



LAMONT PUBLIC UTILITY DISTRICT

Water Shortage Contingency Plan

Adopted by the Board of Directors
August 11, 2014

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Introduction

This Water Shortage Contingency Plan (WSCP) for the Lamont Public Utility District (District) outlines a program for responding to water supply limitations. The intent of the water conservation measures and progressive restrictions on water use and method of use identified in this WSCP is to provide certainty to water users and enable the District to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public.

(a) This WSCP describes measures to be implemented during times of declared water shortages, or declared water shortage emergencies by either the District, State or Federal government. It establishes four stages of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.

(b) Stage 1 condition drought response measures are voluntary and will be reinforced through local public education and awareness measures. During drought response condition Stages 2 through 4, all conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

(c) During a Drought Response Stage 2 condition or higher, the water conservation measures and water use restrictions are mandatory and violations are subject to criminal, civil, and administrative penalties and remedies as specified by Ordinance.

Rationing Stages

The following rationing plan will be invoked during declared water shortages. The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage.

As the water purveyor, the District must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program stages described below were established to ensure that this goal is met. Rationing stages may be triggered by an extended shortage in groundwater supplies due to declining groundwater levels, groundwater quality issues (exceeding primary drinking water standards), or due to a catastrophic event.

Stage 1 – Drought Watch Condition

A Stage 1 condition is also referred to as a “Drought Watch” condition. A Stage 1 condition applies when due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands.

When the District’s Board of Directors declares a Stage 1 Drought Watch condition, the District will increase its public education and outreach efforts to emphasize increased public awareness of the need

to implement the following water conservation practices (the same water conservation practices become mandatory if the District's Board of Directors declares a Stage 2 Drought Alert condition):

1. Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, roadways, or patios, except when it is necessary to alleviate safety or sanitation hazards.
2. Stop watering unpaved drive approaches, driveways, and sidewalks except when it is necessary to alleviate safety or sanitation hazards.
3. Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, private and public walkways, patios, lots, hardscapes, roadways, or structures.
4. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only.
5. Use a hand-held hose equipped with a positive shut-off nozzle or bucket to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.
6. Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.
7. Use re-circulated water to operate ornamental fountains.
8. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions (over 95 degrees) when additional water is required due to evaporation.
9. Serve and refill water in restaurants and other food service establishments only upon request.
10. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.
11. Repair all water leaks within seventy two (72) hours of notification by the District unless other arrangements are made with the General Manager.
12. Use recycled or non-potable water for construction purposes when available.

Stage 2 – Drought Alert Condition

A Stage 2 condition is also referred to as a "Drought Alert" condition. A Stage 2 condition applies when caused by drought or other reduction in supplies, a consumer demand reduction of up to 25 percent is required in order to have sufficient supplies available to meet anticipated demands.

When the District's Board of Directors declares a Drought Response Stage 2 condition, all persons using District water shall comply with Stage 1 Drought Watch water conservation practices, and shall also comply with the following additional conservation measures:

1. Limit residential and commercial landscape irrigation to no more than the assigned days per week on a schedule established by the District's Board of Directors and posted by the District.
2. Limit lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per watering station per assigned day. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.
3. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system, on the same schedule set forth in item 1 by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.
4. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.
5. Stop operating ornamental fountains or similar decorative water features unless recirculated water is used.

Stage 3 – Drought Critical Condition

A Drought Response Stage 3 condition is also referred to as a "Drought Critical" condition. A Stage 3 condition applies when due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands.

When the District's Board of Directors declares a Drought Response Stage 3 condition, all persons using District water shall comply with Stage 1 Drought Watch and Stage 2 Drought Alert water conservation practices and shall also comply with the following additional mandatory conservation measures:

1. Limit residential and commercial landscape irrigation to no more than four (4) assigned days per week on a schedule established by the District's Board of Directors and posted by the District. During the months of December through April, landscape irrigation is limited to no more than twice per week on a schedule established by the District's Board of Directors and posted by the District. This section shall not apply to commercial growers or nurseries.
2. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system, on the same schedule set forth in Item 1 by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.
3. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response stage.
4. Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.
5. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

The District may establish a water allocation for property served by the District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving

devices. If the District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty in an amount established by Resolution for each billing unit of water in excess of the allocation. Potential water allocation considerations are included later in this WSCP.

