

Brief Outline of the TTX Training

Based on a FEMA TTX template for developing and executing a successful TTX.

This training is divided into 3 sections: Prior, During and After Exercise Actions

-By the nature of a TTX, 90% of the work is done during Prior Actions.

Most of this training will be dedicated to describing the planning and development of the actual exercise.

This exercise will be a Potential Water Contamination Incident at a Community Water System, but this template can be adapted for any specific scenario.

Note: This exercise is designed to be a teaching/discussion format rather than an exercise that evaluates the response actions of the participants.

- I. Prior Exercise Actions
 - A. Assess Needs
 1. Is this exercise needed? What is needed?
 - B. Define scope
 1. General, broad parameters of this exercise
 2. Outlines all of the different needs to plan for
 - C. Purpose Statement
 1. Incorporates scope decisions
 2. Begins to narrow down and refine scope decisions
 - D. Define Objectives
 1. Further refines and narrows scope and purpose
 2. What are the main things that should get accomplished (learned) during the exercise?
 3. Broad objectives
 - E. Compose a narrative (scenario)
 1. Describe scenario and situation that participants need to respond to
 2. Write major and detailed events and triggers
 - F. List expected actions by location

1. Detailed list of every action and reaction that should be taken by the participants
 2. Lists of expected actions will be provided to each observer/evaluator at the different tables/locations
 3. The “expected actions” will be compared to “actions actually taken” to assist in the exercise evaluation.
- G. Evaluation
1. Sets up planning for the after exercise evaluation and describes the responsibilities of the moderators, facilitators and observers
 2. Includes:
 - a) Development of evaluation methodology
 - b) Post exercise meeting
 - c) Follow-up activities

II. During Exercise Actions

- A. Divided into 3 areas:
1. Moderator actions
 2. Facilitator/observer activities
 3. Participant (player) activities

III. After Exercise Actions

- A. Describe actions

DEVELOPMENT OF A TABLETOP EXERCISE (PRIOR, DURING AND AFTER ACTIONS)

This document is divided into 3 sections: prior exercise actions, during exercise activities and after exercise actions. The nature of a Tabletop Exercise (TTXX) dictates that most of the activities (90% or more) involved with a TTXX occur prior to the exercise itself. There are many questions to answer, resources to gather, issues to address and plans to be made before the exercise can be executed. This guidance is based on a FEMA power point presentation that, hopefully, will take a water system through preparation, design, execution and evaluation of a TTXX. This particular design is for a Potential Water Contamination Incident at a Community Water System Storage Tank. However, this template can be used for any type emergency, attack or exercise design.

Prior Actions

Assess Needs

1. We had a potential contamination incident that we did not respond well to.

2. Past history – This type of response needs to be worked on, since we have had incursions into a storage tank.
3. Skills that need to be practiced.
 - A. Activation of system's ERP
 - B. Notification and communication
 - C. Site characterization and damage assessment
 - D. Coordination between water system and DWB
 - E. Activities of NMED DWB District Security Coordinator and system oversight person.
 - F. Interaction between District Security Coordinator and NMEOC
4. Functions that are weak
 - A. Probably all
5. Test new improvements to your ERP
 - A. New NMED/DWB Emergency Response Plan
 - B. Delivery of new emergency response test kits
6. New personnel or equipment
 - A. New equipment (see #5)

Define Scope

1. Expense
 - A. Personnel time
 - B. Rental of space if necessary
 - C. Provision of adequate tables, chairs, etc.
 - D. Provide notification logs for each table (notification given and notification received)
 - E. Rental of microphone, etc.
 - F. Blank flip chart for each table, with adequate magic markers
 - G. Table markers indicating the agency (water system office, water system field team, DWB, NMEOC, etc.)
 - H. One clock for all to see (notification logs will have the time delivered/received).
 - I. Provision of beverages, snacks, etc. for participants, moderators and observers.
2. Availability of resources and personnel
 - A. Need large room
 - B. Availability of NMED/DWB personnel
 - C. Availability of NMEOC participation or dispatcher type person to play NMEOC
 - D. Availability of extras (LEPC, NMED, nearby water system personnel, community official) to act as moderator, facilitators, observers and runners

