

# KET HC Spring 2016 FSE: Water Contamination and Patient Surge

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Exercise Plan/Participant Guide/Controller and  
Evaluator Handbook

April 5, 2016



## EXERCISE OVERVIEW

<b>Exercise Name</b>	KET HC Spring 2016 FSE: Water Contamination and Patient Surge
<b>Exercise Dates</b>	April 5, 2016
<b>Scope</b>	This exercise is a full-scale exercise planned for 1 day at various locations within the Knox/East TN Healthcare Coalition’s jurisdiction. Exercise play is limited to the parameters set forth within each participating organization.
<b>Mission Area(s)</b>	Mitigation, Response, and Recovery
<b>Core Capabilities</b>	HPP Capabilities 1: (Healthcare System Preparedness), 2 (Healthcare System Recovery), 3 (Emergency Operations), 5 (Fatality Management), 6 (Information Sharing), 10 (Medical Surge), and 15 (Volunteer Coordination)
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Evaluate the participating organizations’ ability to process a surge of patients resulting from the event.</li> <li>• Assess the participating organizations’ use of the incident command system to manage the incident – to include the use of appropriate ICS Forms to include – IAP Quick Start and the following HICS/ICS forms: 214 (Activity Log), 251 (Facility System Status Report), 252 (Section Personnel Time Sheet), and 254 (Disaster Victim/Patient Tracking).</li> <li>• Evaluate participating organizations’ ability to identify resource needs and methods for requesting additional resources.</li> <li>• Demonstrate the participating organizations’ ability to coordinate with outside agencies.</li> <li>• Assess participating organizations’ ability to sustain operations for 96 hours considering the exercise circumstances.</li> <li>• Evaluate participating organizations’ recovery plans to return to normal operations following the event.</li> </ul>
<b>Threat or Hazard</b>	Natural water contamination event secondary to severe weather and flooding.
<b>Scenario</b>	The local community has been experiencing a series of heavy rains and storms with flooding, which ultimately results in the municipal water system serving the organization being contaminated with E.coli. On day one of the event, there was a power outage at the local water treatment plant. Utility operations suspects that there could be a significant water main brank (i.e. decreasing tank levels were noticed as well as multiple



low/no water pressure calls). As a result, a precautionary boil water advisory was issued due to the risk of contamination. The following day, area hospitals started seeing a surge of patients – mostly children, elderly, and immunocompromised individuals – complaining of fever, nausea, vomiting, and diarrhea (some patients have bloody diarrhea). Multiple water samples have confirmed the presence of E. coli and the utility, in conjunction with TDEC, issued a Boil Water Advisory. *Participating organizations should have a short tabletop prior to the onset of the full scale exercise to discuss actions that would have been taken at this point (how water systems are being affected/managed, resource needs, etc).*

**The full scale portion of the exercise will begin 72 hours into the event.** At this point, the Boil Water Advisory is in effect and there continues to be a surge of patients in the community complaining of E. coli related symptoms.

*Following the completion of the full scale portion of the exercise, key organizational personnel should remain in place to complete a 96 hour recovery tabletop exercise, where actions to be taken place after the Boil Water Advisory is rescinded can be discussed. This portion will focus on returning the organization back to normal operations.*

*\*\*\*An additional CASPER (Community Assessment for Public Health Emergency Response) exercise will be conducted by the East TN Regional Health Office and Knox County Health Department utilizing this scenario on April 13-14th.*

**Sponsor**

Knox/East TN Healthcare Coalition utilizing ASPR Hospital Preparedness Program Funding

**Participating Organizations**

Region wide hospitals, public health, EMS, water utility districts, dialysis centers, potable water vendors, etc. A full list of participating agencies is located in Appendix B.

**Point of Contact**

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## GENERAL INFORMATION

### Exercise Objectives and Core Capabilities

The following exercise objectives in Table 1 describe the expected outcomes for the exercise. The objectives are linked to core capabilities, which are distinct critical elements necessary to achieve the specific mission area(s). The objectives and aligned core capabilities are guided by elected and appointed officials and selected by the Exercise Planning Team.

