

Forecasted Natural Disaster

1. Tabletop Exercise Instructions

1.1. Who Needs to Do What in a Tabletop Exercise?

For a Tabletop Exercise there are three potential roles: Participant, Facilitator, and Evaluator. Both the Participant and the Facilitator are mandatory, while the Evaluator can be thought of as an "outside" participant that can be helpful in larger Tabletop Exercises. While the minimum number of people required is 1 (the Participant and Facilitator as the same person), it is more effective to have a separate Facilitator.

Participant's Role

The Participant is the person who will be involved in the Tabletop Exercise. They should be someone who would be involved in an actual event that the Tabletop Exercise is modeling. Therefore, it is best to gather as many people that have a relation to the modeled event as possible to drive the best outcomes.

Facilitator's Role

The Facilitator is the guide for the Tabletop Exercise. Their role is to read through the initial prompt, drive the conversation to productive answers, and add appropriate Injects as required. They may pose questions to the Participants, either from the Tabletop Exercise document, or of their own, as well as ensure the prompt is clear and scope the prompt as needed. It is best to have a Facilitator that who is familiar with the situation and topics. They do not necessarily need to be someone who would be directly involved to free up Participant slots for those closest to the actual event the Tabletop Exercise is modeling.

Evaluator's Role

The Evaluator is responsible for keeping notes on the progress of the Tabletop Exercise. While not necessary, they can play a key role as an "outside observer" to the Tabletop Exercise. They should not prompt Participants or interfere unless they notice a hazard to the current Participants. Any interjections from them must be through the Facilitator, who has the option to bring up their comment. Evaluators can be complete outsiders to the situation or simulated event, both to free up Participants and to provide more objective evaluation of the Tabletop Exercise. Evaluators are expected to summarize their observations at the end of the Tabletop Exercise.

1.2. What is the Purpose of a Tabletop Exercise?

A Tabletop Exercise is a tool to facilitate role play of a scenario, similar to simulating an experiment before conducting it. While the purpose is tailored to each scenario, broadly speaking the goal is to evaluate current plans and procedures, and to determine risks and hazards. By testing out current plans and procedures (or approximations if there are not currently any), the participants are able to determine their current preparedness level. The injects and questions, either generated by the Facilitator or take from the Tabletop Exercise, are targeted at determining worst case scenarios to help achieve best case preparedness levels.

Simply put it is natural, and even encouraged, to fail miserably in the Tabletop Exercise. For the same reason that it is far cheaper to simulate an experiment before conducting it, it is best to find weaknesses in a Tabletop Exercise and correct them so if the scenario becomes a reality, you are ready.

1.3. Where Does a Tabletop Exercise Take Place?

A Tabletop Exercise should use a plausible scenario for every simulation. The Facilitator may modify minor details in an exercise to better suit a particular situation, but all expectations should be reasonable. For example, if it is not reasonable or practical to have a duplicate lab elsewhere, then it should not be considered a viable option during the Tabletop Exercise.

As for physical location, a Tabletop Exercise can take place anywhere, even virtually. It is best to choose a location that is quiet and without distractions, to allow a focused and non-threatening environment. However, if physical system or location based questions could occur (such as where is this building's tornado shelter), it may be preferable to conduct a Tabletop Exercise on location to generate the most accurate findings.

1.4. When Should Tabletop Exercises Be Conducted?

The initial Tabletop Exercise can be conducted at will, although it is best to do so before the event it describes happens. Once the exercise has been conducted, it should be determined in the Hot Wash when the exercise should be conducted again. Generally it is best to conduct exercises every year or two, or when there is a major change in policy, personnel, or organization structure, to ensure findings from a previous exercise are not out of date.

1.5. Why are Tabletop Exercises Important?

There are multiple reasons to conduct a Tabletop Exercise. First, it is an excellent method to determine and mitigate human issues associated with unplanned events. Brainstorming plans ahead of time allows you to have the best case preparedness level and clarity when reacting to an event.

Second, it ensures that all of the parties involved in the Tabletop Exercise can voice diverse ideas and viewpoints. Frequently the topics covered are situations we have not or do not want to think about, but by completing the exercise we help to ensure the continuity of our research and safety of those involved.

