

## CHAPTER 8 WATER SHORTAGE CONTINGENCY PLAN

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### **8.1 WATER SURPLUS AND DROUGHT MANAGEMENT PLAN**

Metropolitan Water District (MWD) has taken the lead in drought planning for the southern California region. In 1998, MWD’s Board of Directors adopted the Water Surplus and Drought Management (WSDM) Plan. This plan addresses both surplus and shortage operating strategies (reference MWD WSDM Plan, April, 1998). The WSDM plan reflects anticipated responses based on the water supplies available to Metropolitan.

Table 8-1 lists the definitions used in the WSDM Plan for surplus, shortage, severe shortage, and extreme shortage conditions. Except in severe or extreme shortages or emergencies, MWD’s resource management will allow shortages to be mitigated without impacting municipal and industrial customers. Table 8-2 identifies the management actions MWD will implement under the WSDM plan. Table 8-3 identifies the actions that IEUA and the retail agencies will take locally.

**Table 8-1  
MWD “WSDM” Plan Definition**

Surplus	Metropolitan can meet full-service and interruptible program demands, and it can deliver water to local and regional storage.
Shortage	Metropolitan can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfer as necessary.
Severe Shortage	Metropolitan can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation. In a Severe Shortage, Metropolitan may have to curtail Interim Agricultural Water Program deliveries.
Extreme Shortage	Metropolitan must allocate available supply to full-service customers

**Table 8-2  
MWD Water Surplus and Drought Management (WSDM) Plan**

Surplus Stage					Actions	Shortage Stages											
Surplus						Shortage		Severe Shortage		Extreme Shortage							
5	4	3	2	1		1	2	3	4	5	6	7					
					Make Cyclic Deliveries Fill Semitropic, Arvin-Edison Store supplies in SWP Carryover Fill Contractual GW Fill Monterey Res. Fill Eastside												
													Conduct Public Affairs Program				
													Take from Eastside Take from Semitropic, Arvin-Ed Cut LTS and Replen. Deliveries Take from Contractual GW Take from Monterey Res. Call for Extraordinary Conservation Reduce IAWP Deliveries Call Options Contracts Buy Spot Water Implement Allocation Plan				

 Potential Simultaneous Actions

**Table 8-3  
IEUA and Retail Agency Staged Actions**

Surplus Stage	IEUA & Retail Agency General Actions	Shortage Stages			
Surplus		Shortage			
		1	2	3	4
	Increase Imported Firm Deliveries Maximize Replenishment Activities				
	Conservation Programs Waterwise Public Information Campaign Maximize Stormwater Storage				
	Reduce Imported Water Replenishment Increase Groundwater Pumping General Water Use Restrictions in Effect* Landscape Irrigation Restrictions* Dust Control w/ Recycled Water Only Landscape Irrigation w/ Recycled Water Only* MWD Call on Dry Year Yield (DYY) Water Bill Surcharge/Fine* Potable Water Use Curtailments* Meter Flow Restricting Device*				

\*Local agencies maintain their own water use restrictions and other actions in event of a drought declaration.

## **8.2 EMERGENCY DROUGHT ORDINANCES**

Within IEUA’s service area local retail agencies have adopted or are in the process of developing ordinances that address urban water shortage requirements. The drought planning provisions approved by each agency are described below in Section 8.2.

In 2004, IEUA performed an inventory of drought related ordinances that are currently part of the municipal code or administrative code of the cities and agencies in the IEUA service area. The results of the survey are summarized in Table 8-4. The ordinances will generally come into force upon a formal declaration of drought or water shortage conditions by one or more entities such as the DWR and MWD.

If a drought is declared, financial impacts to the local retail water agencies will vary from one agency to another. As a wholesale water agency, IEUA is simply a “pass-through” wholesaler so loss of revenue has no significant impacts except possibly the conservation programs which receive a portion of funding through a surcharge on each acre-foot of imported water sold.

The ordinances vary with different actions based upon the severity of the drought conditions. The definition of drought and water shortage stages used by Cities of

Chino, Chino Hills and Ontario and the Monte Vista Water District are presented in Table 8-5. Table 8-6 provides a summary of local agency drought ordinances, in the categories of prohibitions and restrictions, conservation actions, and the enforcement mechanisms available to each agency. The drought ordinances of each retail water agency are included in Appendix Q.

