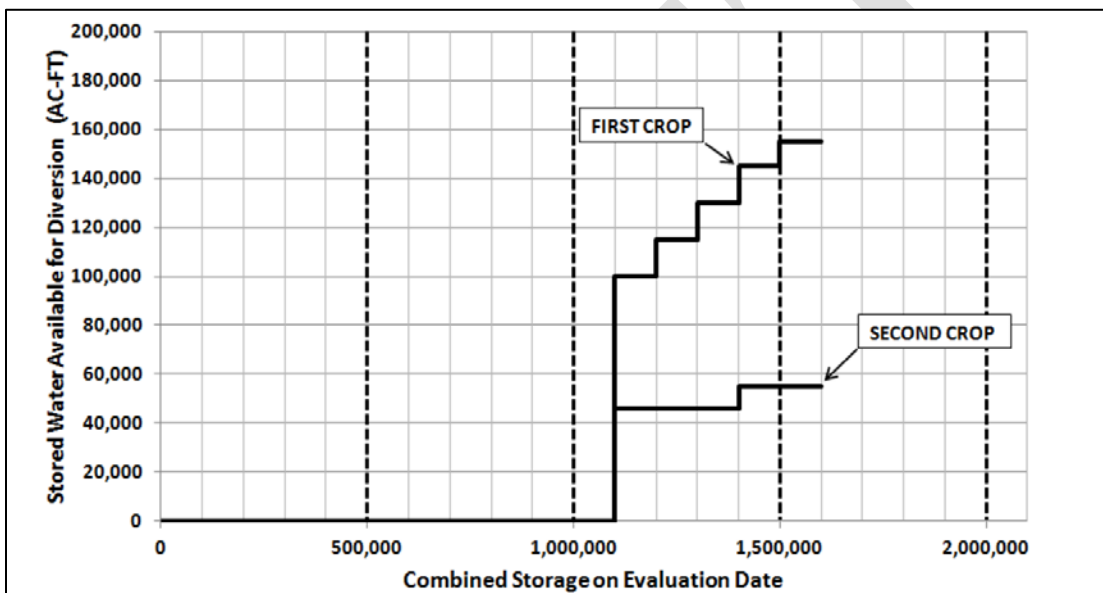
- i. Combined storage in Lakes Buchanan and Travis has been above 1,600,000 acre-feet for one or more days during the period preceding the Evaluation Date and neither of the criteria for entering a Less Severe Drought condition is met on the Evaluation Date: or
 - ii. Combined storage in Lakes Buchanan and Travis has been above 1,400,000 acre-feet for one or more days during the period preceding the Evaluation Date, cumulative inflows to the lakes for the preceding three months are at or above the 50th percentile of inflows for that three month period, and neither of the criteria for entering Less Severe Drought are met on the Evaluation Date. The 50th percentile will be based on United States Geological Survey streamflow data. (WMP Section 4.2.3.2.)
- h. Extraordinary Drought will be in effect if:
 - i. Combined storage in Lakes Buchanan and Travis is below 1,300,000 acre-feet on the Evaluation Date; and
 - ii. Drought duration is at least 24 months; and
 - iii. The inflow intensity test for a declaration of a Drought Worse than the Drought of Record is met. (WMP Section 4.2.4.1.)
- i. Extraordinary Drought remains in effect until:
 - i. Combined storage in Lakes Buchanan and Travis has been above 1,300,000 acre-feet for one or more days during the period preceding the Evaluation Date; and
 - ii. The criteria for entering Extraordinary Drought are not met on the Evaluation Date. (WMP Section 4.2.4.2.)
- j. Under Normal conditions, the total amount of interruptible stored water to be made available for diversion at the Gulf Coast, Lakeside and Pierce Ranch irrigation operations is as follows:
 - i. First Crop
 - a. For combined storage of 1,300,000 acre-feet or more – 202,000 acre-feet;
 - b. For combined storage between 1,299,999 and 1,000,000 acre-feet – a sliding scale from 202,000 acre-feet at 1,299,999 acre-feet of combined storage to 121,500 acre-feet at 1,000,000 acre-feet of combined storage; and
 - c. Below 1,000,000 acre-feet, no water except for Garwood irrigation operation consistent with prior contracts between Garwood and LCRA.
 - ii. Second Crop
 - a. For combined storage of 1,550,000 or more – 76,500 acre-feet;

