



2018 Philadelphia Regional Tabletop Exercise for Institutions of Higher Education

Situation Manual
February 2, 2018





**NATIONAL
EXERCISE
PROGRAM**

HANDLING INSTRUCTIONS

The title of this document is the *2018 Philadelphia Regional Tabletop Exercise for Institutions of Higher Education Situation Manual*. This Situation Manual reflects the information as of the date of publication and may be modified prior to execution at the direction of the Exercise Director.

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OVERVIEW

Exercise Name 2018 Philadelphia Regional Tabletop Exercise for Institutions of Higher Education

Exercise Date Friday, February 2, 2018

Event Scope

The **Regional Tabletop Exercise for Institutions of Higher Education (RTTX)** events aim to empower the higher education community to improve preparedness and build resilience for the variety of threats and hazards that pose the greatest risk to campus communities across the nation.

The 2018 Philadelphia RTTX event will focus on threats and hazards related to a hazardous material (HAZMAT) incident near campus. The event seeks to provide participants with insights into response and recovery best practices for the academic community when faced with the threat of a HAZMAT incident, through:

- A **Tabletop Exercise** consisting of three modules of facilitated discussions focused on response and recovery following a hypothetical HAZMAT scenario; and
- A **Learning Session** consisting of a three-person expert panel and a question-and-answer opportunity designed to provide participants with additional knowledge on how external parties respond to HAZMAT incidents as well as how institutions of higher education (IHEs) integrate with those efforts.

Mission Areas Response and Recovery

- Objectives**
1. Assess the quality, comprehensiveness, and level of campus stakeholder understanding of institutions’ emergency response plans to a hazardous material spill.
 2. Evaluate the reliability of information channels and the effectiveness of institutions’ communications capabilities during a hazardous material spill.
 3. Assess processes for maintaining high quality, accurate, and timely situational awareness during a hazardous material spill.
 4. Assess the quality and comprehensiveness of institutions’ plans to restore operations after a hazardous material spill.
 5. Evaluate institutions’ knowledge of common hazardous materials traveling in close proximity to the campus and the potential impact on campus operations, health and safety, and emergency response.
 6. Evaluate institutions’ knowledge of operational coordination plans with outside agencies/organizations.

Scenario The scenario consists of a HAZMAT incident near a college or university campus that impacts infrastructure and operations on campus.

Sponsors The DHS Office of Academic Engagement (OAE), the Federal Emergency Management Agency (FEMA) National Preparedness Directorate (NPD) National Exercise Division (NED), and Drexel University

Participating Organizations Refer to *Appendix A* for participating organizations.



AGENDA

2018 Philadelphia Regional Tabletop Exercise for Institutions of Higher Education

Friday, February 2, 2018

Drexel University
Creese Student Center – George D. Behrakis Grand Hall
3141 Chestnut St, Philadelphia, PA 19104

Activity	Presenter/Facilitator	Time (ET)
Registration		8:15 AM
Welcome and Opening Remarks	John Fry, Drexel University President Trent Frazier, OAE Executive Director Bill Moore, NED Support Team	9:00 AM
Module 1 (Immediate Response, H to H+1)	Bill Moore, NED Support Team David Waldman, NED Support Team	9:30 AM
Break		10:45 AM
Module 2 (Response, H+1 to H+10)	Bill Moore, NED Support Team David Waldman, NED Support Team	11:00 AM
Lunch		12:15 PM
Afternoon Remarks	Adam Thiel, Philadelphia Fire Commissioner	1:30 PM
Module 3 (Recovery, H+10 to H+96)	Bill Moore, NED Support Team David Waldman, NED Support Team	1:40 PM
Break		2:55 PM
Learning Session	Bill Moore, NED Support Team Mike Austin, CSX Transportation Dan Stango, Philadelphia HAZMAT Unit Pakorn Patimetha, NJSP HAZMAT Response Unit	3:10 PM
Break		4:10 PM
Exercise After-Action Review	Bill Moore, NED Support Team David Waldman, NED Support Team	4:25 PM
Closing	Trent Frazier, OAE Executive Director	4:55 PM
Adjourn		5:00 PM



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PARTICIPANT INFORMATION AND GUIDANCE

Exercise Participant Roles and Responsibilities

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

Facilitators

Facilitators are responsible for guiding overall exercise play and ensuring that participant discussions remain focused on the objectives of the exercise during the modules. They also provide additional information and resolve questions as required. They are responsible for making sure different viewpoints are discussed.

