
HARDY COUNTY EMERGENCY OPERATIONS PLAN

ANNEX U: WATER CONTINGENCY

<i>Related Federal ESFs</i>	<ul style="list-style-type: none">• ESF #3: Public Works and Engineering
<i>Related State ESFs</i>	<ul style="list-style-type: none">• Incident Specific Annex 5: Water Crisis Response
<i>Primary Agencies</i>	<ul style="list-style-type: none">• Hardy County Public Service District (PSD)• Moorefield Municipal Water Department
<i>Support Agencies</i>	<ul style="list-style-type: none">• West Virginia Department of Environmental Protection (WVDEP)• West Virginia Department of Health and Human Resources (WVDHHR)• West Virginia Division of Homeland Security and Emergency Management (WVDHSEM)• United States Army Corps of Engineers (USACE)
<i>Authorities</i>	<ul style="list-style-type: none">• West Virginia Code, §16-1-9c• West Virginia Code, Chapter 22
<i>References</i>	<ul style="list-style-type: none">• United States Department of Homeland Security. (2013). <i>National Response Framework</i>. Washington, DC: Federal Government.• West Virginia Division of Homeland Security & Emergency Management. (2016). <i>West Virginia Emergency Operations Plan</i>. Charleston, WV: State Government.

I. PURPOSE AND SCOPE

A. Purpose

This annex provides for the implementation of assigned water-related and water contingency emergency tasks through the coordination of water provider agencies and partners in Hardy County.

B. Scope

This annex provides the general framework of water contingency functions during large-scale emergencies in Hardy County that negatively impact water availability and/or access. It deals with four distinct aspects of an incident: monitoring, detection, response, and repair/recovery. This annex, built with inputs and guidance from public works providers, partners, and Hardy County Emergency Management, applies to all water providers and partner agencies in Hardy County during emergency incidents and does not supplant protocols for regular operations.

II. SITUATION AND ASSUMPTIONS

A. Situation

1. Throughout this annex, the term *water provider* refers to Moorfield municipal water department, Hardy County Public Service District (PSD), and any contractors associated with these organizations.
2. Several types of emergencies could occur, the response to which may involve water provider agencies and water contingency efforts.
3. Coping with damage from snow/ice, windstorms, tornadoes, utility failure, terrorist attacks, fires and explosions, or cleaning up after a hazardous material spill will often require more personnel and equipment than the most well-equipped water provider will have available.
4. During an emergency when water distribution may be impacted by environmental conditions or long-span utility failure, certain demands may be placed upon water providers and partner agencies.
 - a. Public warning and information needs will greatly increase.

- b. Water providers and/or the county office of emergency management may be called upon to provide alternate sources of water to critical infrastructure facilities and the public.
 - c. Efforts to return to normal operational parameters may be impacted due to unforeseen complications requiring assistance from other jurisdictions and/or outside partner agencies.
5. A majority of the Lost River Valley (along the State Route 259 corridor) is without public water service, as is most of the South Fork area outside of Moorefield.
6. Risk Assessment
- a. Moorefield Water System, which services some 1,100 commercial and residential customers, utilizes two water plants which can process roughly 3.5 million gallons of water per day during normal operations. Should an emergency incident occur, Moorfield Water can provide service for approximately five days to critical infrastructure and civilian customers based upon existing storage capacity. However, if the Pilgrim's Pride processing plant remains in operation, that supply is depleted rapidly, and only one day of reserve is anticipated (Pilgrim's utilizes roughly 85% of the daily output from Moorefield Water.)
 - b. Hardy County PSD operates a total of eight separate water systems, including five that are supplied by Moorfield Water, one at Baker, and two supplied by the Town of Wardensville's spring-fed system. These systems include approximately 115 miles of main water line, twelve pump stations, eleven above-ground storage tanks, and one water plant that serves the Baker system. Across all systems, approximately 2,000 commercial and residential customers are serviced. Should an emergency incident occur, Hardy County PSD can provide service for approximately two to three days to critical infrastructure and civilian customers based upon existing storage capacity, with the Baker system having a five to six day window depending upon usage by the mulch facility at Baker. Hardy PSD has portable generators capable of powering its water plant as well as all pump stations; however, generators do not allow for all stations to be operational at one time.

- c. Facilities associated with the water utilities are secured via fencing.
- d. There are pipelines that cross waterways in Hardy County. Mountaineer Gas maintains some of those lines and monitors them accordingly.
- e. Along the South Fork, there are no upstream tanks containing oil/petroleum products/etc. within the critical zone (five-hour water travel time) or the peripheral zone (an additional five-hour water travel time). There is the potential for petroleum-based substances to contaminate the water supply in Baker following a rupture. The PSD has a schedule for monitoring its Baker source water for petroleum-based hydrocarbons.