Stage 4 – Drought Emergency Condition

A Drought Response Stage 4 condition is also referred to as a “Drought Emergency” condition. A Stage 4 condition applies when the District’s Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 which requires a demand reduction of up to 50% in order for the District to have maximum supplies available to meet anticipated demands.

All persons using District water shall comply with conservation measures required during Stage 1 Drought Watch, Stage 2 Drought Alert, and Stage 3 Drought Critical conditions and shall also comply with the following additional mandatory conservation measures:

1. Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries. This restriction shall not apply to the following categories of use unless the District has determined that recycled water is available and may be lawfully applied to the use.
 - a. Maintenance of trees and shrubs that are watered on the same schedule set forth in Stage 3, Item 1 by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;
 - b. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;
 - c. Maintenance of existing landscaping for erosion control;
 - d. Maintenance of plant materials identified to be rare or essential to the well being of rare animals;
 - e. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under Stage 3, Item 1;
 - f. Watering of livestock; and
 - g. Public works projects and actively irrigated environmental mitigation projects.
2. Repair all water leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.

Upon the declaration of a Drought Response Stage 4 condition, no new potable water services shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has been issued for the project; or

2. The project is necessary to protect the public's health, safety, and welfare; or
3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of District; or
4. The project is designed so that through the use of water saving devices, zero landscaping or other such measures, that the project water demand would be at least fifty percent (50%) of normal.

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

Summary of Water Supply Shortage Stages and Conditions

The water supply shortage stages and conditions are summarized in Table 1 below. The District is 100 percent metered and metered flows will be used to determine the effectiveness of the implemented rationing stages.

Table 1 - Water Supply Shortage Stages And Conditions			
Stage Number	Water Supply Conditions	Use Restrictions	Conservation Target
1 – Drought Watch	1) Groundwater – 10% water level drop from baseline -or- 2) Water Quality – 10% of water supply contaminated (exceeds primary drinking water standards)	Voluntary	Up to 10%
2 – Drought Alert	1) Groundwater – 20% water level drop from baseline -or- 2) Water Quality – 20% of water supply contaminated (exceeds primary drinking water standards)	Mandatory	Up to 25%
3 – Drought Critical	1) Groundwater – 30% water level drop from baseline -or- 2) Water Quality – 30% of water supply contaminated (exceeds primary drinking water standards)	Mandatory	Up to 40%
4 – Drought Emergency	1) Groundwater – 40% water level drop from baseline -or- 2) Disaster Loss	Mandatory	Up to 50%

Estimated Minimum Available Water Supply for a Three Year Period

Table 2 summarizes the minimum estimated available water supply for a multiple dry year scenario (three year period) assuming a 50 percent overall reduction in groundwater supplies over the three year period (a 15 percent reduction for each of the first two years and a 20 percent reduction for the third year). The available water supplies include Well No. 19 which will be in operation in 2015.

Table 2 – Estimated Minimum Available Water Supply (AFY)				
Water supply source	Average / Normal Water Year Supply	Multiple Dry Water Year Minimum Supply		
		Year 1	Year 2	Year 3
Groundwater	12,870	10,940	9,009	6,440
Percent of normal year:	100%	85%	70%	50%

Water Allocation Planning

Priority by Use

Water allocations may be established for all customers according during a Stage 3 or greater water shortage condition according to the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, convalescent facilities, retirement and mobile home communities, and fire fighting and public safety)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses)
- Annual agriculture (floriculture and others)
- Existing landscaping
- New customers, proposed projects without will serve letters when shortage declared.

Health and Safety Requirements

The per capita health and safety water requirements shown in Table 3 were developed based on commonly accepted estimates of interior residential water use in the United States. In Stage 1 declared shortages, customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

However, under Stage 3 and Stage 4 mandatory rationing programs, the health and safety allotment of 68 gallons per capita per day (gpcd) is proposed because that amount of water is sufficient for essential interior water with no habit or plumbing fixture changes. If customers wish to change water use habits or plumbing fixtures, 68 gpcd is sufficient to provide for limited non-essential (i.e. outdoor) uses.

Stage 4 mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, would require that customers make changes in their interior water use habits (for instance, not flushing toilets unless “necessary” or taking less frequent showers).

Table 3 - Per Capita Health and Safety Water Quantity Calculations						
	Non-Conserving Fixtures		Habit Changes ¹		Conserving Fixtures ²	
Toilets	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min x 4.0 gpm	20.0	4 min x 3.0 gpm	12.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total (gpcd)		68.0		48.0		37.5
HCF per capita per year		33.0		23.0		18.0
¹ Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads.						
² Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothes washers.						