Players

Players have an active role in discussing their institution's response and recovery activities during the exercise. Delegations of players respond to the situation presented based on expert knowledge of response procedures, as well as how they would perform their functions on their respective campuses.

Observers

While observers do not directly participate in the exercise, they may view selected segments of the exercise.

Support Staff

The exercise support staff includes individuals who perform administrative and logistical support tasks during the exercise (e.g., registration).

Note-Takers

Note-takers will be present during the module discussions as well as the learning session to assist with capturing exercise discussions for the After-Action Report (AAR).

Exercise Structure

The tabletop exercise (TTX) will consist of three 75-minute exercise modules and one 60-minute learning session.

Each exercise module consists of a scenario update and facilitated discussion. Participants will use visual aids throughout the exercise and will be asked to answer polling questions using their mobile devices.

The learning session will consist of a three-person panel and a question-and-answer opportunity designed to increase participants' knowledge of how external parties respond to HAZMAT incidents and how IHEs integrate into their response.

Exercise Guidelines

This event will incorporate a scenario-based format that is informed and guided by exercise objectives. The modules and discussion questions support achievement of the exercise objectives by initiating discussions, facilitating decision-making, and examining appropriate response outcomes based on the exercise scenario.

Participants will be acting in their real-world roles for their home institutions when considering the scenario, offering observations and discussing strategic and tactical decisions. This approach allows the discussion to focus on situations within a moving timeline and for participants to contribute to the discussion from the perspective of their role in this scenario. The facilitators will ensure that the scenario moves along at an appropriate pace and that all participants have an opportunity to contribute.

The 2018 Philadelphia Regional Tabletop Exercise for Institutions of Higher Education will be held in an open, low-stress, no-fault, and non-attribution environment. Varying viewpoints and disagreements are expected. **Decisions are not precedent-setting and may not reflect your organization’s final position on an issue.** The exercise is exploratory and serves to identify issues, as well as multiple options and possible solutions.

Assumptions and Artificialities

In any exercise, assumptions and artificialities are necessary to complete play in the time allotted and/or to 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 scenario is plausible and events occur as they are presented;
- **Players are to respond to the scenario as if events were taking place on their campus;** and,
- Exercise players will use their existing plans, policies, procedures, and resources to conduct response planning and recovery operations.

Artificialities

During this exercise, the following artificialities apply:

- There is no “hidden agenda” nor are there any trick questions; and,
- The scenario assumes certain player actions throughout each of the modules so players should first discuss the actions stipulated by the scenario; however, players are welcome to engage in “what if” discussions of alternative scenario conditions.

Exercise Evaluation

Following this event, an AAR will be developed to evaluate exercise objectives and document strengths and areas for improvement. Exercise discussion will inform AAR content, but information in the AAR will **not** be attributed to a particular IHE.



MODULE 1 (IMMEDIATE RESPONSE, H TO H+1)

Scenario

Background

It is 8:30 AM ET on Friday, February 2, 2018. The temperature is 27 degrees Fahrenheit and it is an overcast day. A recent ice storm left the ground covered in a thin, slippery sheet of ice and caused the steel rails on the local rail lines to contract.

February 2, Morning

A freight train carrying high vapor pressure/low flash point crude oil derailed while crossing a section of tracks near your institution's campus. Students across campus hear the train crash upon derailment. As university police receive an inundation of calls, they begin to dispatch units to the scene.

Note: Institutions not located near a rail line should consider a HAZMAT incident that is realistic for their location and is significant enough that it would exceed the institution's ability to respond internally.

Of the tank cars that derail, two rupture upon derailment, spilling tens of thousands of gallons of crude oil into the surrounding area. The low-viscosity oil spreads out over the ground and forms a pool approximately one inch deep and 275 feet in diameter.

Traffic caused by the incident severely impacts access to and egress from campus, particularly in the immediate area of the incident site. The first arriving responders request additional resources, but the arrival of these assets is delayed due to the icy conditions and traffic.

Within minutes, the pool of high vapor crude oil ignites. Heat from the resulting fire has the potential to cause second-degree burns to unprotected individuals up to 532 yards (0.3 miles) in all directions. The oil pool may also cause intense pain for exposed individuals, even if they are outside the thermal radiation zone. The thermal radiation zone is in a highly-trafficked area of campus and requires immediate evacuation.

