

8.4.5 Emergency Response Plan

CVWD updated its *Water System Emergency Response Plan (ERP)* on August 1, 2018. The ERP was prepared in accordance with Section 1433(b) of the Safe Drinking Water Act as amended by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188, Title IV – Drinking Water Security and Safety).

CVWD has provided the required certification to the EPA that the 2018 ERP incorporates the results of the vulnerability assessment completed for the system and includes plans, procedures, and identification of equipment that can be implemented or utilized in the event of a terrorist attack on the water system. Applicable excerpts from the document are included herein where noted; the document in its entirety is kept by the District.

The purpose of the ERP is to provide CVWD with a standardized response and recovery protocol to prevent, minimize, and mitigate injury and damage resulting from emergencies or disasters of man-made or natural origin. The ERP also describes how CVWD will respond to potential threats or actual terrorist scenarios identified in the vulnerability assessment, as well as additional emergency response situations. Included in this ERP are specific Action Plans (APs) that will be utilized to respond to events and incidents. The primary threats identified for CVWD in the ERP are natural disasters (i.e., earthquake, winter storm, and fire) and human-caused, which can damage structures/equipment and/or disrupt service (ERP, p. 45). The following is a summary of pertinent information from the ERP related to water service interruption:

CVWD has one alternate and independent raw water source (well) which can supplement the water supply if the other sources are compromised. There are 3 other water utilities within the regional area, Crestline-Lake Arrowhead Water Agency, Valley of Enchantment Mutual Water Company and Cedarpines Park Mutual Water Company. These water utilities have their own water supply and treatment systems. To enable CVWD to have uninterruptible water service capability, bypass turnout valve connections from CVWD's water distribution system to Crestline-Lake Arrowhead Water Agency are in place and are currently maintained by Crestline-Lake Arrowhead Water Agency. (p. 34)

ERP Action Plan 9 – Water Supply Interruption describes the District's five levels of severity for a water supply interruption with a series of stages of action corresponding to each level. AP 9 includes how to handle public notifications, locate alternative water supply options, shut-off and restart procedures, regulatory filings, use of backup generators, and when to issue a precautionary boil water order. The District also maintains Action Plans to respond to natural events (i.e., flood, winter storm, hurricane/tropical storm, and earthquake), contamination, structural damage, bomb threats, and power outages (AP 1A to AP 10C).

CVWD must also consider CLAWA's emergency response plans for an interruption of its supplies, because CVWD does not have sufficient tank storage to supply customers during an extended drought period nor does it have direct access to a reservoir of sufficient capacity (WEBB(a), p. 8-14).

CLAWA has installed permanent natural gas engine-operated standby generators at each of its main treatment, pumping, and operation facilities to avoid water supply interruptions during electrical power outages. In order to minimize potential damages due to earthquakes, CLAWA's facilities have been designed or upgraded in accordance with current building and safety standards and have been constructed with multiple units where feasible to minimize disruption if a single unit is damaged. CLAWA has also stockpiled various materials necessary to repair pipeline breaks and leaks in order to minimize outages during catastrophic events. (WEBB(a), p. 8-14)

CLAWA's water supply comes primarily from the State Water Project supplied by water from the Sacramento-San Joaquin Delta (Delta). According to DWR's *2019 Final Delivery Capability Report*, the Delta faces numerous challenges to its long-term sustainability. For example, climate change poses the threat of increased variability in floods and droughts, and sea level rise complicates efforts to manage salinity levels and preserve water quality in the Delta so that the water remains suitable for urban and agricultural uses. Among the other challenges are continued subsidence of Delta islands, many of which are already below sea level, maintained by relatively unstable levee system, and the related threat of a catastrophic levee failure as water pressure increases on fragile levees (DCR, p. 2). Federal, state, and local agencies have been working to address the hazards that threaten the Delta through implementation by 2018 of recommendations made by the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force (Delta Stewardship Council).

8.4.6 Seismic Risk Assessment and Mitigation Plan

Pursuant to Water Code Section 10632.5 beginning January 1, 2020, the UWMP shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.⁶

CVWD recently updated its *Hazard Mitigation Plan* (HMP) in 2018 as part of the San Bernardino County Fire Protection District Office of Emergency Services' *Operational Area Multi-Jurisdictional Hazard Mitigation Plan* (MJHMP, 2017). The District is a participating special district to the County MJHMP. The County MJHMP includes information from 31 local HMPs; all of which were prepared in compliance with the federal Disaster Mitigation Act of 2000 (Public Law 106-390). Applicable excerpts from the District's HMP are included herein where noted, but the entire document is held by the District. Key findings from the 2020 HMP that are pertinent to the UWMP include:

- Natural and man-made hazard considered by the HMP include: Wildfires, Earthquake, Drought, Infestation, Climate Change, Terrorism, Winter Storms, Flooding, Dam Inundation (p. 16). The following natural hazards were considered not to be a risk to the District's planning team based on geography, topography, elevation, development or previous occurrence: Extreme Heat, Flash Flooding, High Winds/Straight Line Winds, Lightning, Severe Thunderstorms (p. 17).
- Earthquake hazards – The area served by CVWD is in close proximity to several major earthquake faults. The San Andreas Fault runs across the foot of the San Bernardino Mountains near Highway 18, Arrowhead Springs Area, less than five miles from Crestline. Additional faults in the San Bernardino area, e.g., San Jacinto, are also within 10 miles of the District. While there have been many earthquakes in and around the District's service area, none have caused damages to the District's facilities. (HMP, p. 23)
- HMP Appendix C.1 presents the earthquake profile findings for the District's service area. The ground motion findings indicate the peak ground acceleration (PGA) within

⁶ Pursuant to Water Code section 10632.5, the assessment herein is based on other sources, as described below. Albert A. Webb Associates is not qualified to make its own independent seismic risk assessments or recommend mitigation actions and assumes no responsibility for those recommended herein.

the District's service area could potentially exceed 80 percent. Typically, any acceleration over 3 percent is considered excessive. (HMP, p. 28)

- Each District vehicle has been provided with a First Aid Kit containing basic first aid supplies. The District office also has two of these kits; one upstairs and one downstairs. The District office has a natural gas-powered generator for the operation of the District's Administrative Building and one adjoining well. (HMP, p. 57)

To assess risk in the HMP, each potential type of risk was first prioritized based on probability to occur, magnitude of impact, length of warning time before an event occurs, and duration of the disaster event. The CVWD Hazard Assessment Matrix in the HMP identifies earthquakes as the second highest ranking hazard, after wildfire. The HMP earthquake vulnerability analysis estimates that approximately 92 percent of the community's population is vulnerable to earthquake risks and approximately 100 percent of the community's critical facilities are vulnerable. Further, all District facilities and 30 percent of District pipelines are at risk if a severe earthquake occurred (HMP, p. 50).

The HMP contains mitigation goals, objectives, and projects for all hazards. Seismic hazard mitigation from the HMP is replicated below. The District HMP estimates the potential costs of damage to District facilities resulting from an earthquake and ranked the seismic mitigation actions of securing alternate power, water main replacement, and tank retrofit as priorities 2-4 among the five top priority actions (HMP, p. 66).

Description: *Goal is to avoid damages to property and prevent loss of life or injuries.* The District agreed that the strengthening of building, mechanical, and fire codes is critical to the protection of property and life and the reduction of seismic risk, fire and flood hazards. These codes help water utilities design and construct tanks, pump stations, groundwater wells, and pipelines that resist the forces of nature and ensure safety.

Objectives:

- Encourage property protection measures for all communities and structures located in hazard areas.
- Reduce or eliminate all repetitive property losses due to flood, fire and earthquake.
- Research, develop, and adopt cost-effective codes and standards to protect properties beyond the minimum of protecting life safety.
- Establish a partnership among all levels of government and the business community to improve and implement methods to protect property.

Mitigation Actions:

- **Alternate Power Sources.** Install emergency standby generators to provide water pumping in power outage conditions.
- **Water Main Replacement.** Install 2500' of new water main.
- **Tank Retrofit.** Retrofit tanks to insure water availability. Continually make improvements to the District's facilities so the water system will continually deliver water.
- **Continuous Inspection of District facilities.**

From CVWD Hazard Mitigation Plan, p. 61.

8.4.7 Shortage Response Action Effectiveness

The District's water shortage response actions are shown in **Submittal Table 8-2** and **Submittal Table 8-3**. Each response action listed has a corresponding percentage of the shortage gap that the action is expected to meet. The percentages in Submittal Table 8-2 are based on the observed effectiveness of demand reduction actions undertaken during the past five years including the drought from 2013-2017. The higher the percentage, the more effective the action is expected to be in reducing demand.

As described previously, the District demonstrated during the drought of 2013-2017 that demand reduction efforts are achievable and effective; for example, average Districtwide consumption decreased more than 10 percent from 79.8 GPCD in 2014 to 71.6 GPCD in 2015 (WEBB(a), p. 8-6). During normal and drought periods, the CVWD operations staff reports weekly production figures to the General Manager, who then prepares a monthly report to the

Board of Directors to report on water demands, water supplies, and progress toward the water conservation target if a drought stage has been declared. In doing so, the District does analyze the efficacy of demand reduction and supply augmentation response actions on a monthly basis.