Third and finally, it should be fun and build camaraderie among the participants.

1.6. How to Conduct a Tabletop Exercise?

The Tabletop Exercise is a facilitated exercise. The Facilitator will read each section, starting with the Incident Notification, followed by each Inject, one after another. At each stop in the scenario, the Participants will then review and discuss the Inject as a group. This group discussion should engage **all** members and everyone should have the opportunity to provide constructive feedback to develop solutions to the issues presented.

The following tips should be observed by all Participants:

- Do not attack others! Remember, the goal is to be open-minded. As long as the suggestion is on topic, brainstorming is about building up ideas, not tearing people down. The Facilitator should do their best to make the environment open and constructive.
- Do not rush! The Incident Notification section should take at least 5 minutes, each Inject 15-30 minutes, and the Hot Wash section 20-30 minutes. Plan time accordingly to make sure each topic can be explored properly.
- Do not cheat! It is okay to fail in the Tabletop Exercise, so do not cheat by looking things up or using outside resources. If you have an existing plan to manage this or a similar issue, you may bring and follow that. If you do not have a plan, make that an action item in your Hot Wash.
- Do not forget solutions! While the problem or issue may be jarring, it is imperative that solutions come out of the Tabletop Exercise. Therefore, focus on solutions and recommendations to achieve best case preparedness.
- Do not fight scenario! While the Facilitator may have made some slight modifications to make the Tabletop Exercise fit your organization, Participants should follow the scenario. It might seem funny or unreasonable, but each of these exercises is based on a real event. Therefore, resist the temptation to change the narrative.

2. Exercise

2.1. Exercise Objectives

This exercise was designed to focus on the following objectives:

- Determine key aspects of research for a lab,
- Identify potential weaknesses in a group's ability to cope with forewarned natural disasters, and
- Develop communication and operational plans to mitigate forecast disaster effects.

2.2. Incident Notification

Your research is conducted in an area that is regularly affected by *Natural Disaster* (Choose one per exercise, examples including Hurricanes, Flooding, Wildfires, Blizzards). Given this risk, you know that it is possible that you will be affected by them in the future.

2.3. Inject #1

You are made aware that conditions could become favorable for the *Natural Disaster* in the coming week. This advisory may have come via media, public sources, or private information.

Based on the information introduced in Inject #1, discuss potential issues and key concepts that arise from this Inject. Then, identify additional decisions, communication flows, questions, and/or resources that would need to be addressed. The questions below are provided to help guide the discussion around general key points. However, these questions are not intended to define a rigid list of concerns that need to be addressed, nor will all of them be applicable to your individual situation.

- 1 What steps can you take now to prepare your research, lab, and equipment for the *Natural Disaster* impacts? Are there equipment, processes, and/or systems that can be suspended at this point? Is there a written plan describing what to suspend and how to suspend it? If suspension requires a judgment call, who will make that call?
- 2 Will your research require on site personnel to ride out the disaster? For this type of disaster, is that safe to do? Does your institution have a policy regarding this that you need to follow?
- 3 Who should you contact, if anyone, within your group, department, institution, etc. to bring the specifics of your situation to their attention? Is there any coordination that they would expect from you?

2.4. Inject #2

While it is possible that the conditions become favorable, or that the forecast can change, for the rest of this exercise we will assume the *Natural Disaster* comes to bear.

As the time moves forward, it becomes clear that the conditions for *Natural Disaster* are now favorable for your area. This watch will likely trigger additional actions on your part.

Based on the information introduced in Inject #2, discuss potential issues and key concepts that arise from this Inject. Then, identify additional decisions, communication flows, questions, and/or resources that would need to be addressed. The questions below are provided to help guide the discussion around general key points. However, these questions are not intended to define a rigid list of concerns that need to be addressed, nor will all of them be

applicable to your individual situation.