Water Allocation Methods

The following allocation method is proposed for each customer type.

Single Family	Hybrid of Per-capita and Percentage Reduction
Multifamily	Hybrid of Per-capita and Percentage Reduction
Commercial	Percentage Reduction
Industrial	Percentage Reduction
Gvt/Institutional	Percentage Reduction
Recreational	Percentage Reduction - vary by efficiency
New Customers	Per-capita (no allocation for new landscaping during a declared water shortage.)

Based on current and projected customer demand, the water may be allocated to each customer type by priority and rationing stage during a declared water shortage.

Individual customer allotments are proposed to be based on a five-year period. This gives the District a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment would be greater than the amount used in the most recent year of the five-year base period.

The District's General Manager would classify each customer and calculate each customer's allotment according to a Sample Water Rationing Allocation Method. The allotment would reflect seasonal patterns. Customers would be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible; notice will be provided by other means. Any customer may appeal the District's classification on the basis of use or the allotment on the basis of incorrect calculation to the Board of Directors.

Impacts of Implementation of the Water Shortage Contingency Plan

It is not expected that rates would need to be increased as a result of water shortages and the implementation of this WSCP. The District's current rate schedule consists of two parts: a monthly service charge, which covers the District's fixed costs, and a use charge (per 100 CF) which covers the cost of producing and delivering water to customers. Therefore, reductions in revenue due to reductions in use should be accompanied by a reduction in expenses incurred by the District. Minor shortfalls in revenue could be covered by the District's water reserve funds.

Water Use Monitoring Procedures

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported daily to the Facility Manager. Totals are reported monthly to the District General Manager and incorporated into the water supply report.

During a Stage 1 or Stage 2 water shortage, daily production figures will be reported to the Facility Manager. The Facility Manager will compare the weekly production to the target weekly production to verify if the water use reduction goal is being met. Weekly reports would then be forwarded to the District General Manager with monthly reports provided to the Board of Directors. If reduction goals are not met, the General Manager will notify the Board of Directors so that corrective action can be taken.

During a Stage 3 or Stage 4 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager.

During emergency shortages, production figures will be reported to both the Facility Manager and the General Manager hourly. Daily reports will also be provided to the Board of Directors.

Table 4 - Water Use Monitoring Procedures	
Stage 1 or 2 Conditions	Stage 3 or 4 Conditions
Daily Production Reports to Facility Manager	Daily Production Reports to Facility Manager
Weekly Production Reports to General Manager	Daily Production Reports to General Manager
Monthly Production Reports to Board of Directors	Monthly Production Reports to Board of Directors

Penalties

The Board of Directors will establish a schedule of penalties for violations of this policy in an adopted Ordinance.

Catastrophic Supply Interruption Plan

A catastrophic event may result in a complete loss of District water supplies for a temporary period lasting from a day to a week or more. Examples of catastrophic events include earthquake, widespread power outage or other disaster.

In the event of an earthquake or other disaster, District personnel will assess their delivery system for damage that could impair the system's ability to deliver water to customers. If damage is identified, District maintenance personnel or a contractor engaged by the District would perform the required repairs as soon as possible in order to restore delivery capacity. The District keeps an inventory of supplies on hand such as PVC pipe, valves, fittings, and water service appurtenances, which could be used to make needed repairs.

The District has diesel powered engines and gear drives at two of its well sites (one in the center and one in the north end of the District) that will be able to remain in operation in the event of a power outage. In addition, the District has a diesel electrical generator at another centrally located well site. These diesel engines and generators will be used to maintain at least a 30 psi positive pressure in the system until power can be restored. Available water supplies in storage will also be utilized.

If necessary, the District will purchase and distribute emergency drinking water to its customers. The District will coordinate with the Kern County Emergency Operations Center in accordance with the Kern County Emergency Operations Plan.

Table 3: Preparation Actions For A Catastrophe	
Possible Catastrophe	Summary Of Actions
Earthquake	<ol style="list-style-type: none"> 1) Assess system for damage 2) Repair damage by District personnel or contractor
Regional Power Failure	<ol style="list-style-type: none"> 1) Rely upon engines and generators to maintain 30 psi positive pressure in water system. 2) Rely upon available storage for supply