

Water Supply Interruption

This action plan applies to water supply interruptions. These events will vary in scale from compromised incremental supply volumes to complete, catastrophic loss of water supply. The ability for a utility to respond to a catastrophic water supply interruption will be highly correlated to the existence of interconnections and alternative sources of supply.

INITIATION AND NOTIFICATION

Catastrophic water supply interruptions will generally coincide with other events, such as physical equipment damage, severe weather or others, which are likely to have a specific direct action plan. Incremental interruptions due to longer-term events such as drought or acute loss of one source, will lead to a prescribed series of contingency measures, as outlined below.

SPECIFIC ACTIVITIES

I. Assess the Problem

There are a number of potential levels of severity involved in a water supply interruption. A series of stages of action corresponding to increasing impacts on water are:

- Normal Conditions
- Water Alert
- Water Warning
- Water Crisis
- Water Emergency

II. Isolate and Fix the Problem

Each stage has specific customized definitions, in terms of percent of Water Supply reduction, with appropriate actions or restrictions at each stage. Utilities will have a series of escalating penalties for successive violations of restrictions. These stages are:

Normal Conditions – Normal conditions apply. Water is available.

Water Alert -- A 5% or greater reduction in water usage is to meet the immediate needs of customers. Voluntary conservation encouraged. Explain the water shortage situation to the public and request voluntary water conservation. Maintain an ongoing public information campaign consisting of distribution of literature, speaking engagements, bill inserts, and conversation messages printed in local newspapers.

Water Warning -- A 15% or greater reduction in water usage is to meet the immediate needs of customers. Water supply shortage is moderate. The utility aggressively continues its public information and education programs. Ask consumers for a 15 percent or greater voluntary or mandatory water use reduction. Implement additional landscape irrigation restrictions if necessary. Ask businesses not to serve water in restaurants unless requested.

Water Crisis – A 30% or greater reduction in water usage is to meet the immediate needs of customers. Water supply shortage is severe. Additional requirements may include:

- Dramatic landscape irrigation restrictions;

- Restrictions on use of potable water to fill or refill new swimming pools, artificial lakes, ponds, or streams until the water crisis is declared over; Prohibition of water use for ornamental ponds and fountains;
- Restrictions on washing of automobiles and equipment (such as requiring that it shall be done on the lawn or at a commercial establishment that uses recycled or reclaimed water);
- Restriction of flushing of sewers or fire hydrants to cases of emergency and essential operations, and;
- Introduction of a permanent water meter on existing non-metered services and/or flow restrictors on existing metered services at customer's expense upon receipt of the second water violation.

Water Emergency -- A 50% or greater reduction in water usage is to meet the immediate needs of customers. Water shortage is critical. Additional requirements may include:

- Disallowing all landscape irrigation;
- Disallowing potable water use for construction purposes such as dust control, compaction, or trench jetting.
- In addition, large industrial users, for example canneries and other food manufacturers, may be required to reduce or cease all water use.

In addition to these incremental stages, the Utility should prepare for a catastrophic interruption of water supplies. A catastrophic event that constitutes a proclamation of a water shortage would be any event, either natural or manmade, that causes a severe water supply interruption, synonymous with or with greater severity than the "Water Warning" water supply shortage condition outlined above.

III. **Monitoring**

Handle communication of water supply interruption stages according to the identified public notification procedures. Handle press releases according to the identified utility procedures..

IV. **Recovery and Return to Safety**

Identify alternative water supply options in the utility emergency response plan (ERP). In the event of a catastrophic, immediate need, it is likely these will be utilized. This includes information on local interconnections with neighboring sources, area water haulers, temporary storage options, etc.

If there have been lines with no water or negative pressures, a precautionary boil order should be issued by the utility until line tests on two consecutive days show the lines to be safe. Increase chlorine residuals temporarily.

The water system may have to valve off portions of the distribution system while refilling above ground storage tanks. Valved off areas have the potential for external contamination to enter the system through leaking joints or cracked pipe. Before placing a valved off area back in service, the system should issue a precautionary boil order, increase the chlorine residual throughout the system and obtain safe bacteriological samples from representative areas of the system on two consecutive days. Lifting the precautionary boil order occurs collecting the required safe samples.

Pressurize the system slowly to avoid water hammer and the potential for damage to the lines.

Bleed air from lines as they refill since entrapped air can impede flows and may cause line damage.

V. **Report of Findings**

Assemble relevant personnel to review effectiveness of action plan and reinforce lessons learned. Write down and correlate all the components of the incident. Include response management and suggestions to improve the facility / community response in the future. The report should incorporate all relevant data from the incident and suggested changes in the emergency response plans and procedures.

Submit suggestions from the report to the governing board/individuals for evaluation and actions to be taken.