Exercise Objective	Core Capability
Evaluate the participating organizations' ability to process a surge of patients resulting from the event.	HPP, PHEP, and MCM ORR Capability 3: Emergency Operations HPP and PHEP Capability 5: Fatality Management HPP, PHEP, and MCM ORR Capability 6: Information Sharing HPP and PHEP Capability 10: Medical Surge
Assess the participating organizations' use of the incident command system to manage the incident – to include the use of appropriate ICS Forms to include – IAP Quick Start and the following HICS/ICS forms: 214 (Activity Log), 251 (Facility System Status Report), 252 (Section Personnel Time Sheet), and 254 (Disaster Victim/Patient Tracking).	HPP, PHEP, and MCM ORR Capability 1: Healthcare System Preparedness HPP, PHEP, and MCM ORR Capability 3: Emergency Operations HPP, PHEP, and MCM ORR Capability 6: Information Sharing
Evaluate participating organizations' ability to identify resource needs and methods for requesting additional resources.	HPP, PHEP, and MCM ORR Capability 1: Healthcare System Preparedness HPP, PHEP, and MCM ORR Capability 3: Emergency Operations HPP, PHEP, and MCM ORR Capability 6: Information Sharing HPP, PHEP, and MCM ORR Capability 15: Volunteer Coordination
Demonstrate the participating organizations' ability to coordinate with outside agencies.	HPP, PHEP, and MCM ORR Capability 3: Emergency Operations HPP, PHEP, and MCM ORR Capability 6: Information Sharing HPP, PHEP, and MCM ORR Capability 15: Volunteer Coordination
Assess participating organizations' ability to sustain operations for 96 hours considering the exercise circumstances.	HPP, PHEP, and MCM ORR Capability 1: Healthcare System Preparedness HPP, PHEP, and MCM ORR Capability 3: Emergency Operations HPP and PHEP Capability 10: Medical Surge
Evaluate participating organizations' recovery plans to return to normal operations following the event.	HPP and PHEP Capability 2: Healthcare System Recovery

Table 1. Exercise Objectives and Associated Core Capabilities

### Participant Roles and Responsibilities

The term *participant* encompasses many groups of people, not just those playing in the exercise. Groups of participants involved in the exercise, and their respective roles and responsibilities, are as follows:

- **Players.** Players are personnel who have an active role in discussing or performing their regular roles and responsibilities during the exercise. Players discuss or initiate actions in response to the simulated emergency.

- **Controllers.** Controllers plan and manage exercise play, set up and operate the exercise site, and act in the roles of organizations or individuals that are not playing in the exercise. Controllers direct the pace of the exercise, provide key data to players, and may prompt or initiate certain player actions to ensure exercise continuity. In addition, they issue exercise material to players as required, monitor the exercise timeline, and supervise the safety of all exercise participants.
- **Simulators.** Simulators are control staff personnel who role play nonparticipating organizations or individuals. They most often operate out of the Simulation Cell (SimCell), but they may occasionally have face-to-face contact with players. Simulators function semi-independently under the supervision of SimCell controllers, enacting roles (e.g., media reporters or next of kin) in accordance with instructions provided in the Master Scenario Events List (MSEL). All simulators are ultimately accountable to the Exercise Director and Senior Controller.
- **Evaluators.** Evaluators evaluate and provide feedback on a designated functional area of the exercise. Evaluators observe and document performance against established capability targets and critical tasks, in accordance with the Exercise Evaluation Guides (EEGs).
- **Actors.** Actors simulate specific roles during exercise play, typically victims or other bystanders.
- **Observers.** Observers visit or view selected segments of the exercise. Observers do not play in the exercise, nor do they perform any control or evaluation functions. Observers view the exercise from a designated observation area and must remain within the observation area during the exercise. Very Important Persons (VIPs) are also observers, but they frequently are grouped separately.
- **Media Personnel.** Some media personnel may be present as observers, pending approval by the sponsor organization and the Exercise Planning Team.
- **Support Staff.** The exercise support staff includes individuals who perform administrative and logistical support tasks during the exercise (e.g., registration, catering).

## Exercise Assumptions and Artificialities

In any exercise, assumptions and artificialities may be necessary to complete play in the time allotted and/or account for logistical limitations. Exercise participants should accept that assumptions and artificialities are inherent in any exercise, and should not allow these considerations to negatively impact their participation.

### Assumptions

Assumptions constitute the implied factual foundation for the exercise and, as such, are assumed to be present before the exercise starts. The following assumptions apply to the exercise:

- The exercise is conducted in a no-fault learning environment wherein capabilities, plans, systems, and processes will be evaluated.

- The exercise scenario is plausible, and events occur as they are presented.
- Exercise simulation contains sufficient detail to allow players to react to information and situations as they are presented as if the simulated incident were real.
- Participating agencies may need to balance exercise play with real-world emergencies. Real-world emergencies take priority.

## Artificialities

During this exercise, the following artificialities apply:

- Exercise communication and coordination is limited to participating exercise organizations, venues, and the SimCell.
- **The water contamination event is located in each organization’s INDIVIDUAL water utility district (not a region-wide contamination event).**

# EXERCISE LOGISTICS

## Safety

Exercise participant safety takes priority over exercise events. The following general requirements apply to the exercise:

- A Safety Controller is responsible for participant safety; any safety concerns must be immediately reported to the Safety Controller. The Safety Controller and Exercise Director will determine if a real-world emergency warrants a pause in exercise play and when exercise play can be resumed.
- For an emergency that requires assistance, use the phrase **“real-world emergency.”** The following procedures should be used in case of a real emergency during the exercise:
  - Anyone who observes a participant who is seriously ill or injured will immediately notify emergency services and the closest controller, and, within reason and training, render aid.
  - The controller aware of a real emergency will initiate the “real-world emergency” broadcast and provide the Safety Controller, Senior Controller, and Exercise Director with the location of the emergency and resources needed, if any. The Senior Controller will notify the all controller/evaluators as soon as possible if a real emergency occurs.

## Site Access

### Security

If entry control is required for the exercise venue(s), the sponsor organization is responsible for arranging appropriate security measures. To prevent interruption of the exercise, access to exercise sites and the Control Cell and/or SimCell is limited to exercise participants. Players should advise their venue’s controller or evaluator of any unauthorized persons.

### **Media/Observer Coordination**

Organizations with media personnel and/or observers attending the event should coordinate with the sponsor organization for access to the exercise site. Media/Observers are escorted to designated areas and accompanied by a participating organization's designated representative at all times. Sponsor organization representatives and/or the observer controller may be present to explain exercise conduct and answer questions. Exercise participants should be advised of media and/or observer presence.

### **Exercise Identification**

Exercise staff may be identified by badges, hats, and/or vests to clearly display exercise roles; additionally, uniform clothing may be worn to show agency affiliation.

## POST-EXERCISE AND EVALUATION ACTIVITIES

### Debriefings

Post-exercise debriefings aim to collect sufficient relevant data to support effective evaluation and improvement planning.

### Hot Wash

At the conclusion of exercise play, controllers facilitate a Hot Wash to allow players to discuss strengths and areas for improvement, and evaluators to seek clarification regarding player actions and decision-making processes at all exercise venues. All participants may attend; however, observers are not encouraged to attend the meeting. The Hot Wash should not exceed 30 minutes.

### Controller and Evaluator Debriefing

Controllers and evaluators attend a facilitated C/E Debriefing will be held on April 8, 2016 at 2:00pm at Knox County Health Department. During this debriefing, controllers and evaluators provide an overview of their observed functional areas and discuss strengths and areas for improvement.

### Participant Feedback Forms

Participant Feedback Forms provide players with the opportunity to comment candidly on exercise activities and exercise design. Participant Feedback Forms should be collected at the conclusion of the Hot Wash.

### Evaluation

#### Exercise Evaluation Guides

EEGs assist evaluators in collecting relevant exercise observations. EEGs document exercise objectives and aligned core capabilities, capability targets, and critical tasks. Each EEG provides evaluators with information on what they should expect to see demonstrated in their functional area. The EEGs, coupled with Participant Feedback Forms and Hot Wash notes, are used to evaluate the exercise and compile the After-Action Report (AAR).

#### After-Action Report

The AAR summarizes key information related to evaluation. The AAR primarily focuses on the analysis of core capabilities, including capability performance, strengths, and areas for improvement. AARs also include basic exercise information, including the exercise name, type of exercise, dates, location, participating organizations, mission area(s), specific threat or hazard, a brief scenario description, and the name of the exercise sponsor and POC.



## **Improvement Planning**

Improvement planning is the process by which the observations recorded in the AAR are resolved through development of concrete corrective actions, which are prioritized and tracked as a part of a continuous corrective action program.

### **Improvement Plan**

The IP identifies specific corrective actions, assigns them to responsible parties, and establishes target dates for their completion. It is created by elected and appointed officials from the organizations participating in the exercise, and discussed and validated during the AAM.

## PARTICIPANT INFORMATION AND GUIDANCE

### Exercise Rules

The following general rules govern exercise play:

- Real-world emergency actions take priority over exercise actions.
- Exercise players will comply with real-world emergency procedures, unless otherwise directed by the control staff.
- All communications (including written, radio, telephone, and e-mail) during the exercise will begin and end with the statement “**This is an exercise.**”
- Exercise players who place telephone calls or initiate radio communication with the SimCell must identify the organization or individual with whom they wish to speak.

