Mandan, Hidatsa & Arikara (MHA) Nation Emergency Response/Recovery Exercise for the Water Sector

After Action Report

Mandan, Hidatsa & Arikara (MHA) Nation Emergency Response/Recovery Exercise for the Water Sector (MHA Nation EREWS)
New Town, ND • October 22, 2014

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New Town, North Dakota
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EXECUTIVE SUMMARY

On October 22, 2014, representatives from drinking water and wastewater utilities; businesses; tribal, local, and state departments and agencies; federal agencies; and other partners participated in the Mandan, Hidatsa & Arikara (MHA) Nation Emergency Response/Recovery Exercise for the Water Sector (MHA Nation Exercise).

The purpose of the exercise was to enhance the ability of private sector, tribal, local, state, and federal stakeholders to prepare for, manage, and respond to a major disaster that affects water or wastewater infrastructure. Additional purposes included:

- Providing an opportunity to augment drinking water and wastewater utility emergency response planning
- Developing a list of action items to support refinement of emergency response plans related to water sector emergency response
- Building relationships between utility, response partners, and other interdependent sectors (healthcare, emergency services, businesses, and the oil and gas industry)

The exercise featured a morning series of background presentations followed by a Tabletop Exercise (TTX). The exercise explored opportunities for enhancements in emergency preparedness, response and recovery across all the participating agencies. The TTX presented a severe storm and tornado scenario designed to result in infrastructure damages and severe impacts to drinking water and wastewater utilities. The scenario was divided into three distinct phases: (1) Phase 1 explored activities during the first three days following the severe storm and tornado outbreak; (2) Phase 2 explored 4 days to 2 weeks after the storm and outbreak; and (3) Phase 3 explored 3 months following the storm and outbreak. Participants engaged in discussions focused on identifying the strengths and weaknesses of current plans and procedures, as well as options for consideration for improving future water sector-related response and recovery.

Key discussion themes of the exercise included:

- Communication and Information Management
- Activation Process and Operations
- Coordination between Utilities, Response Partners, and Interdependent Sectors
- Recovery Planning, Recovery Funding, and Challenges with Reimbursement
- Actions, Resources and Programs to Improve Preparedness, Response, and Recovery Capabilities

Participants identified a number of options for considerations. Key areas identified included:

- Enhance planning between utilities, response partners and interdependent sectors
- Share and enhance existing resources
- Conduct training and exercises targeting water sector emergency response and recovery
- Improve communications and information sharing

This report summarizes the complete list of options for consideration to address the identified areas; see Results from the Action-Planning Session.
**INTRODUCTION**

Exercise: MHA Nation Emergency Response/Recovery Exercise for the Water Sector  
Location: Northern Lights Building, New Town, North Dakota  
Type of Exercise: Tabletop Exercise  
Focus: Water Sector Emergency Preparedness, Response and Recovery  
Exercise Date: October 22, 2014  
Exercise Sponsors: Mandan, Hidatsa & Arikara (MHA) Nation  
North Dakota Department of Health (NDDOH)  
North Dakota Rural Water Systems Association (NDRWSA)  
North Dakota Water/Wastewater Agency Response Network (NDWARN)  
U.S. Environmental Protection Agency (EPA)

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Sixty five representatives attended the exercise, which featured a morning series of background presentations followed by a Tabletop Exercise (TTX). The exercise explored opportunities for enhancements in emergency preparedness, response and recovery across all the participating agencies. See Appendix A for the full participant list and contact information. The scenario used to drive discussion was a severe storm and tornado outbreak. The scenario was designed to result in infrastructure damages and severe impacts to the drinking water and wastewater utilities. Through the exercise discussions and a facilitated “brainstorming” or Action-Planning Session following the exercise, participants identified a number of options for consideration that are summarized in this report.