**Table 8-4  
Water Shortage Contingency Plan Check List by Agency**

Emergency Drought or Water Shortage Ordinances	IEUA Member Agency							
	Chino	Chino Hills	MVWD	Ontario	CVWD	FWC	SAWC	Upland
Catastrophic Interruption Plan	√	√	√	√	√		√	√
Consumption Reduction Methods	√		√	√	√	√	√	√
Contingency Plan	√	√	√	√	√	√	√	√
Emergency Fund	√		√	√	√		√	√
Mandatory Prohibition	√	√	√	√	√	√		√
Ordinance/Resolution	√	√	√	√	√	√		√
Penalties	√		√	√	√	√		√
Rationing Allocation Method	√		√	√		√		√
Reduction Measuring Mechanism	√		√	√	√	√	√	√

**Table 8-5  
Drought Stage Definitions by Agency**

Drought Stage	Agency			
	Chino	Chino Hills	MVWD	Ontario
<b>1</b>	Demand estimated to be ≤10% in excess of available production of quality water	Total storage capacity reduced by 20-25%; not replenished within 48 hours	5-10% shortage of available water	Estimated shortage of up to 10% of water supplies
<b>2</b>	Demand estimated to be 10-15% in excess of available production of quality water	Total storage capacity reduced by 25-30% and not replenished within 48 hours	10-25% shortage of available water	Estimated shortage of 10-20% of water supplies
<b>3</b>	Demand estimated to be ≥15% in excess of available production of quality water	no definition	25-40% shortage of available water	Estimated shortage of >20% of water supplies
<b>4</b>	no definition	no definition	>40% shortage of available water	no definition

**MVWD =** Monte Vista Water District

Note: Cities of Ontario and Upland, Fontana Water Company and San Antonio Water Company do not define Drought Stages

**Table 8-6  
Local Agency Drought Ordinances**

	By Drought Stage as Defined in Table 8-5								
	Chino	Chino Hills	MVWD	Ontario	CVWD	FWC	SAWC	Upland	
<b>Prohibitions and Restrictions during Drought</b>									
Conduct Public Hearings			1		X			X	
Washing of vehicles without shut-off nozzle	1	1	1	1				X	
Washing of sidewalks and all other hard surfaces		1	1	1				X	
Water runoff into gutters from excessive or mismanaged irrigation	1	1	1	1			X	X	
Non-recycling fountains/lakes/ponds restrictions		1	1	1				X	
Unsolicited water service in eating/drinking establishments	1	1	1	1			X	X	
Use of fire hydrants limited to fire fighting activities		1	3	3				X	
Failure to repair leaks within 48-72 hours	1	1	1	1				X	
New landscaping restrictions			2						
New turf/maximum allowable turf restrictions			2						
New pool or spa construction and/or filling restrictions		2	2						
Irrigation of golf courses and other water dependent industries restricted		2	1	2				X	
Watering limited to prescribed times	1	1	1	1				X	
Watering limited to prescribed days	2	2		2					
Additional dwelling construction prohibited			4						
Watering of turf or landscape by bucket only				3					
<b>Ordinance Prescribed Conservation Actions</b>									
Laundry facilities equipped with Energy Star washers/dryers								X	
Pools/spas must be covered							X		
Flow restricting lavatory/kitchen faucets in all new construction						C		X	
Low flush toilets and urinals installed in all new construction						C		X	
Flow restricting shower heads installed in all new construction								X	
Water conserving irrigation systems installed in all new public areas						C			
Water conserving fixtures installed upon change of property ownership								X	
Landscaping irrigation with reclaimed water only			4						
Water use curtailments	1		2	2	X				
Incremental Rate Structure					X				
<b>Enforcement</b>									
Water bill surcharge/fine	√	√	√	√				√	
Flow restricting device, locking or removal of meter, shutting off mainline	√	√	√	√	√		√	√	
Prosecution		√							
	1	Stage 1							
	2	Stage 2							
	3	Stage 3							
	4	Stage 4							
	X	No Defined Stage							
	C	Commercial Only							

Source: Telephone survey and review of city and water agency drought ordinances

### **8.3 PLANNING FOR A CATASTROPHE**

Southern California's three imported water supplies (State Water Project, Colorado River Aqueduct and Los Angeles Aqueduct) cross the San Andreas Fault. Many other fault lines bisect major water facilities throughout the region. Experts consider it likely that one or more of these supplies will be disrupted in the event of a major earthquake.