### Players Instructions

Players should follow certain guidelines before, during, and after the exercise to ensure a safe and effective exercise.

#### Before the Exercise

- Review appropriate organizational plans, procedures, and exercise support documents.
- Be at the appropriate site at least 30 minutes before the exercise starts. Wear the appropriate uniform and/or identification item(s).
- Sign in when you arrive.
- If you gain knowledge of the scenario before the exercise, notify a controller so that appropriate actions can be taken to ensure a valid evaluation.

#### During the Exercise

- Respond to exercise events and information as if the emergency were real, unless otherwise directed by an exercise controller.
- Controllers will give you only information they are specifically directed to disseminate. You are expected to obtain other necessary information through existing emergency information channels.
- Do not engage in personal conversations with controllers, evaluators, observers, or media personnel. If you are asked an exercise-related question, give a short, concise answer. If you are busy and cannot immediately respond, indicate that, but report back with an answer as soon as possible.
- If you do not understand the scope of the exercise, or if you are uncertain about an organization’s participation in an exercise, ask a controller.
- Parts of the scenario may seem implausible. Recognize that the exercise has objectives to satisfy and may require incorporation of unrealistic aspects. Every effort has been made

by the exercise's trusted agents to balance realism with safety and to create an effective learning and evaluation environment.

- All exercise communications will begin and end with the statement “**This is an exercise.**” This precaution is taken so that anyone who overhears the conversation will not mistake exercise play for a real-world emergency.
- When you communicate with the SimCell, identify the organization or individual with whom you wish to speak.
- Speak when you take an action. This procedure will ensure that evaluators are aware of critical actions as they occur.
- Maintain a log of your activities. Many times, this log may include documentation of activities that were missed by a controller or evaluator.

### After the Exercise

- Participate in the Hot Wash at your venue with controllers and evaluators.
- Complete the Participant Feedback Form. This form allows you to comment candidly on emergency response activities and exercise effectiveness. Provide the completed form to a controller or evaluator.
- Provide any notes or materials generated from the exercise to your controller or evaluator for review and inclusion in the AAR.

### Simulation Guidelines

Because the exercise is of limited duration and scope, certain details will be simulated. The physical description of what would fully occur at the incident sites and surrounding areas will be relayed to players by simulators or controllers. A SimCell will simulate the roles and interactions of nonparticipating organizations or individuals. The SimCell number is 865-549-5308.

## APPENDIX A: EXERCISE SCHEDULE

Time	Personnel	Activity	Location
<b>April 4, 2016</b>			
1400hrs	Controllers, evaluators, and exercise staff	Controller and Evaluator Briefing	Knox County Health Department
<b>April 5, 2016</b>			
0700hrs	Organization Incident Command Staff	Tabletop discussion of activities during first 72 hours – focusing on facilities management issues and patient surge plans.	To Be Determined at each venue
0900hrs	All	Exercise starts	All venues
1200hrs	All	Exercise ends	All venues
Immediately Following the Exercise	All	Venue Hot Washes/turn in all Participant Feedback Forms	All venues
<b>April 8, 2016</b>			
1400hrs	Controllers, evaluators	Controller and Evaluator After Action Review	Knox County Health Department
<b>April 13-14, 2016</b>			
Various	ETRO and KCHD Public Health Staff	CASPER Exercise	Seymour, TN

## APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations
Blount Memorial Hospital
East Tennessee Children's Hospital
East Tennessee Regional Office (Tennessee Department of Health)
Fresenius Dialysis
Ft. Loudon Medical Center
Ft. Sanders Regional Medical Center
Jefferson Memorial Hospital
Knox County Health Department
Knoxville/Knox County Emergency Management Agency
Lakeway Regional Hospital
LeConte Medical Center
Methodist Medical Center
Newport Medical Center
North Knoxville Medical Center
Parkwest Medical Center
Physician's Regional Medical Center
Regional Forensic Center
Region 2 Medical Communications Center (Medlink 2)
Roane Medical Center
Rural Metro EMS (Knox County)
Sweetwater Hospital Association
Turkey Creek Medical Center
University of Tennessee Medical Center

## APPENDIX C: PRE-FULL SCALE EXERCISE TABLETOP

### INITIAL NOTIFICATION AND ACTIONS

#### April 3, 2016: (Incident Command Discussion)

April 3, 2016: The local community is experiencing a series of heavy rains and storms with flooding. There has been a power outage at the local water treatment plant. Utility operations suspects that there could be a significant water main break (i.e. decreasing tank levels, low pressure/no water calls) that may be concealed due to the flooding within the community. Utility Operations indicate that the repair/recovery timeline is unclear and that this could be a sustained event. Healthcare operations may also be experiencing a loss of water pressure due to the event.