- 1 Does additional work need to be suspended that has not already been? Is there a plan for types of work should be suspended when?
- 2 What documentation, if any, of the work that you have been conducting has been captured? What information exists offsite, should the *Natural Disaster* cause serious effects to physical or local digital copies?
- 3 For equipment that would be considered a capital expense, is the current state of the equipment and insurance information captured? Is your institution, department, etc. responsible for managing this or are you? If you are, what plan is in place to ensure the survivability of this information?
- 4 Are you required by institutional policy, grant restriction, or governmental agency to document the existence of any items in your lab? Are you required to report their existence to any institution official, funding agency, and/or governmental agency? Are there any items or documents in your lab that would need to be destroyed to conform with applicable laws?
- 5 Are there any items in the lab that must be secured in a particular way for environmental or first responder safety? Is any notice required to be posted around your lab of such dangers?
- 6 Will institutional or governmental policy dictate an evacuation order? If so, what impacts will that have on your research or keeping people on site if that was previously planned? If they are staying, what items will they need to keep themselves safe (food, water, etc.) as well as the research viable? Is there a checklist for ensuring the correct amount of these items?
- 7 What resources are available to your students at your institution for coping with a *Natural Disaster* like this one?
- 8 Who should you contact, if anyone, within your group, department, institution, etc. about the above? Is there any coordination that they would expect from you?

2.5. Inject #3

Now, within a few hours to a day of impact of the *Natural Disaster* conditions are not only favorable, but highly likely to impact your location. This warning serves as a final trigger.

Based on the information introduced in Inject #3, discuss potential issues and key concepts that arise from this Inject. Then, identify additional decisions, communication flows, questions, and/or resources that would need to be addressed. The questions below are provided to help guide the discussion around general key points. However, these questions are not intended to define a rigid list of concerns that need to be addressed, nor will all of them be applicable to your individual situation.

- 1 If personnel are on site during the *Natural Disaster* what communication plan exists to ensure they stay safe? If they run out of supplies, what plan is documented to safely suspend remaining research? Are you required to inform governmental, institutional, or law enforcement that personnel are on site? Are the personnel required to check in at a particular interval?
- 2 Who should you contact, if anyone, within your group, department, institution, etc. to update them on the state of your lab/research? Is there any coordination that they would expect from you?

2.6. Inject #4

The *Natural Disaster* passes through the area. Based on the type of *Natural Disaster* determine what would be considered a minimal, major, and total loss impact to your research and repeat your discussion for each.

Based on the information introduced in Inject #4, discuss potential issues and key concepts that arise from this Inject. Then, identify additional decisions, communication flows, questions, and/or resources that would need to be

addressed. The questions below are provided to help guide the discussion around general key points. However, these questions are not intended to define a rigid list of concerns that need to be addressed, nor will all of them be applicable to your individual situation.

- 1 Based on the severity of the destruction, what steps would you require to recover? What would you be required to document for your institution, if anything, about the state of your lab?
- 2 Would you be able to immediately go back to research, or would the damage be so great that you could not? If damage is so great that you cannot bring back your research, is there a location or external group that could provide space, equipment, or materials to assist you in the interim?
- 3 Is there a documented checklist to bring research back online? If so, where is it and would it have survived the event?
- 4 If a colleague(s) were injured or killed due to the *Natural Disaster*, what resources exist to assist those who are grieving? If personal effects of a colleague are still in your lab, what policy must you follow to protect them on behalf of their loved ones?
- 5 Who should you contact, if anyone, within your group, department, institution, etc. to update them on your situation? Is there any coordination that they would expect from you?
- 6 **Only discuss this once, during the last or total loss discussion:** What would be the worst possible effects to your lab given a direct hit from a *Natural Disaster* of this kind? Does this change your opinion or timeline for suspending research operations? Knowing that someone could be injured or die during the disaster, related to riding out the disaster to maintain research operations, would that change your decisions for parts 1-3 at all?

2.7. Hot Wash

Questions to Consider

- Based on your discussions, what *should* happen in a best case scenario?
- Based on your discussions, what *would* happen if this event took place tomorrow?
- Having both of these discussions in mind, what *difference* exists between your current preparedness level and the best case preparedness level?
- Having completed the exercise, what went well that you would *continue* in the future? In what areas were you *unprepared*? What would you *stop* doing to improve your outcome? What can you *start* doing today to improve your outcome in a future exercise or real event?
- If you *did not* have a plan for this situation, what are your action items and timeline to create one? If you *did* have a plan, what are your action items and timeline to update it?
- When will we conduct this exercise *again*?

Participant Feedback: