

LAVACA-NAVIDAD RIVER AUTHORITY

DROUGHT CONTINGENCY PLAN



SEPTEMBER 2011

LAVACA-NAVIDAD RIVER AUTHORITY

DROUGHT CONTINGENCY PLAN

SEPTEMBER 2011

(Revised September 14, 2011)

DROUGHT CONTINGENCY PLAN

1.0 INTRODUCTION

Droughts and other uncontrollable circumstances can disrupt the normal availability of water supplies from either ground or surface sources. Natural limitations of the supply of either ground or surface water, or limitations on facilities to pump, treat, store, or distribute water can present a public water supply utility with an emergency demand management situation.

During drought periods, consumer demand is typically 15 to 25 percent higher than under normal conditions. Most often, this additional demand is a direct result of the irrigation of lawns but may be created by leaks caused by a shift in the drying soils surrounding water supply lines.

The Drought Contingency Plan (DCP) establishes temporary methods designed to be used as long as an emergency situation, or other water lowering event, exists. The purpose of the DCP is to specify how LNRA will contract and supply stored water supplies during a repetition of the critical drought of record. Consistent with Texas Commission on Environmental Quality (TCEQ) regulations, the LNRA has recommended that, as appropriate, its wholesale water customers consider adoption of drought contingency measures to be implemented in response to LNRA trigger conditions. As a provision of their respective water supply contracts, all LNRA customers will have drought contingency plans on file with the TCEQ.

LNRA's DCP includes the following measures:

- a. Trigger conditions signaling the start of an emergency period;
- b. Designation of drought contingency measures;
- c. Public information and education; and
- d. Notification actions for drought contingency measure implementation and termination

2.0 TRIGGERING CONDITIONS

As a wholesale water supply utility and a water resource manager, the LNRA will initiate drought contingency measures upon occurrence of the following conditions. These measures are to be placed into service in an effort to sustain the available surface water supplies through extended drought conditions:

- | | |
|-------------------------|--|
| <u>Condition One:</u> | Compromised Reservoir Condition One
Reservoir Conservation Pool elevation equal to or less than 43.00 feet msl |
| <u>Condition Two:</u> | Compromised Reservoir Condition Two
Reservoir Conservation Pool elevation equal to or less than 39.95 feet msl |
| <u>Condition Three:</u> | Compromised Reservoir Condition Three – Severe local drought
Reservoir Conservation Pool elevation equal to or less than 35.00 feet msl |

3.0 DROUGHT CONTINGENCY MEASURES

The following contingency measures should be taken as trigger conditions are met. As a wholesale water supplier, the LNRA continuously monitors Lake Texana water levels and communicates with its wholesale water customers as to the condition of surface water supplies in the Lavaca River Basin.

Condition One: Compromised Reservoir Condition One (1)

A trigger condition has been established by an agreement between the LNRA and specified water rights permit holders upstream of Lake Texana that use surface water for irrigation purposes. According to that certain Compromise Settlement Agreement, diversions for irrigation purposes upstream of Lake Texana are limited to times that Lake Texana is at or above elevation 43.00 msl. Prior to initiating diversions, permittees must confirm the level of Lake Texana with either the LNRA or the TCEQ South Texas Watermaster. Diversions must cease within 24 hours following the time when the reservoir level drops below elevation 43.00 msl.

The water use reduction under Condition one (1) should equate to a 50% percent reduction of the use of surface water that would have occurred in the absence of this drought contingency measure.

Upon reaching Condition One, LNRA will implement the following relevant actions:

- a. Notify the TCEQ Watermaster of reservoir condition.
- b. Inform public, giving notice of reservoir condition to the customers served by LNRA and to upstream water rights permit holders and advise that

Termination of Condition One will occur when the reservoir level is equal to or greater than elevation 43.00 msl.

Condition Two: Compromised Reservoir Condition Two (2)

A trigger condition has been established by an agreement between LNRA, Texas Parks and Wildlife Department and Texas Water Development Board. Accordingly, upon Lake Texana reaching a conservation pool elevation of 78.18% of the reservoir capacity or roughly elevation 39.95 feet msl, as calculated per periodic reservoir volumetric surveys, LNRA will reduce the volume of freshwater releases to the local bays and estuaries to the historical subsistence flow of five (5) cubic feet per second.

The water use reduction under Condition Two should equate to a 5% percent reduction of the surface water use that would have occurred in the absence of drought contingency measures.

Upon reaching Condition Two, the LNRA will implement the following relevant actions:

- a. Notify the TCEQ Watermaster of reservoir condition.
- b. Notify TPWD of reservoir condition and change in B&E release schedule.
- c. Inform public, giving notice of reservoir condition to the customers served by LNRA and include in the information recommendations for water conservation.

Condition Three: Compromised Reservoir Condition Three (3) – Severe Local Drought

A trigger condition has been established by virtue of LNRA’s reservoir refilling guidelines as defined by LNRA’s Standard Operating Procedures that have been developed for Lake Texana.

Lower reservoir pool elevations will impact LNRA’s ability to divert water from Lake Texana. Generally, upon reaching 50% capacity, the remaining water shall be divided among the water customers in accordance with Texas Water Code § 11.039. LNRA will plan for a 50% percent reduction of the surface water use that would have occurred in the absence of drought contingency measures.

Upon reaching Condition three (3), LNRA will implement the following relevant actions as the reservoir condition declines. Suggested pro-rata water reductions are shown in Table 3.0.

- a. Notify the TCEQ Watermaster of reservoir condition.
- b. Notify the TCEQ Dam Safety Team of reservoir condition.
- c. Notify LNRA water customers giving notice of reservoir condition and current delivery volume.
- d. Implement a pro rata reduction of water deliveries to industrial and municipal customers as shown in table 3.0. Delivered volume to be measured against average daily use of individual customers. The average daily use will be calculated using the prior twelve (12) months data.
- e. Through the news media, the public should be advised by the customers of the trigger condition. Include in the information to the public an advisement of the mandatory reduction and that water users conserve water.

Modifications to the percentage of pro rata water reductions will occur as the reservoir elevation rises or falls. Resumption of normal operation and termination of water supply reductions will occur when reservoir levels are equal to or greater than elevation 35.00 feet-msl.

Reservoir Storage Capacity	Pro-Rata Water Use Reduction
50 % percent	10 % percent
40 % percent	20 % percent
30 % percent	35 % percent
20 % percent	50 % percent
10 % percent	-- % percent

**Table 3.0
Pro-rata Water Use Reductions during Periods of Shortage and/or Drought**

4.0 INFORMATION AND EDUCATION

Once trigger conditions have been reached for the LNRA system, LNRA will notify the TCEQ Watermaster and its customers, whereby customers should notify the public within their jurisdictions of conditions and conservation measures to be taken. The process for notifying the public should include:

- a. Posting the Notice of Drought conditions at City Hall, County Courthouse, Post Office, Public Library, Senior Citizens Center, and Major Supermarkets;
- b. Copy of notice to newspapers and hold press conferences; and
- c. Copy of notice to local radio and television stations.

5.0 TERMINATION NOTIFICATION

Termination of the drought contingency measures should take place when the trigger conditions that initiated the drought contingency measure have subsided, and an emergency situation no longer exists.

LNRA will notify the TCEQ Watermaster and its customers. Customers should notify the public within their jurisdiction of termination of the drought contingency measures in the same manner they were informed of initiation of the drought contingency measures through the city officials in charge.

6.0 LNRA ENVIRONMENTAL ASSURANCE PROGRAM

LNRA participates in the TCEQ sponsored Texas Clean Rivers Program, conducting water quality assessments of the Lavaca River Basin. The purpose of the water quality assessment is to identify issues affecting water quality in the Lavaca River Basin, and to develop solution techniques for improving water quality. The assessment program is divided into two phases. LNRA's Clean Rivers Program involves collecting, reviewing, and analyzing past and present water quality data, addressing public opinion, and identifying areas of potential pollution. The program has required the implementation of a comprehensive data management system, the establishment of a water quality monitoring network, and the identification of specific water quality concerns throughout the Lavaca River Basin. LNRA is providing water quality and water conservation information to citizens throughout the Lavaca River Basin as a means of public education. The LNRA Clean Rivers Program will assist in the protection of the water resources in the Lavaca River Basin.

7.0 PUBLIC INVOLVEMENT AND CUSTOMER COORDINATION

LNRA's wholesale water supply contracts are based on allocations from firm yield and are governed by and are enforceable in all respects in accordance with the laws of the State of Texas.

LNRA's water customers are required to prepare and submit Water Conservation and/or Drought Contingency Plans to the TCEQ. LNRA works closely and coordinates with its customers and recommends that each develop plans consistent with LNRA's DCP and conditions as established herein.

As a means of actively informing the public and to provide opportunity for input in the preparation of the DCP, and to inform LNRA's customers of the plan, information concerning drought management will be provided to the customers and the public by means of annual customer meetings, public board meetings, mail, telephone, and the news media, as appropriate.

8.0 PRO RATA WATER ALLOCATION

In the event that a) the triggering criteria specified herein have been met and b) the General Manager, or his designee, deems it necessary, LNRA, in coordination with the South Texas Watermaster and LNRA water customers will allocate water supplies on a pro-rata basis in accordance with Texas Water Code, § 11.039.

9.0 ENFORCEMENT

This DCP and all plans developed hereunder are incorporated by reference into all LNRA water supply contracts. Violation of this DCP is a violation of the contract and will be treated as such.

10.0 VARIANCES

The General Manager, or his designee, may grant a temporary variance to the pro-rata water allocation policies provided by this DCP if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety and if one or more of the following conditions are met:

- a. Compliance with this DCP cannot be technically accomplished during the duration of the water supply shortage or other conditions for which the DCP is in effect.
- b. Alternative methods can be implemented which will achieve the same level of reduction in water use.

11.0 PLAN UPDATE

LNRA shall review and update, as appropriate, this DCP at least every five (5) years, based on new or updated information, such as adoption or revision of a regional water plan.

APPENDIX A

Texas Administrative Code, Section 288.22

APPENDIX A

**Texas Commission on Environmental Quality Rules on Drought Contingency Plans
for Wholesale Water Suppliers**

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER B</u>	DROUGHT CONTINGENCY PLANS
<u>RULE § 288.22</u>	Drought Contingency Plans for Wholesale Water Suppliers

(a) A drought contingency plan for a wholesale water supplier must include the following minimum elements.

(1) Preparation of the plan shall include provisions to actively inform the public and to affirmatively provide opportunity for user input in the preparation of the plan and for informing wholesale customers about the plan. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the public and providing written notice to the public concerning the proposed plan and meeting.

(2) The drought contingency plan must document coordination with the regional water planning groups for the service area of the wholesale public water supplier to ensure consistency with the appropriate approved regional water plans.

(3) The drought contingency plan must include a description of the information to be monitored by the water supplier and specific criteria for the initiation and termination of drought response stages, accompanied by an explanation of the rationale or basis for such triggering criteria.

(4) The drought contingency plan must include a minimum of three drought or emergency response stages providing for the implementation of measures in response to water supply conditions during a repeat of the drought-of-record.

(5) The drought contingency plan must include the procedures to be followed for the initiation or termination of drought response stages, including procedures for notification of wholesale customers regarding the initiation or termination of drought response stages.

(6) The drought contingency plan must include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The entity preparing the plan shall establish the targets. The goals established by the entity under this paragraph are not enforceable.

(7) The drought contingency plan must include the specific water supply or water demand management measures to be implemented during each stage of the plan including, but not limited to, the following:

(A) A pro rata curtailment of water deliveries to or diversions by wholesale water customers as provided in Texas Water Code, § 11.039; and

(B) utilization of alternative water sources with the prior approval of the executive director as appropriate (e.g., interconnection with another water system, temporary use of a non-municipal water supply, use of reclaimed water for non-potable purposes, etc.).

(8) The drought contingency plan must include a provision in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code, § 11.039.

(9) The drought contingency plan must include procedures for granting variances to the plan.

(10) The drought contingency plan must include procedures for the enforcement of any mandatory water use restrictions including specification of penalties (e.g., liquidated damages, water rate surcharges, discontinuation of service) for violations of such restrictions.

(b) The wholesale public water supplier shall notify the executive director within five business days of the implementation of any mandatory provisions of the drought contingency plan.

(c) The wholesale public water supplier shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as adoption or revision of the regional water plan.

Source Note: The provisions of this § 288.22 adopted to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384.

APPENDIX B

Letter to Customers

APPENDIX B
Example Letter to Wholesale Water Customers

Date

[Customer]
[Address]

Dear [Customer]:

The Lavaca-Navidad River Authority has prepared a Drought Contingency Plan which has been adopted by the Board of Directors of the Lavaca-Navidad River Authority. These plans will be used by the Authority as a component of its Water Management Plan. As a wholesale water customer of the Authority, we are seeking your input and comments on the Drought Contingency Plan. I have enclosed a copy of the Plan for your review.

Comments regarding the Drought Contingency Plan may be made at the Public Meeting to be held by the Lavaca-Navidad River Authority Board of Directors on September 22, 2010. Written comments on the Drought Contingency Plan will be accepted through close of business on Tuesday, September 21, 2010.

We appreciate your input and interest in the water resources in the Lavaca River Basin.

