CHAPTER 9
WATER SHORTAGE CONTINGENCY PLAN

9.1 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 9-1 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 9-2 identifies the management actions MWD will implement under the WSDM plan. Table 9-3 identifies the actions that IEUA and the retail agencies will take locally.

Table 9-1
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

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Table 9-2
MWD Water Surplus and Drought Management (WSDM) Plan

Surplus Stage						Shortage Stages						
Surplus						Shortage				Severe Shortage		Extreme Shortage
5	4	3	2	1	Actions	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							

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Table 9-3
IEUA and Retail Agency Staged Actions

Surplus Stage		Shortage Stages			
Surplus	IEUA & Retail Agency General Actions	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.

In February 2008, in anticipation of possible water supply shortages, the MWD Board of Directors adopted the Water Supply Allocation Plan (MWD WSAP). The MWD WSAP provides guidance for allocating limited water supplies to Member Agencies should the need arise. MWD is closely monitoring water supply conditions.

In response to MWD's WSAP, the Inland Empire Utilities Agency (IEUA) developed a Drought Plan for the purpose of implementing the MWD WSAP, within the IEUA's service area in a manner that is fair and equitable to IEUA's Member Agencies. The IEUA Drought Plan is consistent with and supplements the MWD WSAP for specific IEUA service area drought planning issues. All MWD WSAP definitions, policies, principals and program provisions are incorporated here by reference and are considered to be a part of the IEUA Drought Plan. For example, if IEUA is not imposed a penalty from MWD then IEUA would not impose a penalty on a member agency within IEUA's service area. In addition, MWD does not allow resale or "marketing" of MWD WSAP allocation credits and IEUA will not allow IEUA Drought Plan credits to be sold internally within IEUA's service area or externally without IEUA's approval. A complete copy of the adopted IEUA Drought Plan and MWD WSAP is provided as Appendix P.

IEUA's Drought Plan is consistent with and contributes to the existing IEUA imported water policies and programs. For example, the IEUA's Drought Plan principles encourage development and full utilization of local water resources, such as recycled water and conservation measures. The IEUA Drought Plan also addresses MWD's Chino Basin Groundwater Storage Dry Year Yield (DYY) program and the need for best management of DYY

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program “shift” obligations concurrent with MWD WSAP reductions of imported water supplies to IEUA.

9.2 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 9.2.

In 2009, 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 9-4. 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 9-5. Table 9-6 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 9-4
Water Shortage Contingency Plan Check List by Agency [to be updated]

	IEUA Member Agency							
Emergency Drought or Water Shortage Ordinances	**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	√		√	√	√	√	√	√

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Table 9-5
Drought Stage Definitions by Agency [to be updated]

Drought Stage	Agency			
	Chino	**Chino Hills**	**MVWD**	**Ontario**
1	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
2	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
3	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
4	no definition	no definition	>40% shortage of available water	no definition

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Table 9-6
Local Agency Drought Ordinances [to be updated]

	By Drought Stage as Defined in Table 9-5							
Prohibitions and Restrictions during Drought	**Chino**	**Chino Hills**	**MVWD**	**Ontario**	**CVWD**	**FWC**	**SAWC**	**Upland**
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				
Ordinance Prescribed Conservation Actions								
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			
Enforcement								
Water bill surcharge/fine	√	√	√	√				√
Flow restricting device, locking or removal of meter, shutting off mainline	√	√	√	√	√		√	√
Prosecution		√						

Key:	
1	Stage 1
2	Stage 2
3	Stage 3
4	Stage 4
X	No Defined Stage
C	Commercial Only

9.3 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).

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9.4 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. A 50,000 AF expansion of the DYY Program has been discussed and is currently under review by MWD and the participating agencies. (The environmental study was complete in December 2008.) The DYY Program is described in Chapter 7. 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.

9.5 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.

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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.

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