

**Simple Tabletop Exercise, Interdependency –  
Natural Disaster Scenario  
Scenario #8  
Facilitator’s Guide**

**Scenario Summary**

**Background:** It is March in Zenith City and the residents are experiencing a cold spring. The annual St. Patrick’s Day celebration is approaching. The National Threat Advisory Level is yellow, where it has remained for almost a full year.

**The Event:** Early in the morning of March 15<sup>th</sup>, the National Weather Service Doppler radar indicates that thunderstorms producing heavy rainfall and damaging winds in excess of 60 mph are headed towards Zenith City. By 9:00 a.m. that day, runoff from the heavy rain floods low-lying areas in Zenith City and the wind downs power lines, causing power outages throughout the city. By 5:00 p.m., the rivers and streams rise over their banks, causing more flooding. The strong winds continue to knock down more power lines.

**The Results:** Roads are closed, bridges are washed out, and the power is out in many areas across the city. The water and wastewater treatment plants are running on back-up power generators.

**To the Facilitator:** The goal of this exercise is to recreate the disruption of a water supply system caused by a natural disaster. The participants will be required to discuss critical notifications and collaborations required to address the damaging effects of the natural disaster in an organized and effective manner. Key Incident Command System (ICS) elements should be included as a part of the participants’ response discussions.

**Intended Participants:** This exercise may be run for water supply, public health, state drinking water primacy agencies, federal agencies such as EPA and the Federal Bureau of Investigation (FBI), local law enforcement, and fire/emergency medical services (EMS) personnel.

You may wish to consider inviting:

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|------------------------------------|--|
| <b>Public Utilities:</b>           | Water/Wastewater Utility Managers, Emergency Response Team Members, Utility Operators, IT/SCADA Operators, Engineers, Sampling Staff, Administrative Staff                 |
| <b>Hospital:</b>                   | Emergency Room staff, Physicians, Nurses and Nurse Practitioners, Hospital Administrators, Medical Laboratory staff, Public Information Officer                            |
| <b>Public Health:</b>              | Health Officers, Epidemiologists, Technical Specialists, Public Information Officer  |
| <b>Fire Dept., HazMat and EMS:</b> | Fire Fighters, HazMat Team members, EMS workers, 911 Call Center workers   |
| <b>Police:</b>                     | Police Officers, Counter-Terrorism Specialists   |
| <b>Laboratory:</b>                 | Analysts / Technicians, Laboratory Administrators  |
| <b>Local Officials:</b>            | Mayor and Elected Officials, City Council Members, Local Emergency Planning Committee (LEPC) Members, Local Emergency Management Agency staff                              |
| <b>State Officials:</b>            | State Environmental Agency Staff, State Health Department Staff, State Drinking Water Primacy Agency, State Emergency Management Agency, Governor's Office Representatives |
| <b>Federal Officials:</b>          | EPA staff, FBI staff, FEMA staff, CDC staff, DHS staff   |

In particular, water and wastewater utility personnel, local, county and state health officials, hospital personnel, state and federal agencies, and other emergency responders including fire, police and emergency medical services (EMS) staff should be invited.

### **Running the Exercise**

**Step 1:** Decide on a facility, training date, training duration, and who to invite. Invite participants well in advance of your training date to ensure that you can achieve your attendance goal. Allow adequate time for planning and be sure to prepare all materials (digital and hard copy) ahead of time.

**Step 2:** Depending on who is participating in this exercise, it may be a good idea to have the participants go around the table and introduce themselves (name, utility, and job title) so that everyone will understand where any particular individual is “coming from” during the ensuing discussions.

**Step 3:** Explain to the participants that they are participating in a simple tabletop exercise. There is no time pressure, and that they are there as a group to discuss their roles and responses to an emergency incident. There are no right or wrong answers, but the group should be able to discuss problem or “gray” areas that may arise during the exercise. Let them know this is good, as the exercise should stimulate discussion that may lead to changes in the way the participants conduct their daily and emergency operations. Also inform the participants that, although the incident is set in fictional

Zenith City, it is okay to talk about the incident from their own experiences or in the context of their own protocols and procedures. It will make the exercise more beneficial for the participants if they exchange emergency response practices, protocols, and procedures that they may currently use.