Sincerely,

Patrick Brzozowski
General Manager
Lavaca-Navidad River Authority

APPENDIX C

Letter to Regional Water Planning Groups

APPENDIX C
Example Letter to Regional Water Planning Groups
[Planning Groups P and N]

Date

[Chairman]
Chair, Region__ Water Planning Group
[Address]

Dear [Chairman]:

Enclosed please find a copy of the Drought Contingency Plan for the Lavaca-Navidad River Authority. I am submitting a copy of this plan to the Region __ Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules.

Please review the draft plan for consistency with the approved Regional Water Plan. Comments regarding the Drought Contingency Plan may be made at the Public Meeting to be held by the Lavaca-Navidad River Authority Board of Directors on September 22, 2010. Written comments on the Drought Contingency Plan will be accepted through close of business on Tuesday, September 21, 2010.

Sincerely,

Patrick Brzozowski
General Manager
Lavaca-Navidad River Authority

APPENDIX D

Texas Water Code, Section 11.039

APPENDIX D

Texas Water Code Section 11.039

§ 11.039. Distribution of Water During Shortage

(a) If a shortage of water in a water supply not covered by a water conservation plan prepared in compliance with Texas Natural Resource Conservation Commission or Texas Water Development Board rules results from drought, accident, or other cause, the water to be distributed shall be divided among all customers pro rata, according to the amount each may be entitled to, so that preference is given to no one and everyone suffers alike.

(b) If a shortage of water in a water supply covered by a water conservation plan prepared in compliance with Texas Natural Resource Conservation Commission or Texas Water Development Board rules results from drought, accident, or other cause, the person, association of persons, or corporation owning or controlling the water shall divide the water to be distributed among all customers pro rata, according to:

(1) the amount of water to which each customer may be entitled; or

(2) the amount of water to which each customer may be entitled, less the amount of water the customer would have saved if the customer had operated its water system in compliance with the water conservation plan.

(c) Nothing in Subsection (a) or (b) precludes the person, association of persons, or corporation owning or controlling the water from supplying water to a person who has a prior vested right to the water under the laws of this state.

Amended by Acts 1977, 65th Leg., p. 2207, ch. 870, § 1, eff. Sept. 1, 1977.

Amended by Acts 2001, 77th Leg., ch. 1126, § 1, eff. June 15, 2001.

APPENDIX E

Board Resolution to Adopt the Drought Contingency Plan

Lavaca-Navidad River Authority
Resolution No. 2011-004
Board Resolution Adopting the Amended Drought Contingency Plan

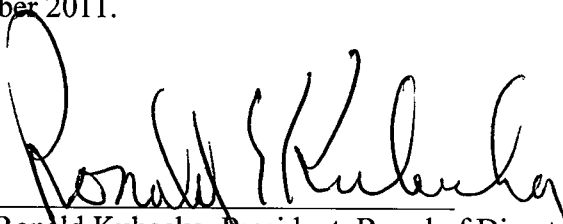
**Resolution adopting an Amended Drought Contingency Plan
for the Lavaca-Navidad River Authority, Authorizing Submittal of
the Drought Contingency Plan to the Texas Commission on Environmental
Quality and the Texas Water Development Board
for Approval and Authorizing Incorporation of Provisions into
All Water Sales Contracts used by the Lavaca-Navidad River Authority**

BE IT RESOLVED by the Board of Directors of the Lavaca-Navidad River Authority that an Amended Drought Contingency Plan attached hereto as Exhibit A, prepared in conformance with the requirements of the Texas Commission on Environmental Quality (TCEQ) and the Texas Water Development Board (TWDB) is hereby adopted;

BE IT FURTHER RESOLVED by the Board of Directors of the Lavaca-Navidad River Authority that the General Manager is directed to submit the adopted Lavaca-Navidad River Authority Drought Contingency Plan to TCEQ and TWDB for their approval; and

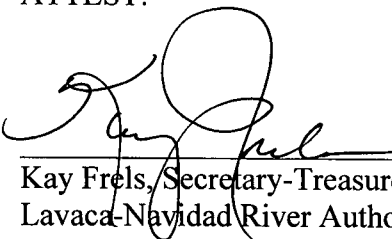
BE IT FURTHER RESOLVED by the Board of Directors of the Lavaca-Navidad River Authority that the General Manager, in accordance with state law, is directed to incorporate provisions into all water sales contracts used by the Lavaca-Navidad River Authority to require purchasers of water from the Lavaca-Navidad River Authority to implement water conservation and demand reduction measures in accordance with the adopted Lavaca-Navidad River Authority Drought Contingency Plan.

Passed and approved this 14th day of September 2011.



Ronald Kubecka, President, Board of Directors
Lavaca-Navidad River Authority

ATTEST:



Kay Frels, Secretary-Treasurer, Board of Directors
Lavaca-Navidad River Authority