**MORNING SUMMARY**

Cliff Whitman, Sr. (MHA Nation), and Kevin Tingley (EPA Headquarters, Office of Water/Water Security Division) provided opening remarks and thanked participants for attending. Clement Baker (MHA Nation) offered a blessing and prayer prior to the exercise beginning. Alfredo Lagos (CSC) addressed administrative details. Kevin Tingley then led an icebreaker activity in which each participant was assigned a role and asked to form teams based on categories in the American Water Works Association (AWWA) Water and Wastewater Mutual Aid & Assistance Resource Typing Manual. The icebreaker was followed by five background presentations covering emergency response and recovery-related activities as well as roles and responsibilities of utilities; water sector mutual aid and assistance programs; and tribal, state, and federal agencies. A summary of the presentations follows.
Cliff Whitman, Sr., Emergency Response and Homeland Security Director, MHA Nation

Cliff Whitman and Bruce Fox, Sr. (Fort Berthold Water Utility), presented on how the tribe responded to two separate incidents affecting the water system. For the first incident, the Fort Berthold Water Utility put its service area under a boil water notice. The notice was made through radio and word of mouth. MHA Nation coordinated with the Indian Health Service (IHS) during the response. MHA Nation purchased bottled water from local grocery stores and from Minot, North Dakota. The utility faced a second water quality incident that was solved by switching treatment chemicals, but the cause was unknown. During most incidents, the tribe coordinates with the county and has not needed to elevate any issues to the state or federal level. Cliff and Bruce remarked that increased coordination communication is needed between the tribal water utilities and oil and gas companies in the area. More training is also needed by the water sector and tribal government on responding to oil and gas spills that may threaten source waters.

Andy McDonald, NDRWSA and NDWARN

Andy McDonald presented on the capabilities and use of NDWARN by utilities during a disaster. WARN is a statewide mutual aid and assistance program where utilities can request resources from and supply resources directly to other utilities. NDWARN’s focus is on the first 36 hours after the disaster occurs in order to help bridge the gap until other state or federal aid will arrive. NDWARN currently has 31 utility members, which covers about 30% of the state population. Any drinking water or wastewater utility can be a member of WARN, and can join online or by contacting Greg Wavra (NDDOH). Utilities can use NDWARN’s online database to search for and request resources (all resources in the database are typed according to the AWWA Resource Typing Manual). Andy noted that being a WARN member does not obligate a utility to respond to a resource request. Utilities will coordinate directly with each other if a request has been made and approved. The NDWARN agreement encountered legal issues related to indemnification, but those issues are currently being resolved.

Allan Hanson, North Dakota Department of Emergency Services (NDDES)

Al Hanson provided an overview of the roles and responsibilities of the NDDES (the state emergency management agency [EMA]) during a disaster response. Over the past 20 years, every county in North Dakota has experienced multiple presidentially declared disasters. Many steps exist between the disaster occurring and a Presidential Disaster Declaration being made. Disaster response begins locally and builds as resources are needed and as capabilities are overwhelmed. Tribal and county emergency managers can make requests for state assistance using the online incident management system WebEOC. If the state does not have the resources to fulfill a request, it will look to neighboring states and even Canadian provinces, and then to federal agencies (e.g., the Federal Emergency Management Agency [FEMA], U.S. Army Corps of Engineers [USACE], EPA, and the U.S. Border Patrol). If an organization requests assistance from the National Guard, that organization must pay for the assistance. Documentation is incredibly important during disaster response in order to apply for reimbursement from the federal government or others. NDDES will stand up its State Emergency Operations Center (SEOC) in Bismarck at the first sign of it being needed. The SEOC serves as a central location for coordinating technical and resource assistance from state, federal, private, and voluntary agencies in support of local government. The SEOC can also be partially staffed if full capabilities are not needed.

NDDES is divided into four regional response areas; the MHA Nation and surrounding communities are in the Northwest region. The Northwest region consists of 15 emergency managers and a hazardous materials regional response team. NDDES can request assistance from Incident Management Assistance Teams (IMATs), who will support local EOCs, and alternate shifts with other first responders. NDDES maintains two warehouses in Bismarck with emergency supplies (e.g., water, food, pumps, trailers that can be used as command centers, portable radio towers, radio systems). Requesting state assistance or resources must come through tribal and county emergency managers.
Greg Wavra and Kris Roberts, NDDOH

Greg Wavra and Kris Roberts presented an overview of the role of the NDDOH during a disaster response, as the North Dakota state primacy agency for the water sector. Greg recommended utilities review the AWWA Emergency Planning Water Utility Manual M19 Manual on emergency planning to have a better idea of how to prepare for and respond to all hazards. Greg provided to participants a 15-point public water system response plan, which covers activities such as notification, initial response activities (isolation and flushing), repair, and coordination with response partners.

Greg also showed the NDDOH’s response plan complete with procedures and protocols for working with impacted utilities. NDDOH requests that utilities fill out forms in order to collect all of the necessary information on the incident. If providing assistance on-site at a utility (including water systems on man camps), Department staff will have detailed information of the system on hand and can conduct sampling and provide press releases and other information on potential public health impacts.

Utilities can contact NDDOH at the following numbers:
- Business hours: 701-328-5210 (Division of Water Quality)
- After hours: 800-472-2121 (out of state); 701-328-9921 (in state)

All spills and other environmental incidents must be reported to NDDOH immediately; utilities can also report incidents at www.ndhealth.gov through the environmental incident reporting form.

Michael Copeland, EPA Region 8

Michael Copeland presented on the role of the federal government during a disaster response. If a large incident overwhelms tribal or state resources, the tribal chairman or state governor will make a Stafford Act request to the President. Once a Presidential Disaster Declaration is made, federal funding and resources can begin flowing into the disaster area through Mission Assignments to federal agencies. FEMA manages federal resources under the National Response Framework (NRF), and EPA and all other federal agencies will provide support through the Emergency Support Functions (ESF) as designated in the NRF. EPA supports the response through coordination mechanisms such as ESF #3, Public Works and Engineering, and ESF #10, Oil and Hazardous Waste.

Through the ESFs and under each Mission Assignment, EPA coordinates with many other federal agencies during the response (e.g., USACE, FEMA, IHS and U.S. Bureau of Reclamation [Reclamation]). EPA can deploy On-Scene Coordinators (OSCs) to assist in completing response activities. OSCs have access to contractors, equipment, subject matter experts and other resources to provide further assistance. The EPA Region 8 Water Emergency Response Team (WERT) can help utilities with damage assessments and provide direct support to tribal utilities through Mission Assignments. The WERT consists of about 10 EPA staff that are cross-trained in drinking water and wastewater operations. This team can deploy quickly to areas that need assistance with damage assessments.
TABLETOP EXERCISE SUMMARY AND DISCUSSION TOPICS

Following the background presentations, Alfredo Lagos, the exercise co-facilitator, covered the objectives and ground rules for the TTX. The exercise objectives include:

- Identify the components of water sector-related emergency response and recovery for the MHA Nation lands and associated towns
- Examine the roles and capabilities of utilities and tribal, local, state, federal, and other water sector stakeholders and response partners, such as NDWARN
- Examine water and wastewater issues associated with the oil and gas industry
- Improve coordination/communication between response partners
- Identify trigger points for requesting aid between the levels of government up to the federal level

Alfredo then presented the scenario: a severe storm with hundreds of tornados that impact the western half of North Dakota, with the most severe impacts in the northwestern portion of the state. The severe storm and tornado outbreak results in over 45 fatalities, 900 injuries, and 6,000 displaced persons. The storm and tornado outbreak damages buildings, roads, bridges, and other infrastructure; causes localized flooding, power outages and communication failures. Hundreds of water and wastewater utilities across the Fort Berthold Reservation and 26 counties are affected by the disaster. The TTX presented the scenario in three distinct phases:

1. Phase 1 explored activities during the first three days following the severe storm and tornado outbreak.
2. Phase 2 explored 4 days to 2 weeks after the severe storm and tornado outbreak.
3. Phase 3 explored 3 months following the disaster.

During the exercise, Kevin Tingley and Alfredo Lagos as the co-facilitators led a group discussion covering topics relevant to the exercise objectives and each scenario phase. Several key themes were identified, including:

- Communication and Information Management
- Activation Process and Operations
- Coordination between Utilities, Response Partners, and Interdependent Sectors
- Recovery Planning, Recovery Funding, and Challenges with Reimbursement
- Actions, Resources and Programs to Improve Preparedness, Response, and Recovery Capabilities

Communication and Information Management

Communication Mechanisms
Some communication systems will most likely be inoperable following the disaster. If phone or radio communications are down, utility staff would consider driving to the homes of staff and other responders to communicate in person. Many utilities have a standard protocol for all staff to report to the utility if a disaster occurs that would affect the system.