**Step 4:** Be sure to give the background PowerPoint® presentation to introduce the participants to Zenith City and to set the stage for the incident. The exercise goals will also be presented as a part of this presentation.

**Step 5:** Begin the exercise by delivering the first inject. Then, let the discussion evolve naturally on its own after giving the participants the first inject. If necessary, to get the discussion started, simply “nudge” the participants with a non-leading question such as: What would you do in this situation? You could direct this question to the group at large, or, in a group where no one is willing to break the ice, to a particular individual, preferably one that you know serves in a leadership role during the course of their daily activities. You can also refer to the discussion points in the Facilitator’s Guide to help jump-start discussion.

**Step 6:** Be sure to take notes during the discussions. These notes will form the basis of your after-action review. Note problem or gray areas that need more research prior to resolution and who will perform this research or any action items decided upon by the participants. The notes you take will ensure that a summary of the take-home points, action items or messages will not be forgotten or overlooked. You may wish to write these points, action items and messages on a flip chart at the end of the exercise.

**Step 7:** Perform an after-action review. You may wish to give the participants a 10 to 15 minute break at the end of the exercise to give yourself time to compose your notes prior to conducting the review. Be sure to review the exercise objectives again to determine if the objectives were met by the exercise. Allow the participants to give their feedback on the exercise and the conclusions or decisions that they arrived at during the exercise. The entire tabletop exercise, including the after-action review, can typically be conducted in a two to four hour session. This time range is flexible and is dependant on the amount of discussion generated during the exercise. The pace of the exercise is controlled entirely by the facilitator, who manages the discussions and presents the injects.

## Discussion Points

Remember, it is March in Zenith City and the residents are experiencing a cold spring. The annual St. Patrick's Day celebration is approaching. The National Threat Advisory Level is yellow, where it has remained for almost a full year. The National Weather Service has issued a weather warning to Zenith City and neighboring cities. Exercise participants are provided a map of Zenith City, a water supply distribution map, a wastewater distribution map, and other pertinent materials. If this exercise is to be customized, all these materials may be substituted with a utility's own maps and other materials.

**Inject #1 (06:00 hrs., March 15, Material Code(s) SSc8-1a and SSc8-1b):** *A news station reports that there are major flooding and power outages throughout the city. A power outage and flood map is provided to exercise participants.*

Points that could be covered in the discussion of Inject #1 include:

- Discuss when incident command should be established. What is the command structure needed to deal with a natural disaster? How do the new National Response Plan (NRP) and National Incident Management System (NIMS) affect that command structure?
- How well are utilities prepared for severe weather and power outages?
- How often and for how long are backup generators tested? How often are they load-bank-tested (used to verify output capacity)?

**Inject #2 (06:35 hrs., March 15, Material Code(s) SSc8-2):** *A phone call from the wastewater treatment plant (WWTP) superintendent to the public works manager is made. The backup generator has just failed at the WWTP, and upon inspection, a new main rotor is required. He will put a call in to the supplier. In the meantime, the equalization basin is starting to become full and raw sewage will need to be discharged to the river.*

Points that could be covered in the discussion of Inject #2 include:

- What are the options in the absence of a working power supply? Does raw sewage get dumped into the river?
- What are the proper procedures for getting approval to dump raw sewage?
- Who must be notified in the event of a direct discharge from a wastewater treatment plant?
- When is the proper time to inform the public, and what is the best way to disseminate the information? Is public notification required?
- Is this a feasible option if there are downstream water users?

**Inject #3 (08:45 hrs., March 15, Material Code(s) SSc8-3):** *A second phone call from the WWTP superintendent to the public works manager is made. The generator parts supplier was called but they do not have the generator part in stock. Due to the storm, the delivery time will be delayed by at least 1-2 days.*

Points that could be covered in the discussion of Inject #3 include:

- Do utilities maintain lists of alternate parts suppliers for emergency situations?
- Do utilities maintain a stock of generator parts (or other spare parts) for emergencies?
- Has the utility considered getting parts from a neighboring utility?

**Inject #4 (10:20 hrs., March 15, Material Code(s) SSc8-4):** *A police officer calls the water superintendent to let them know that he received a radio call from an EMS worker reporting that Zenith City Hospital was losing water pressure fast. He also informs the water treatment plant (WTP) that the same EMS worker also noticed that water was gushing out of a pipe under the Congress Street bridge.*

Points that could be covered in the discussion of Inject #4 include:

- How will the water utility restore water service to Zenith City Hospital, a critical customer? (Participants should use the provided water distribution system map to specifically develop a plan.)
- What if some of the valves selected by the participants to restore service are stuck (as they typically can be)?
- What types of public notifications should be made?
- In light of the power and phone outages, how will the utility notify customers in the affected area? Would they go door-to-door? Use a vehicle and a bullhorn? (*In Port Charlotte, Florida, after Hurricane Charley in 2004, emergency officials hired an aircraft to tow a banner in the skies over town asking people to tune their radios to a particular station for emergency information.*)

**Inject #5 (12:00 hrs., March 15, Material Code(s) SSc8-5a and SSc8-5b):** *A news station reports that additional flooding and power outages continue to plague the city. A power outage and flood map is provided to exercise participants, showing flooding of surface waters and more power outages. At this time, police are evacuating residents from flooded areas to designated shelters.*

Points that could be covered in the discussion of Inject #5 include:

- Discuss how to coordinate an evacuation. Where should the shelter locations be? Where should there be road closures, and what routes should people take to the shelter locations?
- Are shelters in their communities pre-selected and do they know where they are?
- Do the new areas of flooding and power outages present more concerns for the utility?

**Inject #6 (13:00 hrs., March 15, Material Code(s) SSc8-6):** *A fax from Sacred Heart Hospital's admissions department to all hospital administrators in Zenith City notifies them that the beds are full. Sacred Heart will need to redirect incoming ambulances to other hospitals, and they require help in coordinating the patient transfers. They are uncertain of road closures.*

Points that could be covered in the discussion of Inject #6 include:

- How should patients be transferred, since many routes to alternate hospitals are flooded?
- Discuss which hospital the overflow should go to. Consider which hospitals have the greatest influx of people due to the storm, and which hospitals are closest to Sacred Heart.
- The public may need to be informed of the lack of medical facilities at Sacred Heart. Who should Sacred Heart notify of this information?

**Inject #7 (14:45 hrs., March 15, Material Code(s) SSc8-7):** *A phone call from the WTP to the water utility manager states that the treatment chemicals are running low. Shipments have been delayed due to the storm.*

Points that could be covered in the discussion of Inject #7 include:

- In light of this new information, what response actions may need to be taken?
- Should a water use restriction be issued?
- What other sources of potable water can be used to feed into the main distribution system?
- What alternate water sources have been identified?
- If alternate water sources rely on transport, will a “boil” order suffice to meet water needs?

**Inject #8 (17:00 hrs., March 15, Material Code(s) SSc8-8):** *The news station summarizes the events that have occurred during the storm (water shortage, evacuation, flooding, power outages, etc.).*

Points that could be covered in the discussion of Inject #8 include:

- Discuss whether a state of emergency should be declared. If so, what are the protocols to do so?
- Discuss how to handle this escalating incident until aid arrives.
- What are the key components of the recovery plan that must be created to deal with the damage done by this natural disaster? Will it be difficult to reestablish “business as usual”?
- How prepared are the utilities and other agencies for a natural disaster of this caliber?
- Are mutual aid agreements in effect?