

**MUHLENBERG TOWNSHIP AUTHORITY
DROUGHT CONTINGENCY AND RATIONING PLAN
PREPARED MARCH 20, 1992; UPDATED JANUARY 15, 2009**

General

The objective of the Plan is to define the actions required at various stages of a drought emergency in order to protect public health and safety, insure essential water uses, equitably share available supplies, and conserve water resources. The Plan is staged to permit drought conditions and to permit relaxation of water use restrictions as conditions improve.

Criteria are established by the Pennsylvania Department of Environmental Protection (DEP) and the Delaware River Basin Commission (DRBC) for the various stages of drought action, and basin wide responses will be imposed by these agencies during the drought stages. This plan is intended to satisfy requirements of DEP and DRBC, whether the response action is initiated by these agencies during the defined drought stages. This Plan is intended to satisfy requirements of DEP and DRBC, whether the response action is initiated by these agencies or by the Authority.

Planning and Coordination

The Drought Contingency Plan was developed for the Muhlenberg Township Authority water system and is subject to continued updating by the Authority. The continued planning for drought emergencies and the coordination of actions during a drought emergency is the responsibility of the authorized personnel of the Muhlenberg Township Authority. The continuity of leadership during a drought or other emergency shall be maintained by the following authorized personnel:

- (1) Robert L. Walborn, Manager; if not available,
- (2) Jeffrey A. Calpino, Administrative Manager

The manager is authorized to release news items to the local media and to direct other personnel to notify the appropriate state, county, and local agencies and governmental bodies, utilities, and

fire and police departments as to the severity of the water supply situation and their involvement, if any.

Stages of Drought Emergency

The stages of drought emergency are defined as:

- (1) Drought Watch
- (2) Drought Warning
- (3) Drought Emergency

The criteria used to determine drought stages in the lower Region of the Delaware River Basin and the DRBC Southeastern Pennsylvania Ground Water Protected Area, where the Authority service area is located, are contained in the Pennsylvania Drought Contingency Plan for Delaware River Basin, published by DEP. It is likely that these criteria will trigger a basin wide drought response before local conditions in the Authority wells and establishes criteria for a local drought response in the absence of basin wide action.

Normal Conditions

The actions to be taken during normal water supply conditions are identified in the Water Conservation Program. Because water use per customer and unmetered water in the Authority service area are both low, the normal conservation measures are intended to maintain these low levels and to encourage long-term reductions in consumption.

Stage 1 – Drought Watch

The drought watch stage is intended to alert the public to the potential for extreme drought conditions and to increase monitoring, awareness, and preparation for drought response actions. This condition will exist when groundwater levels decline below normal seasonal levels by approximately 15 percent in the majority of the Authority wells, or when regulatory agencies impose it. The conservation measures during this stage are voluntary, and the goal is to obtain a

total supply reduction of 5 percent. The reduction in supply will be compared on an average daily demand basis for each month, as compared to the same month for the previous year, after adjustment for new customers or changes in water use by existing customers. Conservation measures will include the normal conservation measures, with the changes and additions listed below:

(1) Public Education

- (a) Through the local media, advise water customers of the well supply situation, the basin wide drought conditions, and the goal of a 5 percent voluntary reduction in water consumption.
- (b) Publicize impact of voluntary restrictions on average daily demand on a monthly basis.

(2) Leakage and Loss Management

- (a) Identify major unmetered uses, and notify responsible agencies to reduce use. Fire hydrant flushing, fire department testing, sewer line flushing and testing, and other unmetered uses should be undertaken only as necessary.
- (b) Perform leak detection surveys in any areas where leakage is suspected.

(3) Retrofit Devices

- (a) Distribute literature on retrofit devices to major water users.

(4) Water Use Policies

- (a) Confirm successful implementation of conservation measures defined for normal conditions, and immediately implement any measures that are deficient.
- (b) Encourage voluntary reduction of landscape irrigation, lawn watering, water – cooled air conditioning, aesthetic water use, street and pavement cleaning, and vehicle washing.
- (c) Emphasize serving water in eating places only if requested.
- (d) Reduce municipal and public uses of water.
- (e) Review Drought Warning conservation measures to confirm the Authority’s ability to implement the actions.

Stage 2 – Drought Warning

The drought warning stage is to prepare for a coordinated response to imminent drought emergency conditions and to initiate voluntary conservation measures to reduce water use by 10 to 15 percent. This condition will exist when a further decline in area groundwater levels occurs (ground water levels in majority of Authority wells declines by 25 percent below normal seasonal levels) and long range forecasts indicate insufficient precipitation for groundwater recharge, or when imposed by regulatory agencies. The conservation measures and the actions required by regulatory agencies:

(1) Public Education

- (a) With the next regular mailing of water bills or other Authority correspondence, notify each customer of the drought warning and the goal of a 10 to 15 percent water use reduction. Also provide literature on water conservation, leak detection, and retrofit measures to each customer.
- (b) Publicize impact of conservation measures on the total water demand on a monthly basis.

(2) Leakage and Loss Management

- (a) Notify responsible officials to voluntarily reduce fire hydrant flushing, fire department testing, sewer line flushing and testing, and other unmetered uses to the minimum acceptable levels.

(3) Retrofit Devices

- (a) Provide literature to all customers on retrofit devices and their water use savings.

(4) New Construction

- (a) Reduce flushing and disinfection of new water lines to minimum acceptable levels.

(5) Water Reuse and Recycling

- (a) Encourage the use of greywater for plant watering and irrigation uses.
- (b) Encourage recycling of water for industrial processes, inside and outside aesthetic uses, and vehicle washing.

(6) Water use Policies

- (a) Confirm successful implementation of normal drought watch measures, and correct any deficiencies.
- (b) Encourage voluntary elimination of potable water use for aesthetic uses, refilling swimming pools, street and pavement cleaning, draining and refilling air conditioning cooling towers, landscape irrigation and vehicle washing (unless handheld hose with an automatic shutoff).
- (c) Encourage voluntary reduction of potable water use for nonessential uses, irrigation of golf course fairways and non-play areas, commercial and industrial processes, recreation, outside pressure cleaning, and for cooling and air conditioning through increased minimum temperature settings.
- (d) Review Drought Emergency measures to confirm the Authority's ability to implement the actions.

Stage 3 – Drought Emergency

The drought emergency stage is intended to respond to actual emergency conditions, to avoid depletion of water resources, to insure necessary minimum supplies for public health and safety, to satisfy essential and high priority uses, and to avoid unnecessary economic dislocation. The goal of mandatory water use restrictions and conservation measures is to reduce water use by at least 15 percent, or greater percentages to reduce water demands to the quantity of supply available. This condition will exist when continuous pumping is required from a majority of the Authority wells for a 48 hour period in order to satisfy water system demands, when groundwater levels are 50 percent below normal seasonal levels in the majority of the Authority wells, or when the condition is imposed by regulatory agencies. The response actions listed below are in addition to the actions taken in previous stages, and in addition to the actions required by regulatory agencies.

(1) Public Education

- (a) Through a special mailing (or alternate means of communication), notify each customer of the drought emergency and the goal of a minimum 15 percent reduction in water use.
- (b) Publicize the drought emergency actions in available media.
- (c) Emphasize the need for each individual and customer to conserve, and urge the issue of retrofit conservation devices.

(2) Leakage and Loss Management

- (a) Actively survey the water system by listening on hydrants and valves to locate leaks, and expeditiously repair those leaks.
- (b) Monitor and enforce nonessential use restrictions.

(3) System Planning and Rehabilitation

- (a) Expedite capital additions that improve emergency supply capabilities or reduce leakage.
- (b) Implement the use of individual or system-wide pressure reduction to conserve water.

(4) Retrofit Devices

- (a) Urge installation of retrofit devices at customer fixtures.
- (b) Provide water conservation kits at cost for customers and distribute at the Authority office.
- (c) Survey Authority owned and other public facilities to confirm installation and use of retrofit devices and expedite the installation of new water saving devices where feasible.

(5) Water Use Policies

- (a) At the direction of the Pennsylvania Emergency Management Council, and in accordance with the Governor's proclamation of a drought emergency, monitor and enforce the regulations of the Council related to restrictions of nonessential water use.

- (b) Confirm successful implementation of water conservation measures required in previous stages.
- (c) Implement the provisions of the Local Water Rationing Plan as necessary to respond to water shortages and to balance water demands with available supplies.

CHECKLIST FOR INFORMATION TO MEDIA

Stage I: Drought Watch

- Explain State drought declaration to media.
- PADEP evaluates drought conditions based on precipitation, river flows and storage in reservoir.
- Explain Conservation Program for Drought Watch and its objective to voluntarily reduce water use by 5%.
- Inform public.

Stage II: Drought Warning

- Status of rainfall deficiency, river flows, reservoir storage.
- Governor has declared drought emergency for area based on local drought conditions or conditions in the Delaware River Basin.
- Explain voluntary restrictions on non-essential water uses.
- Explain voluntary conservation measures to reduce water use by 10 to 15 percent.
- Inform public.