3. How serious does the problem need to be? Will it allow all the identified skills to be practiced?
 - A. Entry into a storage tank compound is enough to trigger water system ERP and NMED/DWB ERP activation. It is also enough to trigger Site Characterization, use of the emergency response test kit and NMEOC participation.
 - B. Detection of cyanide involves FBI, NM Governor's Office of Homeland Security, EPA, County Emergency Manager, etc.
 - C. The cyanide detect also triggers many water system and NMED activities including public notification.
4. Can/does the exercise address the problem? (inability to respond to a potential contamination incident).
 - A. Yes
5. How experienced are the exercise designers? If not very experienced, keep exercise simple and straightforward. NMED can help in the preparation and design of an exercise.
6. **Prior to the exercise, (several months minimum) there should be an orientation training for all water system personnel on the water system ERP, the NMED/DWB Drinking Water ERP, the Emergency Communication Protocol, "site characterization" and the emergency response test kit.**
7. How long does the exercise need to be?
 - A. As long as it takes for each group to discuss response actions with the facilitator and what actions the table needs to take during each stage of the exercise.
 - B. The exercise also includes after exercise discussions/evaluations
 - C. From experience, it takes longer than expected.
 - D. Since the format of this exercise is discussion and teaching, I'm guessing 3-5 hours
 - E. Have participants bring a bagged lunch.
8. Type of emergency
 - A. Potential contamination incident
9. Location
 - A. Local elementary school gymnasium (wherever the system finds a location)
10. Functions
 - A. Activation of water system's ERP
 - B. Internal water system notification
 - C. External water system notification
 - D. Site Characterization
 - 1) Communication between field team and incident commander
 - 2) Field screening
 - 3) Damage assessment

- a. Use of emergency response test kit
- E. Protection of evidence
- F. Operational steps taken by water system
- G. Co-ordination between system, DWB oversight and DWB District Security Coordinator
- H. Activities of DWB personnel
- I. NMEOC operation and interaction with DWB

11. Participants

- A. Moderator and assistant Moderator)
- B. Water system Office
 - 1) Incident commander
 - 2) Communication person
 - 3) Extra
- C. Water System Field Team
 - 1) Field emergency response team (3 people)
 - 2) Extra water system personnel (1-2)
- C. NMED/DWB
 - 1) District Security Coordinator
 - 2) Water system oversight person
- D. NMEOC dispatcher
- E. 4 trained Facilitators (1 at each table)
 - 1) Facilitator 1 discusses incident commander and system communications person and other water system activities
 - 2) Facilitator 2 discusses the water system field team (site characterization and operational activities).
 - 3) Facilitator 3 discusses NMED/DWB response
 - 4) Facilitator 4 discusses NMEOC activities
- F. An extra trained observer at each table
 - a) Neighboring water system representatives can be enlisted to be observers. This will help train other water systems and motivate these systems to create their own TTXs.
- G. The four trained facilitators (and observers) must be very familiar with the NMED/DWB ERP, the Emergency Communication Protocol, Site Characterization, Damage Assessment, Site Characterization and use of the Emergency Test Kits. At a minimum, they must be familiar with all needed response actions that will take place at their table. The water system or NMED/DWB can train facilitators and observers.
- F. Four runners (one for each table)

Write a Purpose Statement

1. The purpose statement can be easily defined by incorporating the scope decisions.

The purpose of this exercise is to practice our response to a potential contamination

incident. A secondary purpose is to test how well both our water system's ERP and the NMED/DWB's ERP work and how well they are followed. A scenario will be created that should/will take the participants through the response actions required for this type of incident. We will hold it on date, in the _____ facility. The following functions will be practiced:

- A. Activation of water system's ERP
- B. Internal notification
- C. External notification
- D. Site Characterization
 - 1) Communication between field team and incident commander
 - 2) Field screening
 - 3) Damage assessment
 - a. Use of emergency response test kit
- E. Protection of evidence
- F. Operational steps taken by water system
- G. Co-ordination between system, DWB oversight and DWB District Security Coordinator
- H. Activities of DWB personnel
- I. NMEOC operation

Participants will include _____, _____, _____, _____, _____ from our system, _____, _____ from NMED/DWB, _____, _____, who will play the role of the NMEOC _____, _____, will be the moderators. The facilitators will be _____, _____, _____, and _____. The observers will be _____, _____, _____, and _____. Other nearby water system representatives will be invited to be runners and watch the discussions and learn how to conduct a TTX at their system.

Define Objectives

1. Proper activation of System's ERP
 - A. Was ERP available and updated?
 - B. Did this go smoothly?
2. Internal Communications
 - A. Were all necessary personnel notified, mobilized and prepared to respond?
3. External notifications
 - A. Was the NMED Emergency Communication Protocol followed?
 - B. Initially, did the water system take the time to tell one of the DWB security persons everything the system knows about the incident?

- C. Was DWB notified and worked with following the “NMED DWB Drinking Water ERP”?
 - D. When alerted of cyanide contamination, were all notifications completed?
4. Was “Site Characterization” done properly and thoroughly?
 - A. Was “Due Dilligence” accomplished?
 - B. Did the field team prevent any unsafe activities, circumstances?
 - C. Were the emergency response test kits in good condition and did all components work?
 5. Was there an awareness of protection of evidence and was a conscious effort made to protect evidence of criminal activity?
 6. Were proper operational and response procedures conducted by the water system?
 - A. In water office?
 - B. At tank site?
 - C. In the distribution system?
 7. Was there proper coordination between the system and the oversight person? Between the oversight person and District Security Coordinator (DSC)? Between DSC and NMEOC?
 8. Did the oversight person handle his/her duties properly and completely? Was the “NMED/DWB Drinking Water ERP” followed?
 9. Did the District Security Coordinator (DSC) handle his/her duties properly and completely? Was the “NMED/DWB Drinking Water ERP” followed?
 10. Did the NMEOC follow the “Emergency Communication Protocol” and the “NMED/DWB Drinking Water ERP”?

Compose a Narrative

At 8:30 AM, on Date, while on routine patrol of the water system’s facilities name noticed that the lock on the gate to the Storage tank 2 compound had been cut and the gate was ajar. He also notices from outside the compound that the lock on the bottom bulkhead at the bottom of the tank stairwell had been cut and the door is hanging down and open. He cannot see if the access hatch on top of the tank is open or not, but this is a possibility since the bottom of the stairwell was breached. This storage tank compound contains a well that feeds through a well house directly to the storage tank. The water is not chlorinated. This tank has a separate inlet and outlet and there is a single check valve in the well house. This tank is equipped with isolation valves and a pump station that feeds a portion of the distribution system.

At 8:40 AM, name notified the water office and is waiting for instructions.

The weather is warm and sunny.

The possibility exists that some contaminant / hazardous material was brought into the compound and/or dumped into the tank.

No other entry or damage has been reported. The nearby well and pump station do not appear to have been breached or tampered with.

Write major and detailed events and injects (optional)

1. After “site characterization” and during “damage assessment”, it is discovered that the hardened lock on the storage tank access hatch was cut and the access hatch was opened.
2. EPA CID calls NMEOC and wants to talk directly to a water system representative.
3. NMDOH calls NMEOC and wants information about any potential contaminants so they can coordinate health effects with reported illnesses, problems.
4. When the emergency response test kit is used to test for cyanide, pH, conductivity and chlorine residual at a frost-free hydrant after the tank, the cyanide test indicates the presence of cyanide because the test water turns red briefly and then blue. The cyanide test result from the top of the tank is positive for cyanide, but the level is less.
5. EPA calls the NMEOC and requests a phone conference with the DWB security person.
6. After NMEOC reports the cyanide detect, the county emergency manager calls the NMEOC and needs information from the system about how the system works, how water flows and the system’s pumping dynamics.
7. County emergency manager calls directly to the District Security Coordinator and wants to talk directly to the water system. Wants to know something about the system that NMED does not know.
8. During the phone conference, EPA recommends that priority 1 free and total cyanide samples, heavy metals and water quality parameter samples (secondaries) be collected from the frost free hydrant. They also recommend that further cyanide sampling be based on cyanide screening results from in the distribution system. If a distribution system location is contaminated with cyanide, standard lab samples for free and total cyanide should be collected. This will help determine how far the cyanide contamination has spread.

List Expected Actions by location

1. Water System Office
 - A. Proper activation of water system’s ERP
 - 1) Is the ERP accessible?
 - 2) Is it updated and current?
 - B. Internal Communications

- 1) Is the system emergency manager/incident commander, communications person notified promptly?
- 2) Are all other pertinent water system personnel notified and mobilized?
- 3) Are they briefed on the situation?

C. External notifications

- 1) Is the incident reporting form section of the protocol filled out quickly and in detail? (No delay for getting lats/longs.)
- 2) Is local law enforcement (911) notified first?
- 3) Is the NM Emergency Operations Center (NMEOC) notified immediately?
- 4) Is the local DWB office (supervisor or system oversight person) notified quickly? **Is DWB given all the details that the system knows about the incident, including when the last time the site was inspected, presumed target, etc.?**
- 5) Does the system have a copy of the NMED/DWB Emergency Response Plan? and does the system work with DWB personnel using this document?
- 6) If there is evidence of terrorism, is the FBI notified?
- 7) Does the system notify NMED/DWB of all new events, circumstances, etc. as the emergency unfolds?
- 8) Does the system dispatch a crew to inspect all the other water system facilities, for intrusion, etc.?
- 9) Does the system have good total coliform sample bottles for collection of samples? If not, do they arrange to get bottles quickly?

D. Actions taken when notified of cyanide detect at storage tank

- 1) Was FBI notified immediately? Poisoning of water with cyanide is an indication of a terrorist attack.
- 2) Was DWB oversight staff contacted immediately and given all necessary information? If not available, was DSC contacted? If neither available, was NMEOC contacted?
- 3) Was tank isolated so cyanide contaminated water could not enter the distribution system?
- 4) Was the field team re-deployed to the distribution system to collect cyanide samples? Were they told where to collect the samples?
- 5) Have cyanide samples been collected out in the distribution system to identify extent of cyanide contamination? Was this done methodically?
- 6) If cyanide contamination has reached the distribution system, was an immediate "Do Not Drink Order" issued? How was it issued? Did it reach all customers?
- 7) Was food coloring dye added to the water that would alert consumers of a problem and trigger them to call the water office? This would also discourage them from drinking the water. Were people who called in advised to call everybody they know not to drink the water and to pass this information on to others?

- 8) Were contaminated sections of the distribution system isolated? and flushed? Was permission gotten from EPA prior to flushing the cyanide contaminated water or a flushing plan approved?
 - 9) If the system cannot feed the entire system potable drinking water, have arrangements been made to get National Guard water buffaloes or other supplies of clean drinking water?
 - 10) Has a raw sample been collected from the well prior to the storage tank (if possible) to determine if the well has been contaminated?
2. The potential contamination site (Water system field team)
- A. Is "Site Characterization" done properly and thoroughly?
- 1) Is field team given proper reporting and operational instructions before they leave for the site?
 - 2) Do they have communication capability with the water office?
 - 3) Do they have the emergency response test kit?
 - 4) Do they have total coliform sample bottles and chlorine residual test kits?
 - 5) Is a radiation background reading done well away from the site (upwind) prior to going to the site?
 - 6) Is a proper radiation scan done outside the well/storage tank compound before going inside? Is this reported to the incident commander (IC) and did the IC give the go ahead to proceed with the next step?
 - 7). Once, no radiation is found outside the compound, did the team scan the interior of the compound for oddities, fence cuts, personal protective equipment, gasoline cans, atropine needles and any other evidence of the presence of WMD, hazardous substances, industrial chemicals, biological pathogens, etc.? This visual scan must be done from outside the compound. Was this reported to the IC and was permission granted to continue investigation inside the compound?
 - 8) Is a radiation scan done properly (rad meter moved slowly and close to surface being tested [1/2 to 1"] and at places where radiation might be [any place that may have been touched, walked on, etc.] by one person inside the compound, prior to anyone else entering)?
 - a. Is this person watched by personnel outside the compound the whole time the person is doing the radiation scan?
 - b. Are all findings reported to the I. C.? Is permission to proceed granted?
 - 9) Is the damage assessment and interior inspection for evidence of the presence of WMD and other hazards done methodically, thoroughly and properly? Are these findings recorded and reported to the IC?
 - 10) Is the storage tank climbed and inspected for intrusion?
 - 11) Are all other facilities inside the compound checked for tampering, intrusion, etc.
 - 12) Is the finished water tested with the emergency test kit (all 5 parameters)?
 - 13) Is the water at the top of the tank near the breached access hatch tested for all 5 parameters?
 - 14) Are all results recorded, so the results can be given to the lab when the high priority cyanide and other samples are delivered to the lab?