Texting capabilities may be possible even if voice communications are down. Participants recommended utilities take advantage of GETS (Government Emergency Telecommunications System), which allows users to get priority access to overloaded communications networks. More information on GETS is available at [http://www.dhs.gov/government-emergency-telecommunications-service-gets](http://www.dhs.gov/government-emergency-telecommunications-service-gets). Alternatively, NDDES and county EMAs may be able to acquire radios through the state or through the U.S. Forest Service.
Television service is often restored before telephones, and could potentially be used to communicate between the utility and the general public about potential water quality issues, in addition to word of mouth.

Participants noted that resource requests will be challenging if there is no Internet access (to access WARN request system) or telephones.

**Information Management**

Information flow for organizations involved in the water sector response is depicted in Figure 1. For tribal utility systems, information and resource requests flow between the utility, technical assistance providers, the tribal EMA and federal agencies. Tribal utilities have direct access to the services offered by federal agencies (e.g., EPA, Reclamation, Bureau of Land Management [BLM] and IHS).

For non-tribal utility systems, information and resource requests flow between the utility, the county emergency EMA, state agencies (NDDES, NDDOH, etc.), water sector associations and other technical assistance providers, and federal agencies. All resource requests for federal assistance from non-tribal utilities must go through the SEOC.

![Figure 1. Information flow between utilities and response partners. Information flow for non-tribal utilities is on the left; information flow for tribal utilities is on the right.](image)

During disaster response, utilities should be prepared for information requests. Types of information that may be requested include:
• Operating status of the utility
• Grid/on-site power status/requirements
• Anticipated timeline to be back up and running
• Any redundancies (e.g. source water, bypasses, etc.) in place to allow provision of service in spite of the damage

EOCs will be stood up at the county, state, and federal levels. County EMAs coordinate and mobilize resources in support of first responders and work with NDDES to provide status reports and request assistance and resources. In North Dakota, the county EMAs also have existing procedures to facilitate debris removal. All county EMAs should staff EOCs with decision makers for each relevant organization/sector. Participants noted it can be helpful to have an accountable elected official present as well to assist with making difficult decisions.

NDDES represents the water sector at the SEOC. In general, the SEOC serves as a repository for information and communicates frequently with county EOCs to facilitate resource requests. NDDES manages volunteers and credentialing, coordinates the use of WebEOC for reporting and information sharing, can set up portable radio towers and deploy command trailers. The SEOC will stay fully staffed throughout the duration of the disaster response and recovery.

Utilities should note that requests for assistance and resources from the federal government may not be processed quickly, as it will take some time to establish priorities due to the widespread damage.

Activation Process and Operations

Initial Activities and Facility/Damage Assessments
After ensuring the safety of family and friends, utility staff will gather at the facility and assign duties to begin the response.

Participants recommended that all utilities immediately go on a boil water notice if leaks are suspected. Utilities should get the word out to the public through any communication methods available, including radio, phone, television, and word of mouth. Utilities should consider pre-printing flyers to have on hand with instructions for how customers should handle the water, report leaks and enact conservation activities. Customer conservation can increase the water available for other critical customers (e.g., emergency services such as, fire suppression, hospitals, and shelters).

Utilities will conduct damage assessments to determine the degree of damage to the utility, including identifying and isolating leaks and making operational changes in order to continue to produce water, even if at reduced levels. Both tribal and non-tribal utilities can request technical assistance from different water sector associations and federal agencies (described in the next theme).

Completing damage assessments could take days due to the geographic size of a system and the degree of damage expected. Snow is also a possibility in North Dakota in April, which would slow down damage assessments and response activities, and would lead to increased runoff from the rain events.

Limited road access due to debris and road/bridge damage could impair utilities’ ability to complete damage assessments. Participants encouraged utilities to map alternate routes to ensure that all portions of the utility can be assessed. They noted as well that some alternate routes will take more time (e.g., one participant mentioned an alternate route going 75 miles out of the way to get to a destination that is normally only 8 miles away).
Utilities will also be sending water samples to laboratories to be tested for contaminants. Many labs will be overwhelmed with the amount of samples coming in from all of the affected facilities. Only select laboratories in North Dakota have the analytical capabilities for chemical and microbial tests. Participants encouraged utilities to ensure that the lab being used is certified in the relevant parameter methods.

**Power Generation Concerns**

Some utilities have backup power generation available and can sustain operations using the fuel on hand anywhere from 4 to 30 days. However, not all utility components may have backup power. Those sections that are inoperable must be bypassed. Participants noted a best practice for utilities is to maintain the ability to independently sustain operations with backup power generation and adequate fuel storage for 72 hours.

Some utilities may have contracts with companies that can provide generators and fuel, although there will be a high demand for these resources following the disaster. Participants emphasized that utilities should consider working with those companies to ensure that their utility is a priority.

Power outages will impact Supervisory Control and Data Acquisition (SCADA) systems and process control at utilities. Participated recommended that utilities understand how to operate their systems manually and exercise those capabilities often, especially when new staff joins the utility.

**Coordination between Utilities, Response Partners, and Interdependent Sectors**

**Technical Assistance Providers**

Many organizations and agencies are available to provide technical assistance and other services to water and wastewater utilities during the response and recovery to a disaster. Note that some of the agencies and organizations described below may need funding through FEMA’s Mission Assignments, which can take time to establish.

**NDRWSA**

- Provide staff to assist with damage assessments, plant operations and temporary billing assistance (until the utility can resume normal operations and manage the system independently) to both tribal and non-tribal systems. During disaster response, the state primacy agency may prioritize specific actions or utilities for NDRWSA to support. NDRWSA has available staff stationed locally, in Bismarck and in neighboring states.

**National Guard**

- Can set up water purification systems and regional points of distribution for drinking water for both tribal and non-tribal systems.

**Bureau of Reclamation**

- Can provide technical assistance for a drinking water utility on a reservation (whether tribal or non-tribal owned) where it is authorized to do so. Reclamation is not authorized to provide technical assistance to storm or sanitary/septic/sewer systems or privately owned water wells. Reclamation can work in coordination with IHS and EPA.

**Department of Homeland Security Protective Security Advisors (PSA)**

- For both tribal and non-tribal systems, PSAs can conduct security and vulnerability assessments and provide recommendations to mitigate vulnerabilities prior to a disaster. Each state has a designated PSA.
IHS

- For tribal systems, during an incident response, IHS can:
  - Provide technical assistance to tribal utilities and any water or wastewater utility that serves tribal homes
  - Assist with laboratory testing, plant operations, repairs, identifying deficiencies and construction projects to improve operations, disinfect personal wells, and assist utilities with emergency purchases
  - Provide training and on-site engineering assistance by the request of the tribe

U.S. Army Corps of Engineers (USACE)

- Provide technical assistance and primary support through ESF #3 for repairs to utilities through FEMA Mission Assignments
- Provide services such as debris removal, temporary housing/roofing and emergency power. USACE staff from the Seattle region would be assisting utilities in North Dakota
- Work with FEMA to haul, install, fuel and maintain emergency generators (procured through the private sector) to facilities that participate in the Emergency Power Facility Assessment Tool (EPFAT) program
  - Through the EPFAT program, an assessment of energy usage and requirements by qualified personnel must be conducted before assistance can be provided.
  - Utilities should conduct as assessment prior to a disaster occurring. More information can be found at http://epfat.swf.usace.army.mil/.

EPA Region 8 WERT and Emergency Response Program

- Conduct inspections at facilities and assist water and wastewater utility operators complete reimbursement and reporting paperwork
- For tribal utilities, EPA Region 8 can provide direct technical assistance over the phone and work with the IHS to provide on-site technical assistance
- Deploy a mobile laboratory to assist with water sample testing
  - Water sampling and analyses can be provided as required.
  - The EPA Region 8 Mobile Lab can be configured for various needs such as for microbiological and/or chemical sampling and analyses.
  - Chemists and Microbiologists from EPA Region 8 can be tasked for analyses, or other regions can be requested to staff the mobile lab.
  - During an emergency, the lab is prioritized for use and will be pulled from any other project not considered essential.
- Provide support with OSCs to provide sampling and monitoring equipment
- Provide contractor support with subject matter experts and equipment, if needed

Oil and Gas Industry Response and Assistance

Oil and gas production would most likely be halted following the disaster due to the expected degree of damage. Damage assessments will be conducted; however, many wells will likely be inaccessible due to debris and road conditions.

Oil and gas companies have equipment and manpower that could assist the community during the disaster response, including debris removal capabilities. Participants highlighted the Sakakawea Area System
Response (SASR), a network of over 15 companies that share and make available spill response and containment equipment. SASR can provide equipment and capabilities to assist in the response.

Oil and gas companies would also be actively involved in responding to all spills or leaks. All companies have established plans and protocols to respond to spills (Spill Prevention, Control and Countermeasure [SPCC] plans) that include deploying berms and other equipment. Companies will sample for over 3 months after a spill or leak occurs.

Participants noted that in general, all trucks have GPS so staff can be located at any time and radios to communicate between them. Contact information for the radios can be shared between the companies and the county and state EMAs to be used during disaster response.

**Water Requirements for Operations**

Raw water is often used for oil and gas production operations. If water is needed for an emergency purpose, the oil and gas companies would not use the municipal water for production.

Potable water and wastewater services are needed to support oil and gas staff. Water and wastewater services for man camps are often self-contained and run through private companies; however, some are hooked up to rural water systems.

Water for oil and gas production can be obtained only through approved sources. If water is unavailable through an approved source, it can be trucked in as an alternative. The exact water requirements for operations are unknown, but each hydraulic fracturing operation would require hundreds of truckloads of water per day. Trucking water in would be done only if it is more economical than waiting for water service to return. One company has previously trucked water in from 40 miles away and has accepted cooling water from a power utility.

A water depot is under construction on the Fort Berthold Reservation and will contain a booster station next to the intake. Raw water will be dedicated for use by the oil and gas industry, but could be used as a backup for the Fort Berthold Water Utility treatment plant.

**Recovery Planning, Recovery Funding, and Challenges with Reimbursement**

Participants emphasized that planning for recovery should begin almost immediately after the disaster occurs. Some activities, including water quality sampling and other environmental sampling related to spills, will likely continue for months after the disaster occurs.

During recovery, many utilities will look to get reimbursement funds for emergency operations from FEMA’s Public Assistance Grant Program. Keeping proper documentation throughout the response is key when applying for reimbursement. Utilities should keep records of all expenditures, including purchased supplies, utility staff hours worked, and in-kind assistance from other utilities and response partners. Recording in-kind contributions is important since that work can count towards the portion of funds the utility is responsible for. Utilities should also take pictures of damage before and after repairs in order to help make a strong case for reimbursement.

Utilities should photocopy all collected documentation to have a backup in case information gets lost during the reimbursement process. Participants noted that utilities can use FEMA-provided forms if utility forms do not already exist.

**Actions, Resources and Programs to Improve Preparedness, Response, and Recovery Capabilities**
Throughout the discussion, participants identified a number of suggestions for improving preparedness and response capabilities.

**Important components of an Emergency Response Plan (ERP)**
- Procedures for employees to come to the utility if they are able after the incident
- Established alternate routes if roads are impassable/obstructed due to debris and roadway damage or if bridges are damaged/destroyed
- Delegated roles and responsibilities to other staff if managers and supervisors are unavailable due to injury, family responsibilities, etc.
- Contact information for all response partners

**Useful preparedness activities**
- Develop an ERP if one does not already exist
- Develop a training and exercise program for your ERP
- Maintain a diagram of your system, including all pipelines to assist with damage assessments
- Maintain backup power on-site and enough fuel to sustain operations for 72 hours
- Develop procedures to operate systems manually and exercise those capabilities often
- Conduct an EPFAT assessment
- Become a member of NDWARN
- Designate a scribe to document all response activities
- Designate dedicated personnel to accompany FEMA when they come to inspect damage and repairs made

**Helpful State and Federal Resources**
- Water Information Sharing and Analysis Center (WaterISAC): water sector supported secure portal that provides information on security risks, alerts, and other information for water and wastewater utilities. Access WaterISAC at [https://www.waterisac.org/](https://www.waterisac.org/).
- ND Critical Incident Stress Management (CISM) Team: NDDOH program that provides mental health support for emergency services personnel (including utility staff) following crisis or emergency situations. More information at [http://www.criticalincidentsstress.com/cism__for_first_responders___military](http://www.criticalincidentsstress.com/cism__for_first_responders___military).
RESULTS FROM THE ACTION-PLANNING SESSION

Following the exercise discussion, the facilitator led a “brainstorming” or Action-Planning Session to highlight key ideas and develop a list of options for consideration drawn from participants. The facilitator requested that each participant share at least one unique idea that their organization, other participating organizations or the group as a whole could consider implementing based on the topics discussed during the TTX. The options for consideration identified by participants are not official recommendations.

This section compiles the options for consideration into the categories of planning, resources, training, communications and personal preparedness. Stakeholders can review the options below against their own goals to determine which to implement.

Planning/Policies/Procedures

• Develop and consistently update a list of important contact information from different agency partners involved in response
• Review/identify actions that could be done before a tornado/disaster to prepare for response
• Strengthen relationships between rural water systems and county emergency managers
• Increase coordination with EPA Region 8, EPA HQ, and USACE during disasters
• Develop, test, and update contingency plans and emergency response plans
• Ensure ERPs are distributed to staff and are easily accessible (e.g., provide a copy for every staff member vehicle)
• Develop a list of utility assets and their vulnerabilities to any natural disaster and identify how to reduce those vulnerabilities
• Review lessons learned and identify improvements following every disaster response
• Conduct all-hazards planning; include hazards such as drought, water quality, insider threats, etc.
• Establish backup site for command operations during a response
• Establish alternate transportation routes (e.g., partner with other local utilities to achieve this) if roads are inaccessible due to damage and debris
• Have a better understanding of the downstream impacts of oil spills in Lake Sakakawea
• Identify the potential for future damages or impacts after normal operations resume due to stressed equipment/systems during the initial disaster
• Emphasize the role of the county EMA in information flow during response
• Increase private industry participation in Local Emergency Planning Committee (LEPC)
• Address legal hang-ups with the NDWARN agreement
• Establish clearly defined chain of command, especially between tribal and federal agencies

Resources

• Have all necessary paperwork in hand prior to an emergency (e.g., public notification)
• Look into obtaining mobile generators for specific portions of wastewater operations
• Incorporate more generators into specific parts of the treatment system
• Learn more about water sources for maintaining oil & gas operations and backup/contingency plans
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• Share information on available radio frequencies/channels through the state (ND State Radio)
• Investigate use of alternate drinking water supplies if utility is out of service
• Ensure stock of supplies and parts needed for repairs
• Identify different available local resources (e.g., farming community and equipment)
• Add more meters to remotely check for line breaks
• Distribute emergency sampling kits out to tribal utilities (EPA Region 8)
• Learn more about EPA’s field lab capabilities and how the lab can be accessed during a response
• Support development of emergency operations plans at utilities (NDDOH)
• Look into available resources to support the development of an emergency operations plan for the Three Affiliated Tribes (e.g., discuss with Standing Rock tribe what they have in place)
• Raise awareness of USACE programs and mission areas; emphasize its scalability
• Conduct USACE EPFAT assessment at utilities

Training

• Conduct training and exercises on Emergency Response Plans
• Complete regular exercises
• Conduct exercises and drills on different portions of a utility (e.g., treatment plant, valves)
• Continuously review and update emergency operations plans based on training and exercises
• Build in more redundancy for operator training, consider cross-training utility staff to become certified operators
• Conduct trainings on overall disaster response to understand bigger picture, available resources and capabilities from other responders (e.g., EPA, FEMA) and the jurisdictional boundaries during a response (e.g., for local, state, and federal government)
• Increase Incident Command System (ICS)/National Incident Management System (NIMS) and Unified Command training for public water systems, emergency responders and tribal organizations

Communications

• Encourage better communication within tribe and with outside organizations
• Consider installing individual communication network (e.g., radio network into all trucks) in case existing communication systems are down
• Improve early notification to federal agencies and partnerships with tribe
• Encourage regular communication with county EOC to streamline requests and information shared, use established communication procedures

Personal Preparedness

• Complete personal preparedness activities (e.g., stockpile emergency drinking water)
# APPENDIX A: LIST OF PARTICIPANTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nick Beste</td>
<td>AE2S/City of New Town</td>
<td><a href="mailto:nick.beste@ae2s.com">nick.beste@ae2s.com</a></td>
</tr>
<tr>
<td>Bruce Fox, Sr.</td>
<td>Fort Berthold Rural Water Supply System</td>
<td><a href="mailto:brucefox@mhanation.com">brucefox@mhanation.com</a></td>
</tr>
<tr>
<td>Dia Digish Wana Lockwood</td>
<td>Fort Berthold Rural Water Supply System</td>
<td><a href="mailto:diadiijishWana@hotmail.com">diadiijishWana@hotmail.com</a></td>
</tr>
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**Other Federal Organizations**
# APPENDIX B: IMPROVEMENT PLANNING MATRIX

**Instructions:** On the far left, list the option for consideration. Next, identify who you think should be responsible for following up and who can assist them. Also list any needed resources and possible sources for those resources. Check whether the option is short-term (less than a year) or long-term (one year or more). The first four rows are completed as examples. Use this information to create an Improvement Plan. An Improvement Plan identifies specific corrective actions, assigns them to responsible parties, and establishes targets for their completion. Note that each individual agency should use this table to improve upon their own capabilities and track ongoing activities and priorities. The information in this table will not be maintained or tracked by EPA or other agency.

<table>
<thead>
<tr>
<th>Option/Task/ Follow-Up</th>
<th>Lead Individual or Agency Responsibility</th>
<th>Supporting Individual or Agency</th>
<th>Resources and Possible Sources</th>
<th>Timeline Short-Term</th>
<th>Timeline Long-Term</th>
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</thead>
<tbody>
<tr>
<td>E.g., Strengthen relationships between rural water systems and county emergency managers</td>
<td>NDRWSA</td>
<td>NDDES</td>
<td></td>
<td>3 months</td>
<td></td>
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<tr>
<td>E.g., Look into obtaining mobile generators for specific portions of wastewater operations</td>
<td>Individual utilities</td>
<td>NDRWSA, NDDOH, NDDES</td>
<td></td>
<td>6 months</td>
<td></td>
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<tr>
<td>E.g., Conduct exercises and drills on different portions of a utility (e.g., treatment plant, valves)</td>
<td>Individual utilities</td>
<td>NDRWSA</td>
<td></td>
<td>1 year</td>
<td></td>
</tr>
<tr>
<td>E.g., Consider installing individual communication network (e.g., radio network into all trucks) in case existing communication systems are down</td>
<td>County EMAs</td>
<td>NDDES, ND State Radio, U.S. Forest Service</td>
<td></td>
<td>2 years</td>
<td></td>
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</table>
APPENDIX C: LIST OF HANDOUTS AND VIDEOS

During the course of the event, participants offered a variety of handouts covering helpful state and federal resources. During the working lunch, facilitators also presented two videos. This section lists each handout and video. Electronic copies of the handouts and the videos can be found on the event website at: https://www.thetestportal.com/mhanationerews.

- NDDOH Drinking Water Program outline for system and department response plans
- ND CISM Team Flyer
- USACE EPFAT Flyer
- U.S. DHS Cybersecurity ICS-CERT Fact Sheet
- National Supervisory Control and Data Acquisition (SCADA) Test Bed Flyer
- U.S. DHS Cyber Security Evaluation Tool Flyer
- U.S. DHS Protective Security Advisors Flyer
- U.S. DHS Homeland Security Information Network—Critical Infrastructure (HSIN-CI) Fact Sheet
- EPA Don’t Get Soaked: Invest in Emergency Preparedness, Prevention, and Mitigation Activities training video
- EPA Surviving the Flood: Assessing Risks and Increasing Resilience overview video