The supply augmentation actions shown in Submittal Table 8-3 have been used in the past and additional supplies have been available from CLAWA so that CVWD can meet customer demands when combined with demand reduction actions.

8.5 COMMUNICATION PROTOCOLS

In the event of a water shortage declaration, or declaration of water shortage response actions, communication protocols to inform the customers, the public, interested parties, and local, regional, and state governments will proceed pursuant to the current ERP and CVWD Ordinance No. 35, which states in part:

The District shall monitor and evaluate the projected supply and demand for water by its customers, and shall recommend to the Board of Directors any change in customer curtailment as indicated in the respective phases of Section 3.3.3. The Board of Directors shall, by resolution, determine the base calendar year from which the amount of water reduction shall be calculated and order that the appropriate phase of water use reduction be implemented. The effective date of said phase change shall be published once in a local newspaper and a notice shall be mailed to all property owners and customers of record within 10 days after the adoption date of the resolution changing the phase of water use reduction. Said phase shall remain in effect until a different phase is initiated and made effective pursuant to the provisions of this section. The District can, by resolution, order a more stringent phase be implemented, and it need not order one phase at a time.

In the event of an emergency, the District's ERP will provide complete guidance on notification procedures, which states in part (pp. 21, 25):

In general, communications during an emergency response will proceed along the chain of command of the ICS [incident command system]. The

number of people notified will increase as the incident expands and decrease as the incident contracts toward its conclusion.

The type and extent of the disaster will dictate the normal and/or alternative methods of communication that will be used. The possibility of a coordinated attack that targets the water, power, and communications systems must be considered. In this case, it would be reasonable to assume that some methods of communication will either be unavailable or limited to certain areas during an emergency. It is anticipated that employees will know upon arrival at their duty stations which communication systems are functional and which are not. This information should be relayed to the CVWD Information Officer upon discovery.

The individual(s) who discover the threat or emergency situation will immediately notify CVWD's 24-hour Call Center. The On-call Person will then notify the Water Utility Emergency Response Manager or WUERM. The remainder of the CVWD staff will be notified according to the table in Section III.D.2.

The ERP provides staff an internal and external notification list that includes critical customers, vendors, local, state, and federal agencies. Public notification channels can include the CVWD Website, media outlets, local radio, and local cable TV. District staff should refer to the ERP for detailed procedures, assumptions and available resources related to communications in an emergency.

8.6 COMPLIANCE AND ENFORCEMENT

Pursuant to Water Code Section 10632(a)(6), the following explains the customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined by the WSCP.

The District will make a reasonable effort to assist customers in complying with the penalties and charges associated with a triggered shortage response action. The District provides each customer with an allocation of water and charges a surcharge for any water used in excess of the allocation compared to the basic rate. This system encourages water efficiency, particularly

at the more restrictive phases of water conservation. Additionally, when Phase I.a through Phase VI are in effect, any consumer using more than 125 percent of their allocation, for any billing period, may be warned that such use is considered waste of water, and that a reduction in use is required to avoid being subject to the enforcement provisions shown in **Table 8C**. The District Board of Directors may also restrict new service commitments and connections based on current and future water availability predictions, by act of resolution.

Table 8C: Enforcement Provisions of Water Conservation Program

First Violation	Written Warning
Second Violation	\$50 charge
Third Violation	Up to \$500 for each day in which the violation occurs and may discontinue water service. The reinstatement charge would apply; however, a flow restrictor may be required before service is reinstated. The cost of installing the flow restrictor may be charged to the customer.

Source: CVWD Ord. No. 35.

The District may utilize the enforcement provisions of Section 3.3.6.2 of the District's Administrative Code to violations of temporary restrictions.

8.7 LEGAL AUTHORITIES

This section of the WSCP discloses the legal authorities that CVWD relies upon to implement the shortage response actions in Section 8.4, and to enforce them relative to Section 8.6.

The District maintains legal authority to implement all active CVWD ordinances including the demand reduction actions in Section 8.4.1 and enforcement actions in Section 8.6. Ordinance No. 35 was adopted on May 26, 2015 by the CVWD Board of Directors and enacted in conformity with Section 350, et seq., and Section 31026 of the Water Code.

The following statements have been included herein to demonstrate consistency with Water Code Section 10632(a)(7):

1. Water Code Section Division 1, Section 350 - Declaration of a water shortage emergency condition.