

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



**AN EMERGENCY ORDER** granting an emergency authorization to the Lower Colorado River Authority to amend its Water Management Plan, Permit No. 5838, pursuant to section 11.139 of the Texas Water Code; TCEQ Docket No. 2011-2096-WR

On November 17, 2011, the executive director of the Texas Commission on Environmental Quality (Commission) considered a request from the Lower Colorado River Authority (LCRA) for an Emergency Order under TEX. WATER CODE § 11.139 and 30 TEX. ADMIN. CODE §§ 295.91 and 295.156 to amend its Water Management Plan, Permit No. 5838. The executive director has jurisdiction to consider this matter and the following Findings of Fact and Conclusions of Law are appropriate:

## FINDINGS OF FACT

### **LCRA's Water Rights and 2010 Water Management Plan**

1. LCRA has the right to divert and use up to 1.5 million acre feet (MAF) from Lakes Buchanan and Travis under Certificates of Adjudication Nos. 14-5478 and 14-5482. By court order, LCRA has developed a Water Management Plan (WMP), currently dated 2010, which is part of these certificates and has its own number, Permit No. 5838.
2. The Certificates of Adjudication and the 2010 WMP govern LCRA's operation of Lakes Buchanan and Travis and dictate how LCRA makes water available from these lakes to help meet "firm" water customer needs, downstream interruptible irrigation demands, and environmental flow needs of the lower Colorado River and Matagorda Bay.
3. Certificates of Adjudication 14-5478 and 14-5482 state that "LCRA shall interrupt or curtail the supply of water . . . pursuant to commitments that are specifically subject to interruption or curtailment, to the extent necessary to allow LCRA to satisfy all demand for water under such certificate pursuant to all firm, uninterruptible water commitments." The WMP further describes how LCRA will manage and curtail supplies from the lakes during times of drought including through a repeat of the Drought of Record.
4. As established in the 2010 WMP, the combined firm yield of Lakes Buchanan and Travis is 535,812 acre-feet per year (AFY). Of this amount, 90,546 AFY is committed to O.H. Ivie Reservoir, making 445,266 AFY of firm water supply available from Lakes Buchanan and Travis for LCRA to help meet the firm water needs of its customers.
5. Until firm demand for water equals the combined firm yield, LCRA can supply water for irrigated agriculture on an interruptible basis. The maximum historical annual amount of reported firm water use from the firm supplies of Lakes Buchanan and Travis during 2000 through 2010 was 152,000 acre-feet in 2008. This use was about 30 percent of the

current total commitment of firm water supply. The maximum interruptible water released from Lakes Buchanan and Travis during this same period occurred in 2009 and totaled about 368,000 acre-feet. The maximum total amount released or used from the Highland Lakes, about 552,000 acre-feet, occurred in 2009.

6. To manage the supply of water, the 2010 WMP imposes several trigger points keyed to the total combined storage capacity of Lakes Buchanan and Travis that are intended to ensure the firm water supply is protected during droughts. The most relevant trigger points are set out in the following table:

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

7. Under the 2010 WMP, once a drought has lasted more than 36 months and a Drought Worse than the Drought of Record (DWDR) has been declared, the interruptible stored water would be fully and immediately curtailed – making no stored water available for agricultural irrigation or other interruptible uses until lake levels recover or the inflows into the lakes increase substantially. Moreover, LCRA will implement pro rata curtailment of its firm water users once a DWDR is declared and after interruptible stored water (agriculture) uses have been curtailed.
8. Prior to a declaration of a DWDR, LCRA is obligated by the 2010 WMP to provide at least some interruptible water to its four major irrigation operations. The allocation of interruptible water is determined by the LCRA Board of Directors in November, based on projections of the amount expected to be in the combined storage of Lakes Buchanan and Travis on January 1 of the following year. Thus, the decision regarding curtailment of interruptible supplies to the four major irrigation operations is keyed to the January 1 storage levels.

## Current Conditions

9. LCRA provides raw water out of the combined firm yield of Lakes Buchanan and Travis to 64 retail and wholesale potable water suppliers that together serve over one million people. In addition, LCRA provides water to several electric utilities from the firm water supply of Lakes Buchanan and Travis. These electric utilities provide electricity into the electrical grid in Texas operated by the Electric Reliability Council of Texas (ERCOT) and provide electricity to customers in Texas. LCRA also provides firm raw water to several industries located downstream.
10. According to the latest U.S. National Drought Monitor, a product of the National Weather Service, the U.S. Department of Agriculture, and the National Drought Mitigation Center, all of Central Texas, the middle Texas coast, and the Texas Hill Country are designated as being in “exceptional drought,” the worst of four (4) possible categories of drought.
11. The drought has been unprecedented relative to the long-term climate and hydrologic record: record low inflows, record low precipitation, extreme, record-setting summer heat and enormous wildfires.
12. At times, this drought has been more intense than the region’s Drought of Record that occurred between 1947 and 1957.
13. Inflows into Lakes Buchanan and Travis through September of 2011 were at about eight percent (8%) of average inflows.
14. Inflows for the three months of June, July, August and September were less than one percent (1%) of the average inflows for this period. The approximately 2,000 acre-feet of inflows during this period are the lowest of any three-month period in the historical record. The record low inflows are a result of the lack of rain, record high temperatures, and high evaporation rates.
15. On a statewide basis, the current drought is the worst 1-year drought on record dating back to 1895.
16. Rainfall across Texas between October 1, 2010 and August 31, 2011 has totaled only 10.06 inches, just 40 percent of the long-term average rainfall. This has been the driest 12-month period ever recorded in Austin, dating back to 1856.
17. The City of Austin recorded the most 100-degree days and the most consecutive 100-degree days dating back to 1856.
18. High temperatures combined with numerous sunny days have caused much higher than normal evaporation. Evaporation rates were about 13 percent higher than they were in the summer of 2009. In most areas of the Colorado River basin, the soil moisture content in the top few inches of the soil is essentially zero.
19. The National Weather Service's Seasonal Drought Outlook calls for the drought to persist between October and December 2011. Below average rainfall is forecast across the southern U.S., including all of Texas, for the period of January through March 2012.

Based on similar historical developments, it is likely that drier than normal weather conditions could persist through the summer of 2012.

20. The Governor of Texas Issued an Emergency Disaster Proclamation for wildfires and drought which was originally issued on December 21, 2010 and last renewed on November 1, 2011, stating that the “exceptional drought conditions... pos[e] an imminent threat to public health, property and the economy.” This proclamation allows the waiver of all rules and regulations that may inhibit or prevent prompt response to address the drought.

### **Harm from Following 2010 WMP Requirements**

21. The current drought conditions are outside the range of hydrologic conditions that were considered during formulation of the 2010 WMP.
22. Unless a change in the weather occurs that contributes significant water to storage in Lakes Buchanan and Travis, following the 2010 WMP will require LCRA to:
  - a. Make a substantial quantity of stored water available for interruptible use and enter into contracts for interruptible water, based on January 1, 2012 combined storage;
  - b. Begin releases of interruptible stored water to meet demands in the four irrigation operations for the 2012 crop;
  - c. Suffer a significant likelihood of reaching the third (and final) criteria for Drought Worse than Drought of Record (DWDR) conditions;
  - d. Declare a DWDR;
  - e. Cut off stored water for interruptible contracts, thereby ruining the crop already planted and wasting the water already released and diverted; and
  - f. Curtail cities’ and industries’ water use by 20% or more.
23. The 2010 WMP includes conditions under which the LCRA Board of Directors may declare a DWDR. To declare a DWDR, the Board must find that the following three conditions are simultaneously met:
  - a. Duration of drought is more than 24 months, which is determined by counting the number of consecutive months since both Lakes Buchanan and Travis were last full;
  - b. The cumulative inflow deficit since the beginning of the drought exceeds the envelope curve for cumulative inflow deficits by at least 5% for six consecutive months; and
  - c. Lakes Buchanan and Travis combined storage has less than 600,000 acre-feet of water.
24. The first two criteria for a DWDR have been met. The drought has lasted more than 24 months and the cumulative inflow deficit for Lakes Buchanan and Travis as of September 29, 2011 exceeds the criteria in the 2010 WMP.

25. Following the 2010 WMP creates a risk that a DWDR will be declared during the growing season unless there is a substantial increase in storage before planting begins.
26. The 2010 WMP requires that firm customers (mainly cities and industries) be curtailed on a pro rata basis and that LCRA cease all releases for interruptible stored water (*regardless* of the impact on the crops) when a DWDR is declared.
27. Without significant rains, LCRA currently forecasts that combined storage in Lakes Buchanan and Travis will drop to between 640,000 and 680,000 acre-feet by January 1, 2012. At this January 1 combined storage, the 2010 WMP requires LCRA to make available around 170,000 acre-feet for diversion for interruptible irrigation use in the lower basin for the 2012 crop year.
28. Not including the amount of water needed for firm water users, evaporation, and releases for instream uses, the combined storage of the reservoirs would likely drop to 600,000 acre-feet well before irrigators could finish their crop.
29. Under the present and likely future weather patterns, LCRA has concluded that storage must be at or above 920,000 acre-feet before the risk of following the 2010 WMP can be reduced to reasonable levels.
30. If LCRA is required to follow the 2010 WMP and the drought continues, LCRA and its customers may need to acquire or develop large quantities of alternative water supplies to meet essential needs of their respective potable water systems. The length of time that it takes to develop or conserve significant quantities of water supply mean that a water supply emergency arises well before a reservoir goes dry. For the most part, LCRA's firm customers do not have any readily available alternative sources of water supply that could substitute for their reliance on the Colorado River. To follow the 2010 WMP under the current drought conditions would pose an imminent threat to firm customers served by LCRA from Lakes Buchanan and Travis.
31. As the lake levels drop, it becomes more difficult and expensive for the retail water suppliers to pump water from Lakes Buchanan and Travis. Currently, LCRA owns five systems that take raw water from Lakes Buchanan and Travis. LCRA also has twelve customers that actively take raw water for municipal purposes from Lake Travis that are not a part of LCRA's utility facilities. The lowest pumping elevations of the intakes range from 545 feet mean sea level (msl) to 630 feet msl on Lake Travis. If the levels in Lake Travis or Lake Buchanan drop below the current lowest pumping elevations, LCRA and its wholesale raw water customers must take action to either lower their pumping elevation or find alternative supplies. For smaller systems, the alternative is likely hauling water from a water utility with a viable source. For larger systems, temporary measures must be implemented to extend the intake capabilities to reach lower elevation water. Similar measures would likely be needed by LCRA's raw water customers that have their own intake facilities. If the lake levels drop more quickly than arrangements for alternative intakes or supplies can be implemented, the current drought presents an imminent threat to public health and safety for the LCRA water systems and for its customers' water systems.
32. The 2010 WMP requires LCRA to make its decisions about how much interruptible stored water is available in November based on projections of combined storage capacity

for January 1, with releases of the water beginning in March. This short decision-making window is not compatible with the more lengthy WMP amendment process. Because the WMP is required by, and incorporated into, LCRA's Certificates of Adjudication 14-5478 and 14-5482, the WMP may only be amended in the same manner and following the same procedures as one would amend any state-issued water right, which procedures for this type of amendment would require basin-wide 30-day public notice and significant staff review. Although LCRA is nearing the end of a process to finalize proposed revisions to the 2010 WMP, it does not expect to have those on file with the Commission until next year – too late to address the 2012 growing season.

33. The time period in which LCRA must make decisions regarding its commitments of interruptible water occur long before there could be any decision on any amendments to the 2010 WMP if the regular TCEQ water rights permitting procedures are followed. Thus, the emergency authorization is the only means by which LCRA can be provided with the flexibility to determine if it can commit to supplying interruptible stored water to its irrigation operations.

### **Conservation and Drought Contingency Plans**

34. LCRA has, to this point, fully implemented its Drought Contingency Plan. All of LCRA's customers that currently divert and purchase water from LCRA must have a drought contingency plan. As of September 23, 2011, 83% of those customers, representing over 95% of customer demand over the last twelve months, have plans on file. The other customers have been notified that they are out of compliance.
35. In August 2011, the combined storage of Lakes Buchanan and Travis reached 900,000 acre-feet. As required by the WMP, LCRA called on its firm water customers to voluntarily implement mandatory water use restrictions under their individual DCPs to reduce their water use by 10 to 20 percent. Information was sent out via a press release, direct email notifications to customers, and certified letters.
36. Since the 900,000 acre-feet trigger was reached, twenty-one (21) LCRA municipal customers and LCRA's retail water utilities began implementing mandatory water restrictions. These customers in drought restrictions represent more than 90 percent of the population served in the LCRA water supply area. Most of the restrictions currently in place limit outdoor watering and other non-essential uses and include a public awareness element such as direct mailings, community presentations, and informational signs.
37. Also charged with the goal of reducing their water use by 10 to 20 percent, ten firm irrigation and recreation customers have informed LCRA of the water reduction measures they had implemented to cut back their water use. Most golf courses have reduced their overall water budget, while others have scaled back on ornamental beds, area of irrigated roughs (areas not essential to the playability of a course), or other high water using areas. LCRA industrial customers, including power plants and a few large industries along the Gulf Coast, have taken steps to limit non-essential water uses, such as limits on outdoor watering. However, these cut-backs of discretionary use have likely resulted in minimal savings compared to the total water use of these industries. Any further cutbacks will result in a decrease in production.

38. When LCRA declares a DWDR and releases of interruptible stored water cease, LCRA's DCP requires firm customers to implement measures to try to immediately reduce their water consumption by twenty-percent (20%). To achieve a 20% reduction in use will require firm customers to implement fairly dramatic measures. Firm municipal customers would likely have to eliminate all outdoor water use. Further, industrial customers, including power plants, would likely have to curtail their production.
39. National benchmarking research shows that these savings are achievable but that it will likely take water suppliers considerable time (up to a year) to implement drought restrictions that result in the level of water savings identified in LCRA's DCP.

### **Alternatives**

40. LCRA explored several alternative water supplies that might be available to alleviate strain on LCRA's water supply reservoirs caused by persistent drought conditions.
41. LCRA evaluated the following alternatives to address the emergency conditions that the drought presents:
  - a. Amend downstream run of the river rights to allow diversion at new locations;
  - b. Utilize water from LCRA's Lakes Inks, LBJ, and Marble Falls;
  - c. Conservation incentives and customer buyouts of non-essential uses;
  - d. Aggressive municipal conservation;
  - e. Garwood dry year option;
  - f. Groundwater;
  - g. Wastewater reuse program in the Highland Lakes;
  - h. Line or pipe high loss canals utilized by industry;
  - i. Interbasin transfers or water trucking/rail transport;  
Ocean or brackish groundwater desalination.
42. None of the identified alternatives would avert the projected water supply shortage because most of the supplies identified would produce insufficient or uncertain quantities of supply, would create other operational issues for customers, involve a lengthy permitting process (if not implemented on an emergency basis), or would take years to develop. None of the alternatives identified are feasible or practicable alternatives to the emergency authorization.

### **Requested Relief**

43. In collaboration with affected stakeholders, representing agricultural, municipal and environmental interests within the basin, LCRA has determined that a reduced amount of interruptible stored water (up to 125,000 acre-feet for diversion) could be provided if storage is at or above 850,000 acre-feet on March 1, 2012, with a much-reduced risk of reaching 600,000 acre-feet of combined storage in Lakes Buchanan and Travis during first crop. This 125,000 acre feet of water is the amount LCRA estimates it needs to meet its contractual obligations to Garwood Irrigation Company and Pierce Ranch, and support a minimal amount of acreage in its Gulf Coast and Lakeside operations.
44. Specifically, LCRA requests that it be allowed to implement a different process than required by the 2010 WMP for curtailment of interruptible stored water that would:

- a. Provide no interruptible stored water to customers within its Gulf Coast and Lakeside operations if combined storage is below 850,000 acre-feet on March 1, 2012;
  - b. Provide no more than 125,000 acre-feet of interruptible stored water for diversion for customers within the Gulf Coast, Lakeside, Garwood and Pierce Ranch operations if combined storage is at or above 850,000 acre-feet and less than 920,000 acre-feet on March 1, 2012;
  - c. Provide interruptible stored water in accordance with the then current Water Management Plan if combined storage is at or above 920,000 acre-feet on March 1, 2012;
  - d. Provide interruptible stored water for second crop only upon a determination by the LCRA Board that sufficient water is available; and
  - e. Provide interruptible stored water to Garwood and Pierce Ranch customers, in accordance with their contracts.
45. Consistent with the Governor's Proclamation, LCRA requests that procedural requirements associated with this request, or any portion thereof, be waived to expedite the processing of this request.

#### **Notice**

46. Notice was provided to the Governor. Notice for the Commission hearing to affirm, modify, or set aside this Emergency Order will be provided by mailed notice to all water right holders in the basin.

#### **CONCLUSIONS OF LAW**

1. The Commission may issue an emergency order under TEX. WATER CODE § 11.139 to amend a certificate of adjudication after notice to the governor if the commission finds that emergency conditions exist which present an imminent threat to the public health and safety and which override the necessity to comply with established statutory procedures and there are no feasible practicable alternatives to the emergency authorization.
2. The executive director may issue an emergency order after notice to the governor if an imminent threat to the public health and safety exists which requires emergency action before the commission can take action and there are no feasible alternatives. TEX. WATER CODE § 11.139(f). A hearing to affirm, modify, or set aside the Emergency Order must be held by the commission as soon as practicable, but not later than 20 days after the Emergency Order is granted.
3. Notice of the commission hearing to affirm modify or set aside shall be given as the commission considers practicable under the circumstances.

4. Consistent with the Governor's Proclamation, the procedural requirements associated with this request, or any portion thereof, may be waived to expedite the processing of this request.
5. The Findings of Fact show that the requirements of Conclusions of Law 1 – 3 have been met. The executive director has the authority to issue this order. A commission hearing to affirm, modify, or set aside will be held on December 7, 2011.

**NOW, THEREFORE, BE IT ORDERED BY THE EXECUTIVE DIRECTOR OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT:**

1. LCRA's WMP, Permit No. 5838, is amended to temporarily establish a different process for curtailment of interruptible stored water that would:
  - a. Provide no interruptible stored water to customers within the Gulf Coast and Lakeside operations if combined storage is below 850,000 acre-feet on March 1, 2012;
  - b. Provide no more than 125,000 acre-feet of interruptible stored water for diversion for customers within the Gulf Coast, Lakeside, Garwood and Pierce Ranch operations if combined storage is at or above 850,000 acre-feet and less than 920,000 acre-feet on March 1, 2012;
  - c. Provide interruptible stored water in accordance with the then current Water Management Plan if combined storage is at or above 920,000 acre-feet on March 1, 2012;
  - d. Provide interruptible stored water for second crop only upon a determination by the LCRA Board that sufficient water is available; and
  - e. Provide interruptible stored water to Garwood and Pierce Ranch customers, in accordance with their contracts.
2. This Order was issued without a hearing. A hearing to affirm, modify, or set aside this Order will be held before the Commission on December 7, 2011.
3. This Order shall become final and effective on December 31, 2011.
4. This Order shall continue until the later of:
  - a. The initial 120 day period allowed by Texas Water Code § 11.139, and any extension thereof as allowed by Section 11.139; or
  - b. The termination or expiration of the Governor's Disaster Proclamation of the Exceptional Drought Conditions, originally issued on December 21, 2010; or
  - c. The issuance of any TCEQ Order approving amendments to the 2010 WMP, as may be filed by the LCRA consistent with the January 27, 2010 Order Approving

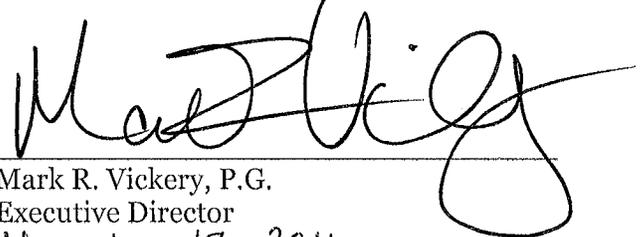
Amendments to the Water Management Plan, if such Order is issued prior to December 31, 2012, or

- d. December 31, 2012.
- 5. The Chief Clerk of the Commission shall forward a copy of this Order to all parties.
- 6. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of this Order.

Issue Date:

**NOV 17 2011**

TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

A handwritten signature in black ink, appearing to read "Mark Vickery", written over a horizontal line.

Mark R. Vickery, P.G.  
Executive Director

November 17, 2011