- 15) When cyanide is detected, is a follow-up confirmation sample collected immediately?
 - 16) Is the cyanide sample result immediately called to the incident commander at the water system?
 - 17) Are all the “Site Characterization” results plus any evidence of the type of contaminant(s) reported to the incident commander?
- B. Was there an awareness of protection of evidence and was a conscious effort made to protect evidence of criminal activity?
- 1) Initially, it is recommended that the team find all potential evidence sites identified from outside the compound and protect these sites from disturbance.
 - 2) Includes: tire tracks, foot prints, fingerprints, cut locks and fences, potential damage sites, anything left in the compound by the perpetrators? Were these sites identified, cordoned off or otherwise protected from disturbance?
 - 3) Are all investigators made aware of where all the potential evidence sites are, so they don't disturb them?
 - 4) Was there an awareness of where fingerprints might be found. Was care taken when conducting damage assessment (opening doors, climbing storage tanks, collecting samples, etc.) to not disturb potential fingerprints)?
 - 5) **Was all potential evidence protected from corruption prior to the arrival of the police?**
- C. Were proper operational procedures conducted by the water system?
- 1) Tank isolated?
 - 2) Chlorine residuals collected?
 - 2) Chlorine residual boosted?
 - 3) Did the team have total coliform sample bottles?
 - 4) Total coliform samples collected? Was this coordinated with the IC so these samples were collected at critical locations?
 - 5) Additional chlorine residuals collected? Where?
3. Drinking Water Bureau Office
- A. District Security Coordinator (DSC)
- 1) Did this person take the lead for NMED/DWB?
 - 2) Did the DSC/oversight person get all pertinent, initial information from the system about the incident? Was the information gathering list used?
 - 3) Was the NMED/DWB Security Co-ordinator (or Bureau Chief if Security Coordinator not available) notified of the incident.
 - 4) Did DSC give the NMEOC the chain of command information for this incident? Includes DWB DSC and oversight person and water system contact information?
 - 5) Was a log of activities/developments kept? This is necessary so e-mail, etc. updates can be sent to the NMED Emergency Manager, DWB Security Coordinator, DWB Bureau Chief, EHD Director, NMED Secretary, etc.
 - 6) Was the DSC kept in the loop on “Site Characterization”? Did he/she oversee the process (probably from office)?

- 7) Were the results of “Site Characterization” and results of “Rapid Field Screening” obtained?
- 8) When notified of the open storage tank access hatch and the cyanide positive sample, was the NMEOC notified immediately?
- 9) Did the DSC coordinate with EPA Region 6 (Greg Grover, other) once it was determined that the tank access hatch had been breached and cyanide was found in the water?
 - a. If an EPA phone conference was held, were the outcomes and recommendations recorded? Was this information passed to the oversight person and the NMEOC? (Might want to have a second DWB person sit in on phone conference to take notes – it is easy to miss things).
 - b. The DSC must get contaminant method numbers so the samples are analyzed properly.
 - c. After the conference call, was EPA directly kept in the loop as the situation developed?
 - d. Was flushing cyanide contaminated water from the storage tank and the distribution system discussed? What outcomes? Is a flushing plan approved?
- 10) Was the oversight staff person given the recommendation that the system collect “Priority 1” samples for analysis by a certified laboratory? These sampling recommendations should include a “Complete Secondary” sample as well as free and total cyanide samples. The locations of these sample locations will depend on when the incident may have occurred. The larger the timeframe for the incident, the more likely it is that contamination may have spread throughout the distribution system.
 - a. Was the oversight person directed to make sure that the system is willing and able to pay for the priority 1 samples. The water system must authorize payment for these samples. Even if NMED personnel collect the samples, the Water Conservation Fund will not be used to pay for the samples.
- 11) Did the DSC look for ways to assist the system pay for emergency samples?
 - a. DWB lab credits for priority 2 and 3 samples
 - b. Water system sampling reimbursement through the National Response Center, 1-800-424-8802
- 12) Was a public notification strategy prepared and executed?
 - a) Was the DWB, DOH contact person in Santa Fe advised to coordinate an NMED press release?
 - b) Assist in preparation of press release?
 - c) Was input requested from NMDOH for press release (symptoms, signs of cyanide poisoning, etc.)?
 - d) Did the DSC, oversight and the water system work out the details of the “Do Not Drink Order” and how to inform the water system’s customers in a timely manner?
- 12) Was notification of nearby water systems accomplished?
- 13) Did the DSC consider ways that NMED/DWB could assist the system? Was this information gotten to the oversight person and the water system?