Stage III: Drought Emergency

- Status of local drought or water shortage emergency.
- Explain water rationing plan and what its requirements are through notification to all customers.
- Inform public.

LIST OF NON-ESSENTIAL WATER USES

Notice to All Muhlenberg Township Authority Customers:

Due to the prolonged drought, the Governor has issued a ban on the following non-essential water uses:

- The use of any water for watering of lawns;
- The use of fresh water for the watering of outdoor garden, landscaped areas, trees, shrubs and other outdoor plants;
- The use of any water for washing paved surfaces such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, and patios;
- The use of any water for ornamental purposes including fountains, artificial waterfalls and reflecting pools;
- The use of any water for washing and cleaning of automobiles, trucks, or other motor vehicles and trailers except the use of water by commercial car washes;
- The serving of water in restaurants, clubs or eating places unless specifically requested by a customer.
- The use of water to fill private residential swimming pools serving less than 25 dwelling units; unless approved by the local water supplier.
- The use of any water to refill air-conditioning cooling towers beyond the initial refill.

For details concerning these regulations, please consult Commonwealth of Pennsylvania Chapter 119 of the Pennsylvania Code, a copy of which is on display at the information desk, Muhlenberg Township Authority, or can be found at www.dep.state.pa.us/dep/subject/hot_topics/drought.

Please be advised that the Pennsylvania Emergency Management Agency has established procedures and penalties to enforce the above listed regulations.

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Trigger Point		Demand Measures	Supply measures
Stage I			
Well No. 1	307 ft.	Voluntary restrictions on nonessential water use.	System wide leakage and loss reduction survey.
Well No. 2	313 ft.		
Well No. 3	212 ft.		
Well No. 4	187 ft.		
Well No. 6	131 ft.		
Well No. 8	100 ft.		
Well No. 9	127 ft.		
Well No. 10	201 ft.		
Well No. 11	135 ft.		
Well No. 12	168 ft.		
Well No. 13	201 ft.		
Well No. 14	152 ft.		
Well No. 15	260 ft.		
Quarry Production Bore Hole No. 1	**		
Quarry Production Bore Hole No. 2	**		
Stage II			
Well No. 1	316 ft.	Implement mandatory restrictions on nonessential water use.	Identify reserve sources of supply and/or interconnections:
Well No. 2	321 ft.		
Well No. 3	213 ft.		
Well No. 4	190 ft.	Identify customers that could be shed from the system: AT&T Myers Canning	6 connections with City of Reading 1. Adams Street – 6” meter 2. Pottsville Pike (Myers Canning) – 4” meter 3. North 13 th Street – 4” meter 4. Rt. 61 & Grant Street – 4” meter
Well No. 6	137 ft.		
Well No. 8	101 ft.		
Well No. 9	129 ft.	Notify State Water Plan Division (717) 541-7805	5. Crossroads Corp. Center – 8” meter 6. Tuckerton Road & Rt. 61 – 8” meter
Well No. 10	202 ft.		
Well No. 11	135 ft.		
Well No. 12	175 ft.	If Stage III appears imminent, submit water rationing plan to the PA Emergency Management Agency	
Well No. 13	208 ft.		
Well No. 14	153 ft.		
Well No. 15	265 ft.		
Quarry Production Bore Hole No. 1	**		
Quarry Production Bore Hole No. 2	**		

**Stage elevations for Quarry Production Bore Holes No. 1 and No. 2 will be determined after sufficient daily pumping data has been gathered. Currently they will follow the drought stages as imposed by DEP or DRBC or any other regulatory agency.

Trigger Point		Demand Measures	Supply measures
Stage III			
Well No. 1	326 ft.	Implement water rationing plan after approval by the PA Emergency Management Agency. Shed customers identified in Stage II.	List emergency sources and equipment necessary to utilize each source. 6 interconnections with the city of Reading as noted in Stage II. No pumping facilities or additional equipment are required for these connections.
Well No. 2	329 ft.		
Well No. 3	215 ft.		
Well No. 4	194 ft.		
Well No. 6	143 ft.		
Well No. 8	103 ft.		
Well No. 9	132 ft.		
Well No. 10	203 ft.		
Well No. 11	135 ft.		
Well No. 12	182 ft.		
Well No. 13	215 ft.		
Well No. 14	153 ft.		
Well No. 15	270 ft.		
Quarry Production Bore Hole No. 1	**		
Quarry Production Bore Hole No. 2	**		

**Stage elevations for Quarry Production Bore Holes No. 1 and No. 2 will be determined after sufficient daily pumping data has been gathered. Currently they will follow the drought stages as imposed by DEP or DRBC or any other regulatory agency.