- b. For combined storage between 1,549,999 acre-feet and 1,000,000 acre-feet – a sliding scale from 59,500 acre-feet at 1,549,999 acre-feet of combined storage to 46,000 acre-feet at 1,000,000 acre-feet of combined storage; and
- c. Below 1,000,000 acre-feet no water except for Garwood irrigation operation consistent with prior contracts between Garwood and LCRA. (WMP Section 4.3.2.1.)



- k. During Normal conditions, if the combined storage in Lakes Buchanan and Travis falls below 900,000 acre-feet at any time during either the first or second crop season, all releases of Interruptible Stored Water to Gulf Coast, Lakeside and Pierce Ranch will be cut off for the remainder of the crop season. (WMP Section 4.2.3.1.)
- l. Under Less Severe conditions, the total amount of interruptible stored water to be made available for diversion at the Gulf Coast, Lakeside and Pierce Ranch irrigation operations is as follows:
 - i. First Crop
 - a. For combined storage of 1,500,000 to 1,599,999 acre-feet– 155,000 acre-feet;
 - b. For combined storage between 1,400,000 and 1,499,999 acre-feet – 145,000 acre-feet;
 - c. For combined storage between 1,300,000 and 1,399,999 acre-feet – 130,000 acre-feet;
 - d. For combined storage between 1,200,000 and 1,299,999 acre-feet – 115,000 acre-feet;
 - e. For combined storage between 1,100,000 and 1,199,999 acre-feet – 100,000 acre-feet; and

- f. Below 1,100,000 acre-feet, no water except for Garwood irrigation operation consistent with prior contracts between Garwood and LCRA.
- ii. Second Crop
 - a. For combined storage of 1,400,000 to 1,599,999 acre-feet – 55,000 acre-feet;
 - b. For combined storage between 1,100,000 acre-feet and 1,399,999 acre-feet – 46,000; and
 - c. Below 1,100,000 acre-feet no water except for Garwood irrigation operation consistent with prior contracts between Garwood and LCRA. (WMP Section 4.3.2.2.)



- m. During Less Severe Drought conditions, if the combined storage in Lakes Buchanan and Travis falls below 950,000 acre-feet at any time during either the first or second crop season, all releases of Interruptible Stored Water to Gulf Coast, Lakeside and Pierce Ranch will be cut off for the remainder of the crop season. (WMP Section 4.3.2.2.)
- n. If releases of Interruptible Stored Water to Gulf Coast, Lakeside and Pierce Ranch are cut off in the middle of a crop season, LCRA will not provide any pass-through run-of-river water that originates upstream of Lake Travis under LCRA's water rights that were historically associated with the Gulf Coast, Lakeside, and Pierce Ranch operations unless and until the combined storage in Lakes Buchanan and Travis is above 1,300,000 acre-feet. If combined storage remains above 1,300,000 acre-feet during the remainder of the crop season, LCRA will make these Pass-Through run-of-river supplies available limited to the amount needed to finish the crop. (WMP Sections 4.3.2.1 and 4.3.2.2.)