- 13) Was there a proper flow of information: NMEOC to DWB/DSC, to DWB oversight staff, to water system; from water system to DWB oversight, to DWB/DSC, to NMEOC, out to pertinent agencies, etc.
- 14) Was the Water ISAC and EPA Region 6 informed of the incident for their data bases?

B. Oversight staff

- 1) Act as the contact person with the water system?
- 2) Did oversight person limit contacts with the water system as much as possible, to allow the water system to respond to the incident?
- 3) Did this person offer to assist the water system?
- 4) Offer to help with “site characterization”? Total coliform sample/chlorine residual collection? Chemical sample collection? Notifying their customers? Finding an alternate water source, etc.?
- 5) Was there proper coordination between the oversight person and the District Security Coordinator?
- 6) Was the recommendation made to the system to collect a priority 1 complete secondary sample(s), cyanide samples and other samples recommended by EPA?
- 7) Did O/S call the system to verify that the system authorizes payment for any high priority sampling? Is the system aware that the Water Conservation Fund will not be used?
- 8) Did the O/S person coordinate properly with the lab director for high priority standard lab cyanide and the other samples?
- 9) Was it made very clear with the lab, who the sample results would be sent to and how (e-mail, phone, etc.)? **Note: This has been an area of controversy with SLD. They prefer to get the sample results to the sample collector. This is OK, as long as that person is in the loop and is available. If the results will be finished on a weekend/holiday, very specific arrangements must be made with the lab director.**
- 10) Was an NMED sampler found, notified and briefed on the situation, so the required samples could be collected?
- 11) If no sampler available, did the O/S person make sampling arrangements with someone else or collect the samples himself (herself)?
- 12) Offer assistance for finding resources for response and recovery?
- 13) Was there a proper flow of information: NMEOC to DWB/DSC, to DWB oversight staff, to water system; from water system to DWB oversight, to DWB/DSC, to NMEOC, out to pertinent agencies, etc.

4. NM Emergency Operations Center

A. Dispatcher

- 1) When contacted by the water system, was the call logged in?
- 2) Were the 7 follow-up calls made immediately? To NMED 24-hr emergency contact?, NMDOH on-duty EOCR? NM State Police? FBI? NM Governor’s Office of Homeland Security? County emergency Manager for county in which incident occurred? EPA Region 6 Emergency Response Team?

- 3) Was a call received call from DWB DSC stating chain of command for this incident? Name and contact information of DSC, oversight staff and incident commander or communication coordinator at the water system? This information is only for NMEOC and law enforcement if requested.
 - 3) Did NMEOC handle calls for information from outside agencies correctly?
 - 4) Did NMEOC contact DWB DSC and if not available, system oversight person when information needed to get to the water system?
 - 5) Passed information along to partner agencies when necessary?
 - 6) When notified of the cut lock on top of the storage tank, were the 7 phone calls made?
 - 7) When notified of the presence of cyanide in the water, were the 7 phone calls made?
 - 8) Was there a proper flow of information: NMEOC to DWB/DSC, to DWB oversight staff, to water system; from water system to DWB oversight, to DWB/DSC, to NMEOC, out to pertinent agencies, etc.
5. Actions taken
- A. The group facilitators will be making a list of actions taken and noting actions not taken. Discussions within groups
 - B. This list is compared to list of expected actions.
 - C. If an action must be relayed to another agency (table) a runner will do this. Keep logs of notifications given and received.
 - D. Periodic discussions between all tables of progress (need to divide the exercise into blocks).
 - C. If most of expected actions have been taken, the exercise was probably successful.
 - C. If not, more training is indicated.

Note: This action is not done during the planning phase, but it is included here to give continuity to understanding the relationship of “expected actions” compared to “actions actually taken”.

Discussions/Evaluation (this exercise is more about discussion and training than evaluating and rating the response)

1. Select discussion teams and provide necessary training
 - A. Moderator and assistant moderator
 - 1) Receive information from tables at predetermined points (time, progression, etc. Moderate discussions among entire group.
 - 2) Prepare list of questions/injects for each of the facilitators at the four tables.
 - B. Four facilitators (one at each table) with an extra observer at each table (these people must be trained in all areas that are pertinent to what will happen at their table [at a minimum]).
 - 1) Each table, with facilitator discuss pertinent issues: needed actions, who will perform different functions, proper chronological order of actions taken, etc. **It is also important to notify other applicable tables whenever that table**

needs notification (otherwise, the exercise will break down because people don't know what is happening [Communication is Critical!!]).

- 2) Facilitator leads discussion and observer write actions taken on flip charts and other important points for discussions with the entire group.
 - 3) Observer needs to note problems encountered, innovative solutions found for final evaluation
 - C. Water System Office – This table with facilitator discusses all actions, responses, problems encountered, etc. in the water office
 - D. Field Team (incident site) – Facilitator, the observer and group discuss site characterization, site inspection, damage assessment, response and operational activities, use of emergency response test kits, etc.
 - E. Drinking Water Bureau – Facilitator, observer, District Security Coordinator and System oversight staff discuss all NMED/DWB responses, activities.
 - F. Facilitator and observer discuss with NMEOC dispatcher correct handling of the Emergency Response Protocol.
2. Train moderator, assistant moderator, facilitators and observers if necessary
 - A. DWB security personnel can train
 - B. The NMED/DWB Emergency Response Plan, Emergency Communication Protocol and “Site Characterization”
 - C. Reference the “Expected Actions” list for each table.
 3. Develop discussion methodology
 - A. Once trained, the facilitator and the observer (with moderator and/or assistant moderator) need to develop the discussion template for all aspects of what should happen at their table.
 - 1) Will use the list of expected actions to guide their discussion.
 - B. Facilitator leads discussion
 - C. Observer assists
 - 1) Assists facilitator
 - 2) Writes key points on flip chart
 - 3) Notes problems encountered (do not let problems slow down the discussion or response actions. Note and move on).
 - 4) Notes innovative solutions discovered during discussion
 - 5) Notes expected actions taken and not taken for final evaluation
 - 6) Notes anything that the NMED/ERP is missing or that should be amended or added.
 - D. Moderator and assistant moderator need to develop a group discussion schedule and template.
 - 1) Organize flow of exercise
 - 2) Determine how long table discussions last or what subjects are covered and when the whole group discussions occur
 - 3) Facilitators or another advise all participants what actions have been taken and any key points of their discussion.
 - 4) Moderator leads discussion of events so far, fields questions, etc.

- 5) When groups go back to their tables to continue responding, everyone should be up to date and on the same track.
4. Develop post exercise evaluation and discussion
 - A. Post exercise meeting
 - 1) Develop roles and responsibilities of moderators, facilitators and observers
 - B. Content of meeting
 - 1) Discuss entire exercise with all participants
 - 2) Problems encountered
 - 3) What worked?, what did not work?
 - 4) Lessons learned?
 - 5) Areas of weakness
 - 6) Innovative solutions found
 - 7) Suggestions on how to improve and strengthen the NMED/DWB and the water system ERP
 - C. Follow-up activities (moderators, facilitators and observers [water system representation])
 - 1) Discuss findings of post exercise meeting
 - 2) Develop list of “lessons learned”
 - 3) Make recommendations for improving the NMED/DWB ERP
 - 4) Make recommendations for follow-up exercise and/or improving this exercise format
 - 5) Create final exercise finding report, distribute to all participants

During TTX Actions

Moderator Actions

1. Opening statement and introduction
 - A. Sets tone for entire exercise. This is extremely important.
 - B. Outline rules
 - 1) All information comes from moderator or assistant moderator.
 - 2) This exercise basically takes place in discussion groups (each table or entire group).
 - 3) **However, notification of participating agencies is a requirement. If an agency is not notified of some development, they will not be able to respond within their discussion group.**
 - 4) Through a pre-arranged schedule, moderator(s) give tables needed information. At a pre-arranged time (maybe 30-40 minutes), discussion groups end followed by 20 – 30 minutes of moderated discussion amongst all participants. This process continues until all needed response actions have been taken.

- 5) **It is important that agencies/people be patient and allow things to develop as they normally would. Allow time for discussions and for communications to be delivered to other agencies.**
 - 6) Moderators may inject some additional information/problem during the response. These must be responded to properly.
 - 7) Deliver injects as appropriate and at the right times.
- E. Moderate, guide and control the exercise.

Facilitators, observers and player's Activities

1. Each agency will have a separate table with a copy of NMED/DWB's Drinking Water ERP and ample notification given and received forms.
2. Each table will have a large sign designating its agency/group.
3. Facilitator enables discussion among players
 - A. Asks leading questions
 - B. Writes on flip chart actions taken and key points
 - C. Keeps discussion moving towards taking as many expected actions as possible
 - D. **Make sure that any required notifications are accomplished using the table's runner.**
 - E. All notifications sent and notifications received must be logged in on the appropriate log (the runner can do this so the discussion is not interrupted).
4. Observer assists
 - A. Can write on flip chart
 - B. Assists discussion, remind facilitator of things missed
 - C. Notes problems encountered (do not let problems slow down the discussion or response actions. Note and move on).
 - D. Notes innovative solutions discovered during discussion
 - E. Notes expected actions taken and not taken for final evaluation
 - F. Notes anything that the NMED/ERP is missing or that should be amended or added.
5. Players
 - A. Within discussions, respond according to the NMED/DWB ERP
 - B. Follow facilitator's lead
 - C. Make suggestions, answer questions
 - D. Identify problems
 - E. Provide solutions

Note: Possibly the field team could have their table near a kitchen or water source so they can collect actual tests using the emergency test kit.

After Exercise Actions

1. Conduct post-exercise meeting with all players
 - A. Moderator and assistant moderator lead discussion.
 - B. Evaluators present their findings of “actions taken” compared to “expected actions”.
 - C. Discussion of all findings, what worked, what didn't.
 - D. Evaluation of how well the water system ERP and the NMED ERP worked.
 - 1) Changes needed
 - 2) Additions needed
 - E. Evaluation and discussion of problems identified and innovative solutions found that were written up during the exercise.
2. Review and discuss “lessons learned”.
3. Identify unanswered questions.
4. Based on “actions taken” compared to “expected actions”, evaluate how well the emergency response went, and plot future exercises/training.
 - A. If response was very good and few “expected actions” were missed, no more training on this exercise is needed.
 - 1) May want to graduate to a more “response oriented” TTX or drill
 - B. If response was fair to good and some “expected actions” were missed, develop shorter, more focused training/exercise to address shortcomings.
 - C. If response was less than desired, repeat orientation training, this TTX, etc.
5. List what went right/worked well
6. Moderator and asst. moderator with input from NMED should write a final report about the exercise. Include:
 - A. Findings from post-exercise discussion
 - B. Lessons learned
 - C. Recommended updates/changes to water system ERP and NMED ERP.
 - D. Action plans and emergency policies that should be created
 - E. Needed follow-up training
 - F. Development of shorter more focused exercises that target weaknesses found in in this TTX.
7. Copies of the final report must be sent or delivered to all participants and interested parties by a previously determined deadline.

NMED DWB recommends that prior to the TTX, that all potential players be trained at least once through an orientation exercise, power point presentation, lecture, etc. on the fine points of what they will be expected to accomplish. This training should be conducted well prior to

the exercise. The trainings can be focused around the “expected actions” that are outlined in this document, the water system’s ERP and the NMED/DWB ERP.

This TTXX is not designed to be an introduction to emergency response. NMED believes that not only will the exercise be more successful, but agencies and individuals will get much more out of the exercise if they have some familiarity with their expected actions prior to the exercise. Participants should also have a general understanding of the overall exercise and expected actions of other agencies, etc.

NMED also recommends that personnel from other water systems be invited to participate in the exercise as facilitators, observers, runners, other participants or as an audience. This can act as introductory training for other water system personnel. (In my experience, it is much easier to teach people about TTXXs through participation or observation than with a lecture/power point presentation). Also, I am hopeful that if other water systems participate, that this exercise will motivate them to create their own.

Another way to conduct this exercise other than discussion groups is to make it a response type exercise. In this exercise, communication forms are used, response actions taken (documented and written down by evaluators), actions taken are compared to expected actions and the response actions are evaluated and ranked. I have an exercise design for this type of TTXX also that I can provide to the water system.