Smoke from the fire can be seen for miles and the vapor cloud begins to pass over campus. The smoke cloud stretches one-third-of-a-mile across and three-fourths-of-a-mile long.

Emergency medical services begin treatment of patients experiencing a variety of medical effects including labored breathing, blurred vision, dizziness, and, in some cases, asphyxiation.

As of 9:30 AM ET, your institution has not yet identified the type of hazardous material. Local news stations are beginning to cover the incident and have submitted requests for information on the specific HAZMAT involved.

Discussion Questions

HAZMAT Knowledge and Planning

1. How does your institution **maintain awareness** of hazardous materials that routinely travel through or near your campus?
 - a. How does your institution **prepare** for incidents related to these hazardous materials?
2. How does your institution's formal response plans assist you in determining **immediate response priorities** and **leveraging resources readily accessible** to assist in addressing these priorities?



Information Sharing

3. What **communication** and **information sharing** mechanisms exist between your institution and **local emergency response organizations**? Similarly, what mechanisms exist between your institution and the **campus community, area community members, parents**, and other interested parties?
4. How do you manage **public requests for information** *before* the type and scope of the incident is confirmed?

Situational Awareness

5. How do you obtain **essential information** about the incident for **key decisions** related to your response priorities? What are some of these pieces of information?
6. What processes and tools do you use to establish and maintain **situational awareness** during an incident?

Operational Coordination

7. What is your institution's protocol for establishing **incident command** during a major disruption affecting campus operations?
 - a. How does your institution integrate into the **local emergency management** incident command structure?
8. Which **critical entities** are you coordinating with at this stage to make and implement **key decisions**?

MODULE 2 (RESPONSE, H+1 TO H+10)

Scenario

February 2, Mid-Morning to Evening

HAZMAT response units on-scene are working with the rail carrier to determine the type of HAZMAT involved. At noon, it is determined that the train was carrying Bakken shale oil, a lighter crude oil with components including methane, ethane, and propane. This particular type of crude oil vaporizes rapidly, but is also highly flammable. Bakken shale oil contains high levels of hydrogen sulfide and lower levels of benzene, xylene, and toluene, each of which have short-term human health effects and some longer-term consequences if inhaled over a significant period of time.

The smoke cloud resulting from the pool fire contains hazardous levels of pollutants, including carbon dioxide, carbon monoxide, and sulfur dioxide. Inhaling these can cause difficulty breathing and potentially death for individuals with pre-existing respiratory problems. The effects from the smoke cloud have the potential to impact individuals located beyond the thermal radiation zone. The hazardous range grows as the smoke cloud expands, with the cloud now extending two miles by two-and-a-half miles across. Due to the timing of this incident, the population within the affected area is difficult to determine.

As first responders work to contain the spill and fire, campus community members begin experiencing a multitude of medical issues. Reports circulate of students and staff suffering from coughing, itching, and burning of the throat and eyes, which are all symptoms associated with inhalation of the vapor cloud components. An above-average number of students check into the student health center with these ailments within two hours of the incident. Calls reporting similar ailments from across campus overwhelm student health services. Community members also are inquiring in large numbers about whether they are part of the affected area, what type of protective measures they should be taking, and whether they should be seeking medical assistance.

Campus services and community members in the affected area must be evacuated and relocated due to exposure to the vapor cloud. Students stop attending classes across campus, and crowds gather close to the incident location to observe the scene. Local law enforcement is directing traffic, but rubbernecking and icy road conditions add to the congestion.

As news coverage of the incident surges, parents and community members call in high volumes to inquire about immediate- and longer-term effects of the spill and about plans to ensure student safety. Students continue to capture and circulate Snapchat and Facebook Live videos of the fire and hazy sky, with a cumulative 10,000 views within three hours of the derailment. Some of the social media posts have incorrect or misleading information, and are directing followers in large numbers to campus phone numbers and hotlines.

By 6:00 PM ET, the smoke cloud significantly diminishes as emergency responders work to contain the fire.

Discussion Questions

HAZMAT Knowledge and Planning

1. What **protective measures** would you implement to **control access** to *dangerous areas*?
2. What, if any, **secondary threats** or **cascading impacts** of the initial HAZMAT incident need to be addressed?



Public Information Management

3. Does your institution have *plans or processes* in place for **providing information to the public** and **communicating with the parents and family members** of your students? How are these executed?
4. How are you *monitoring* and *responding* to **social media activity**, to include potentially false or misleading information?