- o. If releases of Interruptible Stored Water to Gulf Coast, Lakeside and Pierce Ranch for the first crop are cut off for the entire season, releases of interruptible stored water are also cut off for the second crop season. (WMP Sections 4.3.2.1 and 4.3.2.2.)
- p. If all available Interruptible Stored Water for Gulf Coast, Lakeside and Pierce Ranch has been diverted for the first crop season, but Interruptible Stored Water for these operations is available for the second crop season, all or part of the Interruptible Stored Water available for the second crop season can be used to finish the first crop season. (WMP Sections 4.3.2.1 and 4.3.2.2.)
- q. If Extraordinary Drought conditions are in effect, no Interruptible Stored Water or Pass-Through run-of-river water under LCRA's water rights historically associated with the Gulf Coast, Lakeside and Pierce Ranch operations will be made available for diversion within those operations. (WMP Section 4.3.2.3.)
- r. Interruptible stored water may be available in the Garwood irrigation operation for storage levels lower than indicated in the curtailment curves based on prior contracts between Garwood and LCRA. (WMP Sections 4.3.2.1, 4.3.2.2 and 4.3.2.3.)
- s. The amount of water available for Gulf Coast, Lakeside and Pierce Ranch will be based on the water supply condition combined with a Look-Ahead test. If the LCRA Board determines, under the Look-Ahead test, that the release of Interruptible Stored Water under either the Normal condition or Less Severe Drought condition (whichever is in effect) in the upcoming crop season would result in the combined storage in Lakes Buchanan and Travis falling below 600,000 acre-feet in the next twelve months or below 900,000 acre-feet in the upcoming crop season then no Interruptible Stored Water or Pass-Through run-of-river water will be released for Gulf Coast, Lakeside and Pierce Ranch for the upcoming crop season. (WMP Section 4.3.2.4.)
- t. In making its determination under the Look-Ahead Test, the LCRA Board will consider antecedent conditions, current storage and forecasted conditions. 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. (WMP Section 4.3.2.4.)
- u. A Drought Worse than Drought of Record is a drought condition identified by the LCRA Board of Directors pursuant to criteria in the Water Management Plan where an ongoing drought has a real likelihood of becoming a new Drought of Record. A DWDR declaration would trigger action to cut off Interruptible Stored Water and implement mandatory pro rata curtailment of

Firm Water demands. The Drought of Record is defined as the worst hydrologic drought for which streamflow records are available and is considered to be the period of time during recorded history with natural hydrologic conditions provided the least amount of water supply. For the Water Management Plan, the Drought of Record is the drought of the 1940s and 50s. (WMP Sections ES-G and 4.7.)

- v. The amount of water to be allocated to the individual downstream interruptible agricultural operations and to individual customers within the operations will be determined in accordance with LCRA's Drought Contingency Plan for interruptible water (Interruptible DCP) and applicable agreements and contracts.**
- 16) If LCRA operates Lakes Buchanan and Travis in accordance with the basic goals and guidelines included in Section 1.2 of the WMP, there should be no impact to water rights in the Colorado River Basin as a result of LCRA's requested amendments to its WMP greater than if the water rights for Lakes Buchanan and Travis were fully exercised.**
- 17) The modeled simulations of the proposed curtailment procedures demonstrate that firm customer demands can be met through a repeat of the entire period of record, 1940-2013, including through a repeat of the Drought of Record, which is defined as the drought of the 1940s and 50s for the 2014 WMP.**
- 18) In 2011, 2013, 2014 and 2015, LCRA applied for, and TCEQ granted, emergency orders allowing LCRA to deviate from the existing WMP with respect to curtailment procedures for interruptible stored water as a result of severe drought conditions. Further, in 2014 and 2015, LCRA applied for, and TCEQ granted, emergency orders allowing LCRA to deviate from the existing WMP with respect to providing stored water for environmental flows. This WMP amendment includes additional protections for LCRA's firm water customers and changed curtailment procedures for supplying interruptible stored water, which should mitigate the impacts of future severe conditions. If severe dry weather conditions occur in the future, beyond those considered in this WMP that cannot be addressed through curtailment procedures in the WMP (WMP Section 4.3 and Section 4.4), LCRA can apply for an Emergency Order to allow deviations from the WMP curtailment procedures for interruptible stored water or environmental flow conditions.**
- 19) This WMP amendment reduces the amount of interruptible stored water available for customers outside of the four downstream irrigation operations, and eliminates provision of water to such customers after 2018. (WMP Section 4.5.)**
- 20) 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 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. 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.)