MWD estimates that restoring service on any of these facilities following a catastrophic outage could take up to six months. This, in turn, could reduce annual deliveries by roughly up to 50% for MWD-supplied water. The UWMP requires agencies to consider the effect of a 50% cutback in water supplies. This corresponds approximately to the degree of cutback contemplated by MWD's earthquake disruption scenario.

In September 2005, IEUA adopted federal emergency response procedures called NIMS (National Incident Management System) which can be implemented by IEUA personnel for a localized event such as an accident at one of IEUA's facilities or on a broader based regional event such as an earthquake or flood. This system provides a consistent nationwide template to enable federal, state, and local governments (and local private sector and non-governmental organizations) to work together effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity, including acts of terrorism. The NIMS procedures are expected to be fully implemented by June 2006. Complementary to NIMS, IEUA has completed Mutual Aid Agreements between itself and its local retail agencies (see Appendix R).

### **8.4 USE OF DRY YEAR YIELD DURING EMERGENCIES**

In 2002, IEUA executed an agreement with the MWD to utilize the Chino Basin for dry year storage of up to 100,000 acre-feet of surplus imported water and new groundwater pumping capacity of 33,000 AF in a twelve month period. The DYY Program is described in Chapter 6. This stored water and more importantly these new groundwater production facilities and the Chino Desalters with their new water transmission lines, pumping plants and storage tanks increase significantly local supplies and reliability to meet shortages and emergency outages by individual agencies and with the interconnections between utilities allow for mutual supply arrangements.

### **8.5 EMERGENCY CURTAILMENT OF IMPORTED WATER**

In June 2004, MWD conducted an unplanned shutdown of the Rialto Feeder pipeline. The pipeline was discovered to be in danger of collapse and repairs were needed immediately. Because the Rialto Feeder is the only source of significant imported water deliveries to the IEUA and the Three Valleys Municipal Water District (TVMWD) service areas, the loss of that supply during the summer when municipal and industrial water demand was high, could have had a devastating impact on local agencies. The Rialto

Pipeline Shutdown occurred from Monday, June 7, 2004 through Saturday, June 12, 2004.

To prepare their customers for the shutdown, the local agencies coordinated among themselves, MWD, and the local television and newspaper media. The TVMWD offices became the media center for press conferences and other addresses to the general public. Water agencies asked their largest customers to stop irrigating their landscapes and stop all non-essential water uses during the 5-day shutdown for repairs. Also, local agencies asked their residential customers to eliminate landscape irrigation and to reduce or eliminate their non-essential water use practices. Because each local agency has a different resource mix, each agency was affected somewhat differently by the shutdown. The Cucamonga Valley Water District (CVWD) seemed to be hit the hardest because they rely on imported water to supply 50 percent of their demand during that time of the year.

The CVWD Board of Directors determined that the best course of action was to declare a "state of water supply emergency" and issued an emergency shutdown notice to all their customers. CVWD customers responded well to the request by reducing overall water use by 60% during the week of repairs. This response easily allowed CVWD to meet all essential municipal and industrial demands as well as fire flow requirements. Other local agencies saw similar responses by their customers.

In the weeks following the shutdown MWD, IEUA and TVMWD issued a survey questionnaire to the affected water agencies asking for their assessment of the way MWD, IEUA, and TVMWD handled the shutdown (see Appendix S).

The responses to the survey showed, that overall, the lead agencies response to the shutdown and coordination with local media were reasonably successful. There was some confusion by commercial and residential properties owners on how to operate their irrigation controllers. As a result, a few landscapes remained watered during the first days of the shutdown. There was also some confusion by the public as to why several large landscapes in Chino and Ontario were being watered. As it turned out, these sites were using recycled water to irrigate. Ultimately, the irrigation was turned off to avoid further confusion.

Each of the agencies learned valuable lessons during this water emergency. Clearly, when the public is informed about the issue, water supply officials can expect a generally positive response from the public. The coordination with local agencies, the distribution of information, and conservation suggestions to the residents are the keys to maintaining credibility and confidence with the public.