Operational Coordination

5. How does your institution augment your **response capabilities** and **address gaps or shortages** (if any) for an *incident of this scale*, to include leveraging local responders and resources?
6. What is your decision making process on **evacuating** dormitories, laboratories, or other affected facilities, **if necessary**?

Continuity and Recovery

7. What **campus services** may need to be **paused** or **relocated**? How do you coordinate within your institution to execute **continuity plans**?

MODULE 3 (RECOVERY, H+10 TO H+96)

Scenario

February 2, Early Evening to February 6

Firefighters extinguish the oil pool fire, and campus clean-up efforts begin in coordination with local emergency responders. There are continued fears about the effects of inhaling chemicals from the oil pool during the initial clean-up phase as chemicals may still affect individuals in the immediate area. The carcinogen benzene is of particular concern in the first 24-hour period. It is determined that all students have been cleared from the vapor cloud hazardous range and treated for injuries.

Clean-up efforts were initially estimated to be complete within 24 hours, but may now last up to five days due to the adverse weather conditions. Temporary housing for up to one week will be required for students residing in any dormitory in the impacted area to ensure that there are no lingering effects from the crude oil.

At 10:00 AM ET on Monday, February 5, emergency response personnel clear the incident site to resume normal operations. However, students, faculty, and staff express concern about returning to campus even after the area has been deemed safe. Parents demand new permanent housing for their students and begin calling your institution's leadership and threatening to speak with local media about what they view as a halfhearted response to the incident. A few members of essential staff request work accommodations, such as office relocation or the option to work remotely. Media coverage of the incident has shifted from the immediate impact of the HAZMAT incident to long-term effects and analysis of campus response and recovery efforts.

Discussion Questions

Continuity and Recovery

1. How do you determine **restoration priorities**? Who is involved in these discussions?
2. How does your institution **address requests for assistance** (from students, staff, administration) following the incident?
3. How does your institution determine the **financial impact** of this incident?
4. What are the primary areas of **legal liability**? Does your institution have **regulatory** or **reporting responsibilities** following the incident?

Public Information Management

5. How does your institution **manage public relations** and **external media messaging**? Which person(s) within your institution will be the **public face(s)** for messaging and with whom do you coordinate?
6. How does your institution **address inquiries** about *how this incident was handled*?

HAZMAT Knowledge and Planning

7. What applicable **institutional plans** *support* local, state, or private sector response and recovery plans?
8. What **opportunities** could your institution pursue to improve **mitigation, response, and recovery coordination** efforts for future *hazardous material incidents* (e.g. regional coordination, outreach, resource sharing, etc.)?



APPENDIX A: PARTICIPATING ORGANIZATIONS

Institutions of Higher Education

- | | |
|---------------------------------|---|
| Arcadia University | Muhlenberg College |
| Bryn Mawr College | Princeton University |
| Bucks County Community College | Rider University |
| Cabrini University | Rowan College at Burlington County |
| Cairn University | Stockton University |
| Chestnut Hill College | Swarthmore College |
| Delaware Valley University | Temple University |
| Drexel University | University of Delaware |
| Gwynedd Mercy University | University of Pennsylvania |
| Haverford College | University of the Sciences |
| Holy Family University | Ursinus College |
| Lincoln University | Valley Forge Military Academy and College |
| Mercer County Community College | |

Organizations and Associations (Observers)

- | | |
|--|---|
| CSX Transportation | Philadelphia Office of Emergency Management |
| Philadelphia Energy Solutions | Pennsylvania Office of Homeland Security |
| Philadelphia Fire Department HAZMAT Unit | Pennsylvania State University, Harrisburg |

Government Partners (Observers)

- | | |
|---|--|
| Federal Emergency Management Agency | Federal Emergency Management Agency
National Exercise Division |
| U.S. Department of Homeland Security National Protection & Programs Directorate Office of Infrastructure Protection | U.S. Department of Homeland Security Office of Academic Engagement |



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APPENDIX B: ACRONYMS

AAR	After-Action Report
DHS	Department of Homeland Security
EMS	Emergency Medical Services
FEMA	Federal Emergency Management Agency
HAZMAT	Hazardous Material
IHE	Institution of Higher Education
NED	National Exercise Division
NPD	National Preparedness Directorate
OAE	Office of Academic Engagement
RTTX	Regional Tabletop Exercise
TTX	Tabletop Exercise
U.S.	United States