- 21) 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, and summarized as follows (and included in WMP Section 4.4.2):
- a. Three levels of instream flows: 1)subsistence; 2)base-dry; and 3)base-average.
 - b. The amount of water provided for instream flows, i.e. whether subsistence, base-dry, or base-average flow levels would apply, will be determined based on combined storage on March 1st and July 1st.
 - c. The specific trigger levels for determining which instream flow levels apply on each Evaluation Date are:
 - i. When the combined storage in Lakes Travis and Buchanan is above 1,960,000 acre-feet, base-average conditions apply;
 - ii. When the combined storage in Lakes Travis and Buchanan is between 1,900,000 and 1,960,000 acre-feet, base-dry conditions apply; and
 - iii. When the combined storage in Lakes Travis and Buchanan is less than 1,900,000 acre-feet, subsistence conditions apply.
 - d. 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 at the four streamflow gauging locations identified in Table 4-3 of the WMP.
 - e. In the event of a pro rata curtailment of firm supplies, the applicable instream flow criteria will be subject to the same percentage curtailment as imposed on LCRA's firm water customers.
 - f. For purposes of this amendment to the WMP, the subsistence and base flow criteria for gauges other than the Austin gauge, are daily (or daily average) flow values. The subsistence criteria at Austin represent minimum (or instantaneous) flow requirements.
 - g. LCRA's ability to meet the instream flow requirements set forth in the WMP may, in rare instances, be impaired by certain unavoidable constraints such as the capacity of its hydro-generation units and hydro-generation scheduling mandates as well as unforeseen diversions, unforeseen changes in flow conditions downstream, unforeseen or unscheduled operations at Longhorn Dam, and adjustments to the ratings of the applicable gages.

- h. For the Bastrop gauge, the following minimum flow requirements apply:
 - i. During those times when base-average criteria are in effect, the minimum (or instantaneous) flow requirements, subject to availability of storable inflows, shall be 70 percent of the base-average criteria for the given month.
 - ii. During those times when base-dry criteria are in effect, the minimum (or instantaneous) flow requirements, subject to availability of storable inflows, shall be 70 percent of the base-dry criteria for the given month.
 - iii. During those times that subsistence criteria are in effect, releases shall be scheduled such that the minimum flow does not drop below:
 - 1. 90 percent of the subsistence criteria when the combined storage in Lakes Travis and Buchanan is equal to or greater than 1,400,000 acre-feet; or
 - 2. 80 percent of the subsistence criteria when the combined storage in Lakes Travis and Buchanan is less than 1,400,000 acre-feet.

22) LCRA is not required to manage water in the lower Colorado River to specifically provide for pulse flows under this amendment to the 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 4.4.2.)

- 23) LCRA's amendment to the WMP includes a change in the procedures for supplying water to help meet freshwater inflow needs and the freshwater inflow criteria are based on the most recent scientific studies. (WMP Section 4.4.3.)
- a. The freshwater inflow criteria are based upon recent studies as described in Section 2.4.2 of the WMP.
 - b. The WMP freshwater inflow criteria include five levels of inflow to help meet freshwater inflow needs and are defined using two-month operational criteria, as described in Table 4-6 of the WMP.
 - c. 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.
 - d. In May and June, LCRA will determine if the three month spring freshet requirement as described in Table 4-5 of the WMP has been met within the spring period, and, if so, the two-month operational criteria will be reduced to the corresponding amount for the intervening period.
 - e. In September and October, LCRA will determine if the three month fall freshet requirement as described in Table 4-5 of the WMP has been met within the fall period, and, if so, the two-month operational criteria will be reduced to the corresponding amount for the intervening period.
 - f. 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.

- g. The combined storage trigger at which specific freshwater inflow levels apply can be found in Table 4-7 of the WMP.
 - h. In the event of a pro rata curtailment of firm supplies, the applicable freshwater inflow criteria will be subject to the same percentage curtailment as imposed on LCRA's firm water customers.
 - i. Any time releases of Interruptible Stored Water for Gulf Coast, Lakeside and Pierce Ranch are cut off, only the Threshold requirement will be in effect.
 - j. If releases for Gulf Coast, Lakeside and Pierce Ranch are cut off for the second crop but combined storage in Lakes Buchanan and Travis are above 1,300,000 acre-feet on July 1st, the two-month operational criteria shall be in effect; however, LCRA's releases of storable inflows to meet the operational criteria will be limited to no more than 50% of the storable inflows remaining after the release of storable inflows for instream flows or Threshold inflow levels, with a maximum release in a single month of 82,000 acre-feet.
 - k. If combined storage in Lakes Buchanan and Travis falls below 1,000,000 acre-feet at any time, the only criteria in effect from that month through the next Evaluation Date is Threshold.
 - l. If combined storage in Lakes Buchanan and Travis is below 1,300,000 acre-feet at the end of a month, the maximum release of storable inflows to help meet freshwater inflow criteria is 25,000 acre-feet.
 - m. When Less Severe Drought conditions are in effect, releases of storable inflows to meet the operational criteria are limited to no more than 50% of the storable inflows remaining after the release of storable inflows for instream flows or Threshold inflow levels, with a maximum release in a single month of 82,000 acre-feet if storage is above 1,300,000 acre-feet at the end of the month and a maximum release for all freshwater inflow criteria of 25,000 acre-feet if storage is below 1,300,000 acre-feet.
 - n. In certain instances, up to 5,000 acre-feet of storable inflows that are not released in a given month will be carried forward to help meet the Threshold criteria in the immediately following month.
- 24) The amount of water available to help meet environmental flow needs is subject to limits to ensure that the actual amounts made available do not exceed the amounts simulated in the development of the 2014 WMP revision for periods when combined storage in Lakes Buchanan and Travis was below 1,300,000 acre-feet on the Evaluation Date. The WMP includes annual and multi-year caps on water for environmental flows in Section 4.4.4 of the WMP.
- 25) These instream flow and freshwater inflow criteria are consistent with those recommended by the Colorado-Lavaca Senate Bill 3 science team and stakeholder groups that were adopted as environmental flow standards by TCEQ on August 8, 2012.
- 26) LCRA committed 33,440 acre-feet of firm water to environmental needs under the 2010 WMP. That amount is not changed in this amendment.

- 27) If LCRA operates Lakes Buchanan and Travis in accordance with Section 4.4 of the WMP, there should be no impact to the instream flows of the lower Colorado River or freshwater inflows to Matagorda Bay greater than if the water rights for Lakes Buchanan and Travis were fully exercised.
- 28) LCRA's amendment to the WMP includes changes to the criteria and procedures for the declaration and cancellation of a Drought Worse than the Drought of Record as specified in Section 4.7 of the WMP.
- 29) LCRA's DCP, as required by commission rules (30 Texas Administrative Code §§ 288.20 *et seq.*), was approved by the LCRA Board of Directors and submitted to the commission in June 2010. In December of 2011, the commission approved LCRA's Water Curtailment Plan for its firm customers. Under current commission rules, the DCP must be reviewed and updated as necessary every five years. Consistent with the requirements of Chapter 288, in February, 2012 and May, 2015, the LCRA Board approved modifications to the DCP including changes in drought response measures for firm water customers and changes in the allocation procedures for interruptible water customers. Changes to the LCRA Firm Customer DCP adopted by the Board in May 2015 will become effective upon adoption of this WMP. Further revisions to the Interruptible DCP will be needed to ensure consistency with the amended WMP and prior to LCRA supplying interruptible stored water under the amended WMP. LCRA intends to publish its Interruptible DCP as a stand-alone document, once revised.
- 30) The WMP contains six appendices: 1) Appendix A, which include technical papers addressing projections of demands, assumptions of water availability models (WAMs), methodology of drought identification, and development of the combined firm yields of Lakes Buchanan and Travis, and WAMs; 2) Appendix B, which contains flood control regulation information; 3) Appendix C, which includes previous amendments and orders related to the WMP; 4) Appendix D, which includes the 1988 Final Judgment and Decree; 5) Appendix E, which contains relevant LCRA Board policies, and 6) Appendix F, which contains LCRA's Firm Customer Drought Contingency Plan.
- 31) The naturalized flows in the Colorado WAM were updated through 2013 for this WMP. At this time Lakes Buchanan and Travis have not refilled. Updating the WAMs to include additional years of naturalized flows could affect the trigger levels and curtailment curves included in the 2014 WMP amendment or the combined firm yield of Lakes Buchanan and Travis.
- 32) The models used to support LCRA's 2014 WMP include certain assumptions about LCRA's use of its downstream water rights that, if changed, could affect the trigger levels or curtailment curves included in the 2014 WMP amendment.
- 33) Actual water use by firm customers could increase in the future above the levels considered in the models used to support LCRA's 2014 WMP amendment in a way that could affect the trigger levels or curtailment curves.