B. Assumptions

- 1. Access to/availability of clean water is a critical infrastructure requirement for residential citizens, businesses, and governmental operations.
- 2. All water provider equipment and personnel will be available to cope with an anticipated disaster.
- 3. Without assistance, local water provider agencies will not have sufficient resources to manage a large-scale disaster.
- 4. All water providers and partner agencies have standard operating guidelines and continuity of operations plans in place prior to a major incident.
- 5. All water providers and partner agencies have established resource lists and mutual aid agreements with partner agencies in order to facilitate mutual aid assistance when the need arises.
- 6. All water providers and partner agencies have actively engaged the planning process in order to facilitate adequate response and recovery efforts including monitoring of water sources, detection of potential contaminants/problems, proper response protocols, and long-term repair and recovery of full service levels.

III. CONCEPT OF OPERATIONS

A. General

- 1. In the most general terms, water providers remain responsible for the maintenance of their own systems during emergency incidents.
- 2. The definition of an *incident* may be different for water providers than other agencies. For example, a lack of water pressure or a discoloration of water

from any cause is an incident for water providers. Conversely, water providers view the impacts to their water system as the primary concern associated with larger scale community-wide emergencies or disasters. Other agencies may not understand that context.

3. The Hardy County PSD has a number of farms as customers on its water systems and is unaware of any type of bulk storage or other locations where farmers access bulk water. A majority of farms rely on groundwater wells or springs as well as access to streams, creeks, etc. for their water supply needs.

B. Monitoring

1. Both Moorefield Water and Hardy County PSD have active monitoring protocols to test water sources and eventual consumable output as per required West Virginia Department of Health and Human Resources (WVDHHR) directives and mandates as well as industry best practices.
2. Monitoring of source water supplies is critical, and includes situational awareness of potential sources of contaminants such as hazardous material storage facilities and transportation operations over or near source water supplies, weather events, terrorism related threats, etc.
3. Sampling requirements are based on contamination. In order to come back online, the water utility needs two successive positive tests. Samples can be done locally, so long as the local West Virginia Department of Health and Human Resources (WVDHHR) lab is not affected; however, the utilities in Hardy County have historically used a lab in Morgantown.

- #### C. Should Moorefield Water and/or Hardy PSD detect a potential or identifiable threat to water source supplies, immediate shut-down protocols are in place to effectively secure pumping operations to both residential and commercial customers.

D. Response

1. Upon shut down of pumping operations, the Hardy County Office of Emergency Management should be immediately contacted with details regarding the reason for shut down of operations, potential health impacts on citizens and businesses, needs for support via partner agencies, estimated

time of repair/restoration of service, and other pertinent information specific to the incident (i.e., suspected terrorist act, etc.).

2. Once the Hardy County Office of Emergency Management is informed of the incident, Moorefield Water and/or Hardy County PSD, along with assistance from Hardy County Office of Emergency Management, should initiate mass notification protocols to inform local residents, businesses, and governmental agencies of the incident details and recommended/required customer actions to be taken (i.e., *Boil Water Advisory*, *Do Not Use Order*, etc.). As per recent West Virginia legislation, water utilities are required to initiate notifications of potential contamination incidents within 30 minutes of detecting the incident (West Virginia Code, §16-1-9c).
3. Moorfield Water and/or Hardy County PSD, along with assistance as requested/required by the Hardy County Office of Emergency Management, should assess outside resource needs and begin mutual aid assistance requests as applicable.

E. Repairs and Restoration

1. If primary water collection via the South Fork is negatively impacted, Moorfield Water can access a secondary source via the South Branch, but with only half the daily capacity of the primary intake.
2. Moorfield Water plants are wired for generators to provide back-up power; however, do not currently have generators on site.
3. Hardy County PSD has portable generators capable of powering its water plant as well as all pump stations; however, not enough for all stations at one time.
4. Both Moorefield Water and Hardy County PSD can reach out to partner agencies such as regional water companies and public service districts, as well as West Virginia Rural Water and West Virginia Water/Wastewater Agency Response Network (WV WARN) for resources including portable water systems and supplemental manpower.

F. Annex Roles Aligned with Core Capabilities

Core Capabilities	Annex Roles
Planning	Recognizes the source water protection planning efforts of water utilities.
Operational Coordination	Briefly addresses the management of cyber responses.
Infrastructure Systems	<ul style="list-style-type: none"> Identifies the types of situations that could impact the water infrastructure. Describes the water systems serving Hardy County. Discusses repairs and restoration for water systems. Provides an overview of the response to water system disruptions (resulting from or comprising emergency situations).
Public and Private Services and Resources	Identifies resource capabilities and potential providers to support water utility operations.

IV. DIRECTION, CONTROL, AND COORDINATION

A. Pursuant to the National Incident Management System, Hardy County (generally) should provide general guidance for the water contingency function and, when necessary, approve requests for state and/or federal assistance.

B. Incident Command System Considerations

- Neither Moorefield Water nor Hardy County PSD have established internal, quasi incident command system (ICS) structures in place for incident response. These management structures would be responsible for coordinating the activities of the water utility.
- Both agencies should assign a representative to work with the Hardy County Office of Emergency Management during large-scale incidents that impact service and deal with water contingency issues, or as requested for other incidents with tertiary water contingency issues.

C. **Emergency Operations Center Considerations:** A representative from either Moorefield Water and/or Hardy County PSD may be requested by the Hardy County Office of Emergency Management during a large-scale incident to be present for the EOC in order to provide immediate subject matter expert information and technical support to response efforts. Such representation would include participation in regular briefings held at the EOC or via telephone or internet conferencing. Participation will likely be through phone and/or email.

V. INFORMATION COLLECTION, ANALYSIS, AND DISSEMINATION

- A. Upon receipt of a potential incident (via the WVDEP's spill line or other source), water providers typically run a series of calculations to determine the amount of time it could take for contamination to reach their intake(s). These calculations account for water flow rates, etc. Each utility adds a small period of time to their calculations as a contingency. Such calculations are done on a case-by-case basis; however, there are some instances where standing, baseline estimates are maintained by the provider. For example, for Moorefield, any contamination from South Branch source will take approximately two hours to travel from the intake point to the plant clear well and into the distribution system.
- B. Information to be collected by the water providers includes:
1. Damages and/or potential/anticipated damages to water facilities including plants, pump stations, main lines, etc.;
 2. Current and/or expected conditions to worker safety that might hinder/delay/extend repair efforts and service restoration; and
 3. Partner agency resources and assets locally available to assist with response, repair and restoration efforts.
- C. Information to be shared includes the following:
1. Contact lists and information for water providers in Hardy County, along with primary and secondary representatives;
 2. Water supply damage reports and assessments to include approximate number of commercial and residential customers impacted with loss of or reduction of services;
 3. Required advisories (i.e., *Boil Water, Low Pressure, Do Not Use*) for public dissemination;
 4. Estimated repair time and restoration of service to impacted customers, to include worker safety considerations as well as proper testing and lifting of any boil water or other water use advisories; and
 5. Anticipated outside resource needs to assist in restoration of services including facility power, equipment, manpower, and testing.

- D. Information dissemination efforts include:
1. Utilization of mass notification system Phone Tree can be used by both utilities to alert both residential and business customers of expected, imminent, or acute issues with water supplies to include advisories and usage orders (water utilities may choose to notify “priority customers” – schools, nursing homes, etc. – in instances that demand immediate attention);
 2. Engagement of local media sources (TV, radio, print) to push pertinent life-safety and operational data to the public;
 3. Engagement of social media platforms to engage the public and receive situational awareness feedback;
 4. Standard use of 911 infrastructures to communicate with first responders and emergency management and governmental officials; and/or
 5. Utilization of water provider employees, first responders, and volunteers to deliver public information notices door-to-door as required.

VI. COMMUNICATIONS

- A. The discovery of a water crisis may be reported by private companies or the local population. Such information should be relayed to the West Virginia Department of Health and Human Resources (WVDHHR) and West Virginia Division of Homeland Security and Emergency Management (WVDHSEM) Watch Center for internal and external distribution in accordance with the Watch Center instructions (WVDHSEM, 2016, p. IS 5-5).
- B. Preferred Notification of Water Provider Agencies
1. Preferred communication with water provider agencies by the Hardy County Emergency Communications Center (e-911) is telephone via voice (primary) and text (secondary).
 2. A call tree of emergency contacts for each agency containing contact information (i.e., phone numbers, emails, etc.) should be available to emergency management and dispatch personnel and updated on a regular basis.
 3. Water providers should be contacted immediately if an incident has the potential to impact their operations, especially possible water source contamination events from hazardous waste spills, etc.

4. Water providers should be placed on general information and weather briefings distribution lists as critical infrastructure partners.
 5. Water providers should be included in local emergency planning committee (LEPC) membership.
- C. Communications Systems for Water Provider Agencies
1. Moorfield Water and Hardy County PSD communicate with employees via phone and/or portable radio systems.
 2. Neither Moorefield Water nor Hardy County PSD has access to Statewide Interoperable Radio Network (SIRN) radios for communication with emergency management and/or first responders via radio.
 3. Communications between water provider agencies and emergency management may be negatively impacted by power outages affecting phone utilities.
- D. See Annex B: Communications for more information.

VII. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

- A. Organization
1. During emergencies, water provider agencies support the emergency response as outlined above.
 2. Water provider agencies work within their specialty in accordance with incident objectives developed by the on-scene command staff.
- B. Assignment of Responsibilities
1. Primary Agencies
 - a. Hardy County Public Service District
 - i. Monitor normal services and ascertain potential or existing damage and/or contamination.
 - ii. Assist, as available, with responder needs.
 - b. Moorefield Municipal Water Department
 - i. Monitor normal services and ascertain potential or existing damage and/or contamination.