#### Utility Operations HAVE issued a Precautionary Boil Water Advisory

#### Questions

Based on the information provided, identify any critical issues, decisions, requirements, or questions that should be addressed at this time.

The following questions are provided as suggested subjects that you may wish to address as the discussion progresses. These questions are not meant to constitute a definitive list of concerns to be addressed, nor is there a requirement to address every question.

- 1. What are your initial actions following the Precautionary Drinking Water Advisory? Discuss in detail the steps you need to take to assure the safety of patients, visitors, and staff. Do you have the resources to operationalize?**
- 2. How do communications flow internally and externally?**
- 3. At this stage, what decisions need to be made with decreased water pressure and potential contamination regarding your healthcare operations? What's your threshold to be able to function on your own? What are your healthcare plant operations concerns? What are your clinical courses of action?**

## THE NEXT 48-72 HOURS

### April 4-5, 2015: Incident Command Discussion

April 4 and early morning of April 5, 2016: You are now well into the event. Area hospitals begin seeing a surge of patients – mostly children, elderly and immunocompromised individuals – complaining of fever, nausea, vomiting, and diarrhea (some patients have bloody diarrhea). Multiple water samples have confirmed the presence of E. coli and the utility, in conjunction with TDEC, has issued a **Boil Water Advisory**.

### Questions

Based on the information provided, identify any critical issues, decisions, requirements, or questions that should be addressed at this time.

The following questions are provided as suggested subjects that you may wish to address as the discussion progresses. These questions are not meant to constitute a definitive list of concerns to be addressed, nor is there a requirement to address every question.

- 1. How are you managing your staffing at this time, considering that it is a multi-day event with no clear end date identified?**
- 2. Can your laboratories continue to function at this time? If so, what is the capacity? Are your resource labs in the same affected area? What are their capabilities?**
- 3. How are you managing surge and a potential increased need for dialysis and other procedures that require water? How are dialysis centers managing their patients at this time?**
- 4. Is there a competition for resources within the community?**

## **APPENDIX D: POST-FULL SCALE EXERCISE TABLETOP 96 HOURS AND RECOVERY**

### **April 7, 2016: (Incident Command Discussion)**

The community continues to experience a surge of patients with GI symptoms. Numerous deaths are expected due to patients (especially children) developing hemolytic uremic syndrome (HUS). On April 7, 2016, the water utility district reports that repairs have been completed, distribution lines flushed, and the water has been confirmed safe to drink.

### **Questions**

Based on the information provided, identify any critical issues, decisions, requirements, or questions that should be addressed at this time.

The following questions are provided as suggested subjects that you may wish to address as the discussion progresses. These questions are not meant to constitute a definitive list of concerns to be addressed, nor is there a requirement to address every question.

- 1. What actions need to take place in your organization to return to normal operations?**
- 2. How will your organization address the mental health needs of your staff and patients?**
- 3. What steps do your organization need to accomplish to assure all systems have been properly addressed to return to normal water usage? How do you complete the recovery steps while still managing patient surge?**
- 4. What actions need to take place to assure you have fiscally managed the situation (consider receiving and NOT receiving federal assistance)?**



## APPENDIX E: ACRONYMS

Acronym	Term
AAR	After Action Report
ASPR	Assistant Secretary for Preparedness and Response
CASPER	Community Assessment for Public Health Response
DHS	U.S. Department of Homeland Security
EEGs	Exercise Evaluation Guides
EMS	Emergency Medical Services
ETRO	East TN Regional Office (Tennessee Department of Health)
ExPlan	Exercise Plan
FSE	Full Scale Exercise
HPP	Hospital Preparedness Program
HSEEP	Homeland Security Exercise and Evaluation Program
IAP	Incident Action Plan
ICS	Incident Command System
IP	Improvement Plan
HICS	Hospital Incident Command System
KCHD	Knox County Health Department
KET HC	Knox/East TN Healthcare Coalition
MCM ORR	Medical Countermeasure Operational Readiness Review
MSEL	Master Scenario Events List
PHEP	Public Health Emergency Preparedness
POC	Point of Contact
SIMCELL	Simulation Cell
SME	Subject Matter Expert
TDEC	Tennessee Department of Environment and Conservation
VIPs	Very Important Persons