DRAFT LCRA Water Management Plan Proposal

ED Evaluation- Focus on More Comprehensive Management of Water Supply

- ED staff updated the existing 1940-1998 Water Availability Model (WAM) naturalized streamflows and extended the WAM period of record from 1940-2013
- Proposed new management strategy that is responsive to changing conditions to provide more protection for firm customers
- Review was based on LCRA's 2012 WMP application. If LCRA's operations change as a result of new permits or amendments, such as the downstream off-channel reservoir, LCRA would need to amend its WMP to reflect those changes.

What is the ED's Proposed Strategy?

- Include a drought management regime with more checks and balances
- The ED's comprehensive approach accounts for both extraordinary and less severe droughts and for normal conditions. Includes the following:
    - Specific criteria to determine whether the lakes are in extraordinary drought, less severe droughts, or normal conditions.
    - A range of trigger options for normal conditions
    - Four looks during the year to determine how much interruptible water to release. Evaluated on a rolling annual basis to account for changing conditions.
    - A more stringent cut-off floor for interruptible supply for a margin of safety.
- Protect firm demands by raising the level at which LCRA supplies interruptible stored water. ***Allows the lakes to be higher going into droughts. Reduces the likelihood of dropping below 600,000 acre-feet due to interruptible agricultural releases.***

How does it compare with LCRA's 2012 application?

- Used updated data to model whether LCRA's proposed interim curtailment curves for interruptible releases were adequate during extraordinary and less severe drought conditions and normal conditions.
- LCRA's 2012 WMP application would allow the modeled combined storage to drop below 600,000 acre-feet during the extraordinary drought conditions experienced in the current drought and the drought of the 1950s. Therefore, more robust drought management during extraordinary conditions is needed, including more stringent interruptible cut-off limits.
- Both LCRA's 2012 WMP application and a normal conditions curtailment curve would allow the modeled combined storage to drop near or below 900,000 acre-feet during less severe droughts. Therefore, a more stringent curtailment curve is needed during less severe drought conditions.
- LCRA's 2012 WMP application would allow the modeled combined storage to drop to near 600,000 acre-feet in 1964 and below 600,000 acre-feet in 1984 under normal conditions. Therefore, interruptible releases under normal conditions should be adjusted to protect firm demands.

What would have happened in 2011 with the ED's proposal in place?

- Using the updated models, the ED's proposed extraordinary drought trigger of 1.4 MAF would result in over a 50% reduction in the amount of stored water released for interruptible customers.

TCEQ's Draft Comprehensive Drought Management Regime Proposal

Extraordinary Drought

Combined Storage Levels (acre-feet)	Amount of Water Supplied (acre-feet)
Below 1.4 MAF	**No stored water**
1.4 MAF – 1.499 MAF	100,000
1.5 MAF – 1.599 MAF	124,000
1.6 MAF – 1.699 MAF	148,000
Above 1.7 MAF	172,000
Above 1.4 MAF	50,000 for second crop

Complete Curtailment at 1.1 MAF

Criteria for Extraordinary Drought:

1. More than 24 months since the Highland Lakes were completely full; and
   Drought Intensity greater than or equal to the 1950s drought as measured by inflows to the Highland Lakes; or
2. LCRA's modeling indicates that the combined storage would drop below 600,000 AF in the next twelve months or below between 900,000 and 950,000 AF during the irrigation season.

   Extraordinary Drought curtailment ends when the lakes reach 1.7 MAF and the Drought Intensity Criteria is no longer met.

Less Severe Droughts

First Crop

Combined Storage Levels (acre-feet)	Amount of Water Supplied (acre-feet)
Below 1.1 MAF	**No stored water**
1.1 MAF – 1.199 MAF	100,000
1.2 MAF – 1.299 MAF	115,000
1.3 MAF – 1.399 MAF	130,000

Second Crop	
Below 1.1 MAF	**No stored water**
Between 1.1 and 1.4 MAF	46,000

Complete Curtailment at 950,000 AF

Criteria for Less Severe Droughts:

The combined storage in the Highland Lakes is below 1.4 MAF; and
Cumulative inflows to the Highland Lakes for the previous three month period are below the 33rd percentile for the period of record for the three month period.

Less Severe Drought curtailment ends when the lakes reach 1.4 MAF.

Range of Normal Conditions

First Crop

Amount of Water Supplied (acre-feet)	At 950,000 AF	At 1.0 MAF	At 1.1 MAF
	Combined Storage Level (AF)		
0	Below 950,000 AF	Below 1.0 MAF	Below 1.1 MAF
121,500	950,000 – 1.0 MAF	N/A	N/A
121,500 – 156,500	1.0 to 1.4 MAF	1.0 to 1.4 MAF	1.1 to 1.4 MAF
202,000	Above 1.4 MAF	Above 1.4 MAF	Above 1.4 MAF
Complete Curtailment	**900,000 AF**	**950,000 AF**	**950,000AF**

Second Crop

Amount of Water Supplied (acre-feet)	At 950,000 AF	At 1.0 MAF	At 1.1 MAF
	Combined Storage Level (AF)		
0	Below 1.0 MAF	Below 1.1 MAF	Below 1.15 MAF
46,000-59,500	1.0 to 1.55 MAF	1.1 to 1.55 MAF	1.15 to 1.55 MAF
76,500	Above 1.55 MAF	Above 1.55 MAF	Above 1.55 MAF
Complete Curtailment	**900,000 AF**	**950,000 AF**	**950,000 AF**