- ii. Assist, as available, with responder needs.
2. Support Agencies
- a. **West Virginia Department of Environmental Protection:** Inspects tanks along waterways throughout West Virginia.
 - b. West Virginia Department of Health and Human Resources
 - i. Receives notice of potential water crises.
 - ii. Serves as the coordinator of the water crisis response incident-specific annex within the state's emergency operations plan.
 - iii. Supports testing of water samples, if necessary, at its local laboratory in Moorefield.
 - c. West Virginia Division of Homeland Security and Emergency Management
 - i. Receives local resource requests.
 - ii. Coordinates state resources in response to an incident from the state emergency operations center.
 - iii. Requests federal resources from the state operations center, if necessary.
 - d. United States Army Corps of Engineers
 - i. Coordinates NRF Emergency Support Function #3 activities.
 - ii. Implements the NRF Emergency Support Function #3 Field Guide as necessary.

VIII. ADMINISTRATION, FINANCE, AND LOGISTICS

A. Administration

- 1. Documentation of all work done during emergency response should be in the form of situation reports and include man-hours committed, equipment hours, materials and supplies consumed, and any damages incurred.
- 2. The West Virginia Department of Environmental Protection compiles and inspects all tanks located along West Virginia waterways and ensures they are within compliance to rules and regulations as set forth in the West Virginia Code, Chapter 22.

B. **Finance:** See Basic Plan.

C. Logistics

1. Any resource request from higher levels of government should be made in accordance with National Incident Management System types and categories, where applicable.
2. List of Water Provider Agencies in Hardy County
 - a. Moorefield Water
 - b. Hardy County PSD
3. Resource Considerations
 - a. A portable generator maintained by the Hardy County Office of Emergency Management can be used to support water provider operations.
 - b. Moorefield Water staffs six certified operators; the PSD staffs three. Only certified operators can operate treatment plants.
 - i. Both utilities would be agreeable to considering arrangements where they support one another should either one need temporary assistance from the other's certified operators.
 - ii. West Virginia Rural Water may provide personnel support.
 - iii. The WV WARN network may also be utilized for certified operator requests.
 - c. In some cases, local contractors and/or volunteers could be utilized to provide manual labor support.
 - d. Should water need to be distributed to residents (in the event of a water outage), distribution points would likely be determined on a case-by-case basis. The Moorefield Town Park could be considered as a potential distribution point.
4. State and Federal Support
 - a. State Resources
 - i. The Water Crisis Response incident-specific annex in the *West Virginia Emergency Operations Plan* (WVDHSEM, 2016) was written

- to address large-scale failures, rather than partial failures of production, processing, and distribution networks.
- ii. The state's emergency operations plan assumes an organizational structure is in place locally such that the local emergency manager serves as a liaison to the state emergency operations center. Requests for support should be generated through Eteam, where the shift leader at the state operations center prioritizes and staffs requests for execution.
 - iii. The state serves as a liaison to federal support providers.
- b. Federal Resources
- i. Emergency Support Function #3 of the *National Response Framework* (USDHS, 2013) provides federal public works and engineering support when an incident or potential incident overwhelms state and local capabilities or when other federal departments or agencies require such assistance while in response.
 - ii. As with all federal resources, local officials must request their use through state authorities (unless other arrangements have been made).
 - iii. If activated by the United States Department of Homeland Security, Emergency Support Function #3 personnel report to the joint field office to prepare statements of work, provide cost estimates and completion dates for mission assignments, track ongoing mission assignments, determine resource requirements, assist local and state officials in the setting of priorities, and disseminating public works/engineering-related information to appropriate officials.
 - Priorities are developed jointly between federal, state, and local officials.
 - Emergency Support Function #3 personnel in the joint field office relay incident-related reports and information to Emergency Support Function #5 personnel working in higher-level federal multi-agency coordination systems.
 - Emergency Support Function #3 may deploy from the Joint Field Office to a unified command post, if needed and appropriate for

the situation, to assist in coordinating public works/engineering needs.

- Emergency Support Function #3 may also deploy to a regional response coordination center if a joint field office has not been established or while waiting for a joint field office to be established. From this location, Emergency Support Function #3 personnel will likely coordinate upcoming federal public works/engineering assignments and actions.
- iv. Local and state governments are responsible, at all times, for their own public works and infrastructures. Federal resources can only support their operation.

VI. ANNEX DEVELOPMENT AND MAINTENANCE

- A. Water provider representatives should review this annex periodically with the Hardy County Office of Emergency Management (as the “planning committee” for this annex) to determine the need for changes.
- B. As always, emergency management coordinates the distribution of revisions.