CONCLUSIONS OF LAW

- 1) The commission considered this order under the authority and in accordance with Chapter 11 of the Texas Water Code, as amended and 30 Texas Administrative Code (“TAC”) Chapter 295; the 1988 Final Judgment and Decree, *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*; the Enabling Act of the Lower Colorado River Authority; LCRA’s Certificates of Adjudication Nos. 14-5478 and 14-5482, as amended; the Commission’s Orders concerning the WMP; and the water policies of the Lower Colorado River Authority’s Board of Directors.
- 2) The commission has jurisdiction to consider and take action on LCRA’s application to amend the WMP.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT:

- 1) LCRA’s amended Water Management Plan is approved with the following conditions:
 - a. LCRA’s amended Water Management Plan is subject to all findings, conclusions, and conditions contained in the Commission’s Orders dated September 20, 1989, December 23, 1991, December 18, 1992, March 1, 1999, and January 27, 2010 approving and amending the WMP, except to the extent not inconsistent with this order.
 - b. LCRA’s amended Drought Management Plan including LCRA’s amended Drought Contingency Plan is subject to all findings, conclusions, and conditions, contained in the commissions’ September 20, 1989, December 23, 1991, December 18, 1992, March 1, 1999, and January 27, 2010 Orders and the LCRA’s December 7, 2011 commission approved Water Curtailment Plan, except to the extent not inconsistent with this order.
 - c. LCRA agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the approval of the proposed amendments.
 - d. LCRA shall conform the text of the Water Management Plan to be consistent with the provisions of this Order, specifically to conform to Findings of Fact numbers 15.s. and 15.t. The Findings of Fact provide a summary of many of the provisions in LCRA’s revised and supplemental WMP application. With the exception of the Findings of Fact noted above, in the event of a conflict between the more general language in the Findings of Fact and the specific language in the WMP application, the WMP application language controls.
 - e. Consistent with 30 Texas Administrative Code Chapter 288, LCRA shall review and update, as appropriate, in accordance with the schedule required by such

rules, those portions of its Drought Contingency Plan (for firm and interruptible customers) that do not 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. Such changes do not constitute an amendment to the WMP requiring notice and opportunity for contested case hearing, but must otherwise comply with the public notice requirements of Chapter 288 of the Commission's rules.

- f. LCRA shall initiate a process to update the Water Management Plan no later than December 31, 2018 or one year from any of the following occurrences:
- i. The March 1, when water use reports are filed, following the calendar year in which Lakes Travis and Buchanan reach a combined capacity of 98%;
 - ii. Firm water use, as reported in LCRA's annual water use reports and annual Water Management Plan report filed with the TCEQ, reaches a level that is 90% or greater of the demands considered in the modeling for the 2014 WMP amendment for a period of two consecutive years;
 - iii. LCRA has begun operating the off-channel reservoir authorized under certificate of adjudication no. 14-5476C;
 - iv. LCRA has begun using one or more of its downstream water rights based on non-temporary amendments to those rights obtained after the effective date of this Order, unless LCRA has demonstrated, and the executive director agrees, that modeling of such operations in combination with this Water Management Plan does not result in combined storage dropping below 600,000 acre-feet in a repeat of the hydrology considered in this WMP.
- g. LCRA shall submit an application to amend its WMP no later than two years from the date it initiates a process to update the WMP under Ordering Provision 1.f. If one or more of the events described in Ordering Provision 1.f occurs after a revision process has been initiated, and upon written request by LCRA, the time period to submit an application may be extended by a maximum of six months per occurrence by the Executive Director to allow those changed circumstances to be included in the revision process.
- 2) The Chief Clerk of the Texas Commission on Environmental Quality shall forward a copy of this Order, to all parties.
- 3) If any part of this Order held to be invalid, the invalidity of any portion shall not affect the validity of the remainder of the Order.

- 4) Nothing in LCRA's Water Management Plan, as amended, or this Order shall be construed to impair, or to authorize LCRA or any other person or entity to impair, senior or superior water rights in the Colorado River Basin.

For the Commission

DATE ISSUED

DRAFT